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MONITORING REPORTS

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2000 Annual Groundwater Monitoring and Sampling
and Remediation System Performance Report
Duke Energy Field Services
Lee Gas Plant
Lea County, New Mexico

NOVEMBER 7, 2000

Prepared For:

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**2000 Annual Groundwater Monitoring and Sampling Report
Duke Energy Field Services – Lee Gas Plant
Lea County, New Mexico**

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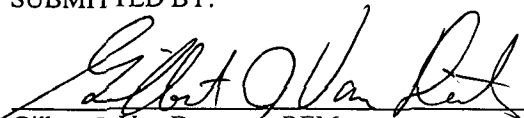
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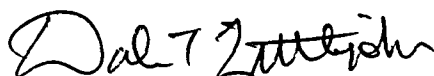
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1.0 Executive Summary

TRW Inc. – Energy and Environmental Services (TRW), was retained by Duke Energy Field Services (DEFS) to perform the sampling and monitoring operations at the Lee Gas Plant. This 2000 annual report summarizes the two sampling events performed by TRW at the DEFS Lee Gas Plant on February 16, 2000 and August 15 through August 17, 2000.

Based on the sampling and monitoring data to date, the following conclusions relevant to groundwater conditions and remediation system performance at the Lee Gas Plant are evident:

- Benzene, toluene, ethylbenzene, and xylene (BTEX) concentrations in the groundwater from the downgradient monitoring wells (MW-11, MW-12, MW-13, MW-19 and MW-20) are currently below the New Mexico Water Quality Control Commission (WQCC) standards and the laboratory detection limits. It should be noted that, except for a sample from MW-12 recovered during the February 2000 monitoring event (0.338-mg/l benzene), all of the measured hydrocarbon concentrations have remained below the WQCC standards since May 1995.
- BTEX concentrations in the groundwater from the crossgradient monitoring wells (MW-2, MW-3, MW-18, MW-21, and MW-22) are below the WQCC standards and laboratory detection limits. The hydrocarbon concentrations from these monitoring wells have remained below the WQCC standards since at least August 1998. Decreasing levels observed in MW-21 and MW-22 are due to the successful air sparging and vapor extraction operations.
- Benzene concentrations in the groundwater from monitoring wells located within the aerial extent of the dissolved-phase hydrocarbon plume (MW-7, MW-9, MW-10, MW-14, MW-16, and MW-17) remain above WQCC standards. Toluene, ethylbenzene, and xylene concentrations have remained below the WQCC standards since at least August 1995. The benzene concentrations measured over the past five years in these monitoring wells appear generally stable to decreasing except in MW-9, where the stable values are periodically interrupted by isolated spikes of elevated concentrations.
- During the August 2000 monitoring event phase separated hydrocarbons (PSH) were measured in monitoring wells MW-5 (1.87 feet), MW-6 (≈4.5 feet), MW-8 (0.08 feet), and MW-15 (0.42 feet).
- A total of 6,270,238 gallons of groundwater was recovered by three recovery wells during the 1-year period of record (October 30, 1999 through September 30, 2000).
- The hydraulic gradient is approximately 0.0035 feet/foot and the direction of groundwater flow is to the southwest based on the gauging data obtained on August 15, 2000.
- The average water table elevations across the site have decreased by an average of about 1 foot per year since March 28, 1988.

The following recommendations are proposed for the remediation system and monitoring operations at the Lee Gas Plant.

- Continue groundwater recovery operations since the present system has been effective in limiting the downgradient migration of the dissolved-phase hydrocarbon plume.
- Continue PSH removal using the Xitech product recovery system (MW-6), passive bailers and/or hydrophobic adsorbent socks (MW-5 and MW-15), and hand bailing methods (MW-8).
- Continue the sampling and monitoring program on a semi-annual basis. The next sampling event is scheduled during the first quarter of 2001.

2.0 Chronology of Events

April 1988	The New Mexico Environmental Improvement Division (NMEID) issued a Compliance Order/Schedule to Phillips 66 Natural Gas Company to install four monitoring wells and sample for groundwater quality to comply with Resource Conservation and Recovery Act (RCRA) monitoring requirements.
June 6, 1988	Four monitoring wells (MW-1, MW-2, MW-3 and MW-4) were installed by Geoscience Consultants Ltd. (GCL) between April 21, 1988 and April 29, 1988. The existing four monitoring wells were plugged and abandoned. Groundwater samples were collected on May 13, 1988.
September 23, 1988	GCL conducted a limited soil vapor survey at Lee Gas Plant. Two potential hydrocarbon sources were identified: the former evaporation pond located east of the main plant, and the small, former evaporation pond located north of the main plant.
January 1990	New Mexico Oil Conservation Division (OCD) takes jurisdiction for groundwater conditions at Lee Gas Plant. GCL submitted a work plan to the OCD for further investigation and implementation of remediation of free product.
May 30, 1990	GCL completed a subsurface investigation to define the limits of the free-phase hydrocarbon plume and to begin recovery of the floating product. The investigation included the installation and sampling of four monitoring wells (MW-5, MW-6, MW-7 and MW-8) and one recovery well (RW-1).
October 9, 1990	GCL completed Phase II of a subsurface investigation to further delineate the dissolved hydrocarbon plume. The investigation included the installation and sampling of four monitoring wells (MW-9, MW-10, MW-11 and MW-12).
March 11, 1991	GCL completed Phase III of a subsurface investigation to delineate the leading edge of the dissolved-phase hydrocarbon plume. The investigation included the installation and sampling of two monitoring wells (MW-13 and MW-14) and the conversion of two existing monitoring wells (MW-7 and MW-8) into recovery wells.
March 18, 1991	The OCD approved the Discharge Plan (GW-2) for Lee Gas Plant.
May 1991	GCL converted MW-10 into a recovery well per the OCD's April 2, 1991 request.
September 5, 1991	GCL completed Phase IV of a subsurface investigation that included the sampling of all on site monitoring wells (MW-1 through MW-14) and two water supply wells (WS-1 and WS-2). Two of the recovery wells (RW-1 and MW-4) and one monitoring well (MW-6) were not sampled due to the presence of free product. Prior sampling events were limited to collecting samples from just those wells

	installed in the current phase of work along with selected wells from previous phases to correlate analytical results.
1992	GCL conducted quarterly sampling activities on January 23, 1992, April 28, 1992, July 30, 1992 and October 21, 1992.
February 24, 1992	GCL completed the Final Phase of a subsurface investigation to complete delineation of the dissolved-phase hydrocarbon plume. The investigation included the installation of six monitoring wells (MW-15, MW-16, MW-17, MW-18, MW-19 and MW-20). Quarterly sampling of the on site monitoring wells was also conducted.
1993	GCL conducted quarterly sampling activities on January 20, 1993, April 15, 1993, July 20, 1993 and October 26, 1993.
April 7, 1993	GCL prepared the "Discharge Plan GW-2 Modification and Remedial Strategy" for Lee Gas Plant.
April 26, 1993	The OCD approved the "Discharge Plan GW-2 Modification and Remedial Strategy" for Lee Gas Plant.
July 1993	GCL completed installation of monitoring wells MW-21, MW-22 and MW-23 between July 19, 1993 and July 27, 1993.
August 3, 1993	GCL completed installation of soil vapor extraction system on recovery well RW-1.
November 15, 1993	GCL completed installation of air sparging injection unit in monitoring well MW-23.
1994	GCL conducted quarterly sampling activities on January 6, 1994, May 3, 1994, July 26, 1994 and October 12, 1994.
March 1994	GCL performed a successful cleanout (well restoration) of recovery well MW-7 during the week of March 21, 1994. However, attempts to restore MW-8 were unsuccessful due to well damage.
1995	BDM International, Inc. (formerly GCL) conducted quarterly sampling activities on March 16, 1995, June 24, 1995, August 10, 1995 and October 10, 1995.
1996	BDM International, Inc. (BDM) conducted quarterly sampling activities on January 16, 1996, April 25, 1996, August 27, 1996 and November 20, 1996.
January 15, 1996	Removed packer from injection well MW-23 and discontinued injection activities.

1997	BDM conducted quarterly sampling activities on January 21, 1997 and April 17, 1997.
June 18, 1997	Mr. Bill Olson (verbal communication) of the OCD approved a request by GPM to change the sampling frequency from a quarterly to semi-annual frequency.
August 12, 1997	BDM conducted annual sampling activities on August 12, 1997.
January 19, 1998	TRW conducted semi-annual sampling activities.
April 1, 1998	TRW replaced the submersible pumps in MW-6 and MW-7 with new pumps. The pump in MW-10 was not replaced due to damaged well conditions.
April 2, 1998	TRW installed a passive skimmer in MW-15.
April 9, 1998	TRW completed installation of Xitech product recovery system at MW-5.
July 10, 1998	TRW completed installation of air sparge system (air compressor) at MW-23.
August 5, 1998	TRW conducted annual sampling activities.
September 17, 1998	TRW replaced the submersible pump in RW-1 with a new pump.
November 18, 1998	Xitech product recovery system was transferred from MW-5 to MW-15.
February 15, 1999	TRW conducted semi-annual sampling activities.
June 16-19, 1999	Recovery wells MW-6, MW-7, and RW-1 were replaced by newly installed deeper wells RW-2, RW-3, and RW-4, respectively.
August 18-20, 1999	TRW conducted annual sampling activities.
October 26, 1999	TRW conducted O & M on Xitech, vapor extraction, and air sparge systems.
November 11, 1999	TRW conducted O & M on Xitech, vapor extraction, and air sparge systems. Also reinstalled compressor at air sparge well (MW-23).
December 20, 1999	TRW conducted O & M vapor extraction, and air sparge systems. Also moved Xitech system from MW-15 to MW-6.
January 25, 2000	TRW conducted O & M on Xitech, vapor extraction, and air sparge systems.
February 16, 2000	TRW conducted O & M on Xitech, vapor extraction, and air sparge systems, semi-annual sampling activities, bailed sand from RW-4, and installed new pump in RW-4.
April 3, 2000	TRW conducted O & M on Xitech, vapor extraction, and air sparge systems.

April 24, 2000	TRW conducted O & M on Xitech, vapor extraction, and air sparge systems.
May 2, 2000	TRW performed repairs of groundwater recovery (installed new pump in RW-2 and used pump in RW-3) and vapor extraction systems.
May 9, 2000	TRW conducted O & M on Xitech, vapor extraction, and air sparge systems.
June 13, 2000	TRW conducted O & M on Xitech, vapor extraction, and air sparge (installed new compressor) systems.
July 12, 2000	TRW conducted O & M on Xitech, vapor extraction, and air sparge systems.
August 15-17, 2000	TRW conducted O & M on Xitech, vapor extraction, and air sparge systems, and annual groundwater sampling activities. The submersible pump in RW-2 was repaired and replaced.
October 24, 2000	TRW replaced the submersible pump in RW-2 with a new pump.

3.0 Procedures

Each monitoring well at the Lee Gas Plant was gauged for depth to groundwater on February 16, 2000 and August 15, 2000, using a Heron H.01L oil/water interface probe. Depth to groundwater in the recovery wells were not gauged due access limitations caused by the presence of downhole pumping equipment.

Immediately prior to collecting groundwater samples, the monitoring wells were purged using a Grundfos Redi-Flo2 submersible pump with the exception of MW-2, MW-3, MW-7, MW-21, and MW-22, which were purged using a decontaminated hand bailer. Purging operations were completed after groundwater parameters (pH, conductivity, dissolved oxygen and temperature) stabilized with the exception of MW-2 and MW-3, which were bailed dry. Conductivity, pH, dissolved oxygen (DO), and temperature readings were measured after every 5 gallons of purging using a Horiba Model U-10 or comparable DO meter. Approximately 670 gallons of well development water was purged from the monitoring wells during the 2000-sampling year.

Groundwater samples were obtained using a new, decontaminated, disposable bailer for each well after purging. Each groundwater sample was transferred into two air-tight, septum-sealed, 40-ml glass volatile organic analysis (VOA) sample vials with zero head space and preserved with sodium bisulfate (NaHSO_4) for analysis of BTEX using EPA Method 8021B. Chain-of-custody (COC) forms documenting sample identification numbers, collection times, and delivery times to the laboratory were completed for each set of samples. One duplicate sample and one rinsate sample was collected during each sampling event. The water samples were placed into an ice-filled cooler immediately after collection and shipped next day delivery to Trace Analysis Inc. in Lubbock, Texas for laboratory analysis.

A summary of the monitoring wells sampled, sampling frequency, sampling dates, purge method, sampling method and purge volumes for the 2000 calendar year is presented in Table 1.



2000 Annual Sampling and Monitoring Report
Duke Energy Field Services - Lee Gas Plant

Table 1
Well Sampling Frequency and Methods

Well No.	Well Type	Sampling Frequency	2000 Sample Date	Purge Method	Sampling Method	Purge Volume
MW-1	Monitoring	Not sampled due to dry well conditions	NS	NS	NS	0 gallons
MW-2	Monitoring	Semi-annual event	02/16/00	Hand Bailer	Disposable bailer	2.5 gallons*
		Annual event	NS	NS	NS	0 gallon*
MW-3	Monitoring	Annual event	08/16/00	Hand Bailer	Disposable bailer	2 gallons*
MW-4	Monitoring	Not sampled due to dry well conditions	NS	NS	NS	0 gallons
MW-5	Monitoring	Not sampled due to PSH presence	NS	NS	NS	0 gallons
MW-6	Recovery	Not sampled due to PSH presence	NS	NS	NS	0 gallons
MW-7	Monitoring	Annual event	08/16/00	Hand Bailer	Disposable bailer	5 gallons
MW-8	Monitoring	Not sampled due to PSH presence	NS	NS	NS	0 gallons
MW-9	Monitoring	Annual event	08/16/00	Pump	Disposable bailer	40 gallons
MW-10	Monitoring	Annual event	08/17/00	Pump	Disposable bailer	40 gallons
MW-11	Monitoring	Semi-annual event	02/16/00	Pump	Disposable bailer	40 gallons
		Annual event	08/16/00	Pump	Disposable bailer	45 gallons
MW-12	Monitoring	Semi-annual event	02/16/00	Pump	Disposable bailer	40 gallons
		Annual event	08/16/00	Pump	Disposable bailer	40 gallons
MW-13	Monitoring	Semi-annual event	02/16/00	Pump	Disposable bailer	20 gallons
		Annual event	08/15/00	Pump	Disposable bailer	40 gallons
MW-14	Monitoring	Annual event	08/17/00	Pump	Disposable bailer	40 gallons
MW-15	Monitoring	Not sampled due to PSH presence	NS	NS	NS	0 gallons
MW-16	Monitoring	Annual event	08/17/00	Pump	Disposable bailer	40 gallons
MW-17	Monitoring	Annual event	08/16/00	Pump	Disposable bailer	40 gallons
MW-18	Monitoring	Annual event	08/16/00	Pump	Disposable bailer	50 gallons
MW-19	Monitoring	Semi-annual event	02/16/00	Pump	Disposable bailer	40 gallons
		Annual event	08/15/00	Pump	Disposable bailer	40 gallons
MW-20	Monitoring	Semi-annual event	02/16/00	Pump	Disposable bailer	35 gallons
		Annual event	08/15/00	Pump	Disposable bailer	40 gallons
MW-21	Monitoring	Semi-annual event	02/16/00	Hand Bailer	Disposable bailer	16 gallons
		Annual event	08/16/00	Hand Bailer	Disposable bailer	5 gallons
MW-22	Monitoring	Annual event	08/16/00	Hand Bailer	Disposable bailer	10 gallons
MW-23	Injection	Not sampled due to use as air sparge well.	NS	NS	NS	0 gallons
		Not sampled due to use as air sparge well.	NS	NS	NS	0 gallons

NS indicates well was not sampled.

* Monitoring wells MW-2 and MW-3 bailed dry.

4.0 Groundwater Elevations, Hydraulic Gradient and Flow Direction

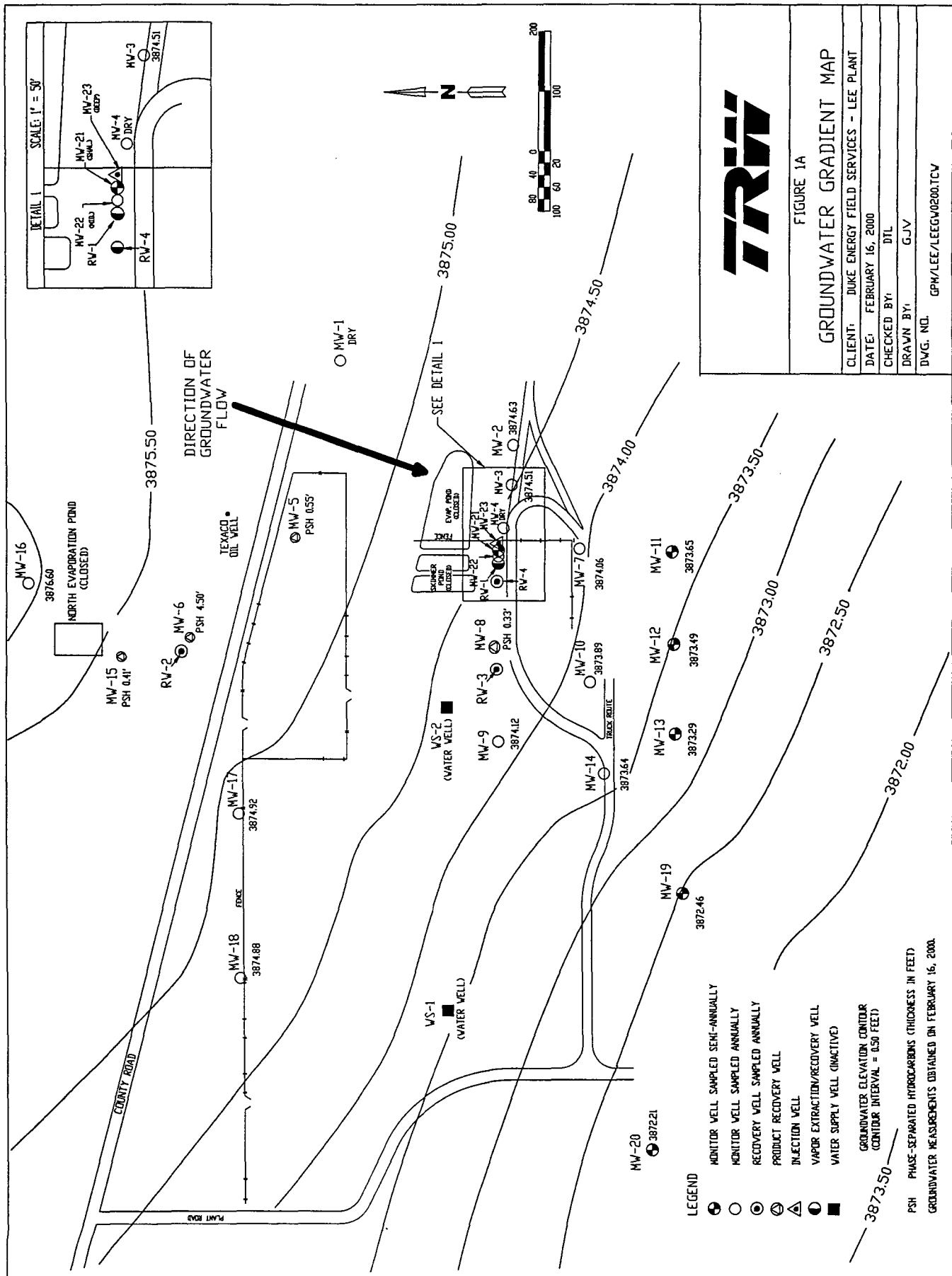
Based on the most recent gauging data collected by TRW on August 15, 2000, the groundwater conditions at the Lee Gas Plant are characterized below.

- The depth to the water table across the site varies from approximately 104 to 111 feet below ground surface
- The hydraulic gradient is approximately 0.0035 feet/foot
- The direction of groundwater flow is to the southwest

Groundwater elevation maps depicting the water table elevation and direction of groundwater flow using the gauging data obtained during the two 2000 sampling events are presented in Figure 1A (February 16, 2000) and Figure 1B (August 15, 2000). Groundwater elevations and depth to water measurements for the year 2000 are summarized in Table 2.

The direction of groundwater flow and hydraulic gradient has remained consistent for the past twelve years. However, the average water table elevations across the site have decreased by approximately 1 foot per year since March 28, 1988. The historic decline in the average water table elevations is depicted in Figure 2. The historic water table elevations for individual monitoring wells are presented with the hydrocarbon concentration graphs following section 5.0.

Due to the declining water table elevations over the past twelve years, MW-1 and MW-4 no longer extends to the groundwater depth. In addition, MW-2, MW-3, MW-5, and MW-8 are approaching their limits of usefulness as monitoring points. Since it is expected that the water table elevation will decrease more in the future, the availability of these wells will diminish.



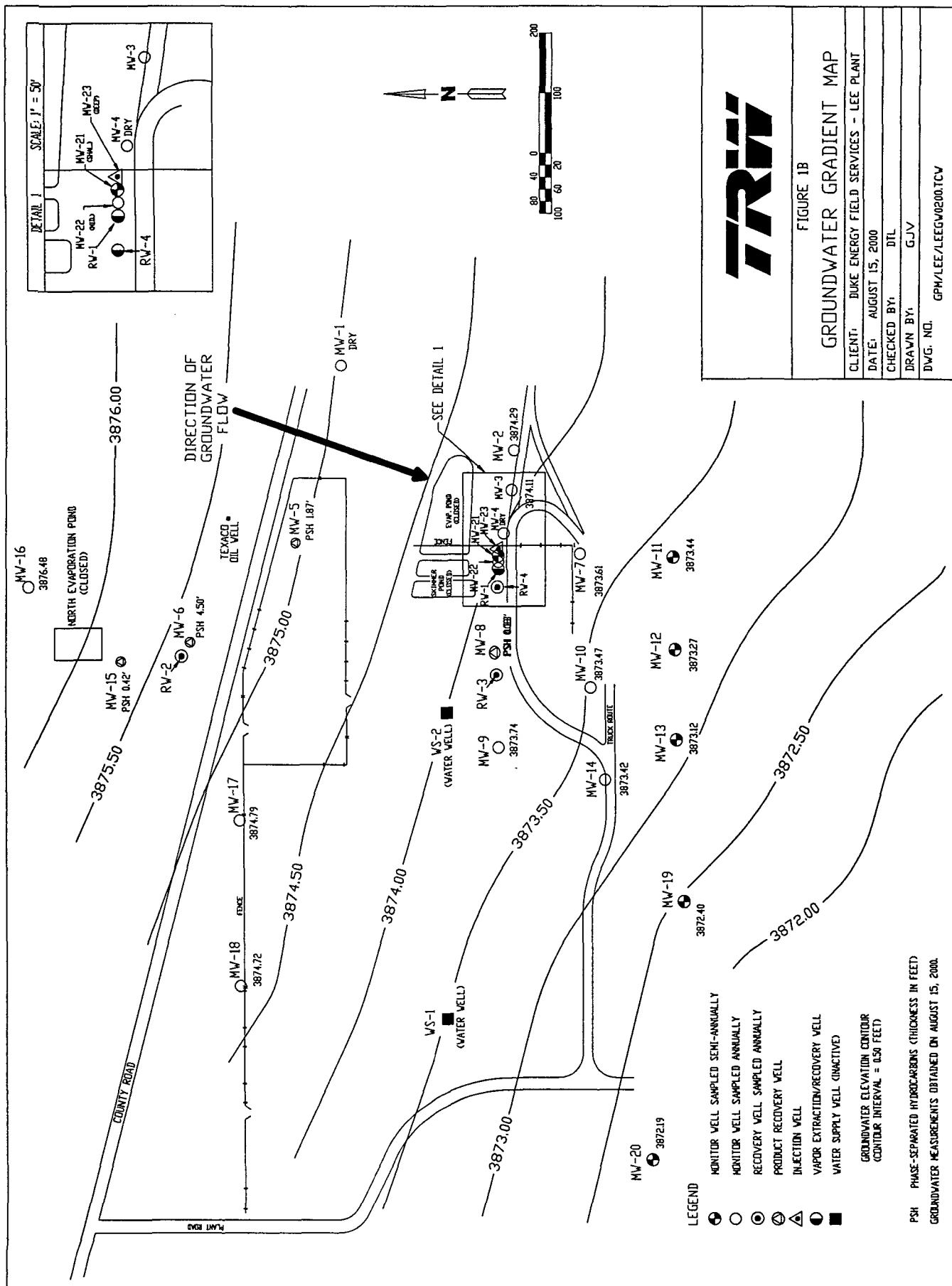
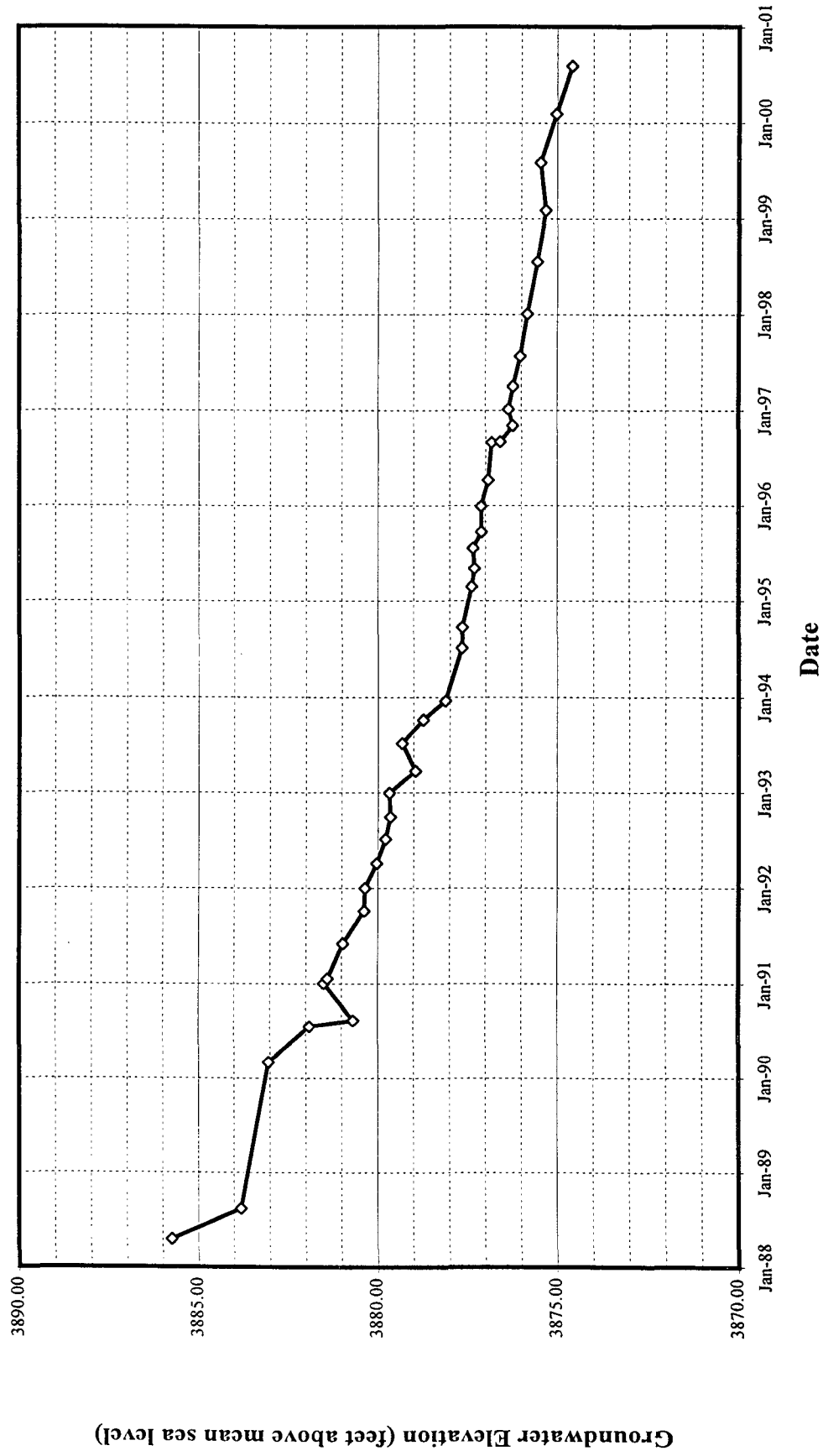


Table 2
2000 Groundwater Elevations
Duke Energy Field Services - Lee Plant

Monitoring Well	Date Gauged	Relative Top of Casing Elevation (feet)*	Depth to Groundwater Below Top of Casing (feet)	Relative Groundwater Elevation (feet)**	Phase-Separated Hydrocarbon Thickness (feet)
MW-1	02/16/00	3979.25	Dry	Dry	0.00
	08/15/00	3979.25	Dry	Dry	0.00
MW-2	02/16/00	3980.50	105.87	3874.63	0.00
	08/15/00	3980.50	106.21	3874.29	0.00
MW-3	02/16/00	3980.27	105.76	3874.51	0.00
	08/15/00	3980.27	106.16	3874.11	0.00
MW-4	02/16/00	3980.16	Dry	Dry	0.00
	08/15/00	3980.16	Dry	Dry	0.00
MW-5	02/16/00	3979.82	104.80	3875.47	0.55
	08/15/00	3979.82	105.83	3875.52	1.87
MW-6	02/16/00	3981.79	109.10	3876.38	4.50
	08/15/00	3981.79	Could not gauge during annual event		
MW-7	02/16/00	3978.45	104.56	3873.89	0.00
	08/15/00	3978.45	104.84	3873.61	0.00
MW-8	02/16/00	3979.96	106.10	3874.13	0.33
	08/15/00	3979.96	107.40	3872.63	0.08
MW-9	02/16/00	3980.17	106.05	3874.12	0.00
	08/15/00	3980.17	106.43	3873.74	0.00
MW-10	02/16/00	3979.66	105.77	3873.89	0.00
	08/15/00	3979.66	106.19	3873.47	0.00
MW-11	02/16/00	3978.50	104.85	3873.65	0.00
	08/15/00	3978.50	105.06	3873.44	0.00
MW-12	02/16/00	3978.82	105.33	3873.49	0.00
	08/15/00	3978.82	105.55	3873.27	0.00
MW-13	02/16/00	3980.52	107.23	3873.29	0.00
	08/15/00	3980.52	107.40	3873.12	0.00
MW-14	02/15/99	3982.23	108.59	3873.64	0.00
	08/18/99	3982.23	108.81	3873.42	0.00
MW-15	02/16/99	3981.70	106.17	3875.87	0.41
	08/18/99	3981.70	106.39	3875.65	0.42
MW-16	02/15/99	3980.80	104.20	3876.60	0.00
	08/18/99	3980.80	104.32	3876.48	0.00
MW-17	02/15/99	3981.80	106.88	3874.92	0.00
	08/18/99	3981.80	107.01	3874.79	0.00
MW-18	02/15/99	3983.10	108.22	3874.88	0.00
	08/18/99	3983.10	108.38	3874.72	0.00
MW-19	02/15/99	3980.80	108.34	3872.46	0.00
	08/18/99	3980.80	108.40	3872.40	0.00
MW-20	02/15/99	3983.30	111.09	3872.21	0.00
	08/18/99	3983.30	111.11	3872.19	0.00

Figure 2
Average Groundwater Elevations



5.0 Distribution of Hydrocarbons in Groundwater

A historical listing of BTEX concentrations obtained from the on site monitoring wells are summarized in Table 3. BTEX concentration maps depicting the February 16, 2000 and August 15 through August 17, 2000 results are presented in Figure 3. Hydrocarbon concentration and groundwater elevation versus time graphs are depicted as follows:

<u>Figure</u>	<u>Area</u>	<u>Monitoring Wells</u>
4A	Central Area	MW-2, MW-3, MW-7, MW-8, MW-9, MW-10, MW-14, MW-21, MW-22, MW-23, WS-1, and WS-2
4B	North Area	MW-5, MW-6, MW-15, MW-16, MW-17, and MW-18
4C	Downgradient South Area	MW-11, MW-12, MW-13, MW-19, and MW-20

Laboratory analytical reports and chain-of-custody documentation for both the semi-annual and annual sampling events are included in Appendix A.

Based on the most recent analytical data for samples collected by TRW from August 15 through August 17, 2000, the distribution of hydrocarbons at the Lee Gas Plant is described below.

- BTEX concentrations in the groundwater from the downgradient monitoring wells (MW-11, MW-12, MW-13, MW-19 and MW-20) are currently below the WQCC standards and the laboratory detection limits. It should be noted that, except for a sample from MW-12 recovered during the February 2000 monitoring event (0.338-mg/l benzene), all of the measured hydrocarbon concentrations have remained below the WQCC standards since May 1995.
- BTEX concentrations in the groundwater from the crossgradient monitoring wells (MW-2, MW-3, MW-18, MW-21, and MW-22) are also currently below the WQCC standards and the laboratory detection limits. The hydrocarbon concentrations from these monitoring wells have remained below the WQCC standards since at least August 1998. Decreased levels observed in MW-21 and MW-22 are believed to be due to the successful air sparging and vapor extraction operations.
- Benzene concentrations in groundwater from monitoring wells located within the aerial extent of the dissolved-phase hydrocarbon plume (MW-7, MW-9, MW-10, MW-14, MW-16, and MW-17) remain above WQCC standards. Toluene, ethylbenzene, and xylene concentrations have remained below the WQCC standards since at least August 1995. The benzene concentrations measured over the past five years in these monitoring wells appear generally stable to decreasing except in MW-9, where the stable values are periodically interrupted by isolated spikes of elevated concentrations.
- During the August 2000 monitoring event phase separated hydrocarbons (PSH) were measured in monitoring wells MW-5 (1.87 feet), MW-6 (4.5 feet), MW-8 (0.08 feet), and MW-15 (0.42 feet), therefore groundwater samples were not recovered.

Table 3
BTEX Analytical Results In Groundwater
Duke Energy Field Services - Lee Plant

Monitoring Well	Date Sampled	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Xylenes (mg/l)
MW-1	Mar-90	0.004	<0.001	<0.001	<0.001
	03/28/90	0.002	<0.001	<0.001	<0.001
	06/27/91	<0.002	<0.002	<0.002	<0.003
MW-2	Mar-90	<0.001	<0.001	<0.001	<0.001
	03/28/90	0.002	<0.001	<0.001	<0.001
	06/27/90	<0.002	<0.002	<0.002	<0.003
	07/30/92	<0.001	<0.001	<0.001	<0.001
	07/21/93	<0.002	<0.002	<0.002	<0.006
	01/06/94	<0.001	<0.001	<0.001	<0.003
	07/26/94	<0.001	<0.001	<0.001	<0.003
	01/16/96	<0.001	<0.001	<0.001	<0.001
	08/13/97	<0.001	<0.001	<0.001	<0.001
	01/20/98	<0.001	<0.001	<0.001	<0.001
	08/05/98	<0.001	<0.001	<0.001	<0.001
	08/19/99	<0.005	<0.005	<0.005	<0.005
	02/16/00	<0.005	<0.005	<0.005	<0.005
MW-3	Mar-90	0.069	0.002	0.001	0.001
	03/28/90	<0.001	0.002	<0.001	<0.001
	06/27/90	0.043	0.006	0.002	<0.003
	08/13/97	1.990	0.078	0.042	0.061
	08/05/98	0.002	<0.001	0.007	<0.001
	08/19/99	<0.001	<0.001	<0.001	<0.001
	08/16/00	<0.005	<0.005	<0.005	<0.005
MW-4	Never analyzed due to presence of phase-separated hydrocarbons or dry well conditions.				
MW-5	03/27/90	<0.001	0.098	<0.001	0.043
	06/27/91	5.00	0.570	0.015	0.088
	07/30/92	10.0	1.40	0.059	0.070
	07/21/93	22.0	7.87	0.570	1.27
	07/01/94	66.4	17.1	0.630	<1.5
MW-6	04/03/90	<0.001	<0.001	<0.001	<0.001
	02/13/91	72	3.0	35	42
	03/01/95	18.8	17.0	1.76	3.10
	08/13/97	11.6	4.1	0.49	0.82
	08/05/98	13.7	5.96	<0.500	0.991
MW-7	04/03/90	6.1	0.36	3.9	0.26
	06/27/91	3.2	1.4	0.023	0.13
	07/30/92	0.001	<0.001	<0.001	<0.001
	07/21/93	0.040	0.57	<0.001	1.27
	07/25/94	0.003	0.002	0.001	0.005
	08/09/95	0.083	0.001	0.002	<0.003
	08/27/96	1.14	<0.010	<0.010	<0.010
	08/13/97	1.39	<0.025	<0.025	<0.025
	08/05/98	1.63	<0.010	<0.010	<0.010
	08/19/99	1.50	0.016	0.02	0.016
	08/16/00	0.036	0.014	<0.01	0.01

**Table 3 (continued)
BTEX Analytical Results In Groundwater
Duke Energy Field Services - Lee Plant**

Monitoring Well	Date Sampled	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Xylenes (mg/l)
MW-8	04/06/90	18	0.83	7.1	0.29
	06/27/91	21	1.3	0.012	0.42
	07/30/92	13	0.38	0.37	0.18
MW-9	08/11/90	0.006	0.001	0.001	0.002
	01/23/91	0.007	0.001	0.005	0.002
	06/27/91	0.16	0.056	0.003	0.004
	10/17/91	0.002	0.003	0.002	<0.001
	01/23/92	<0.001	0.003	0.005	<0.001
	04/28/92	<0.001	0.001	<0.001	<0.001
	07/30/92	0.31	0.004	0.010	0.003
	10/21/92	3.0	0.28	0.11	0.12
	01/20/93	5.9	0.004	0.022	0.011
	04/15/93	2.2	0.011	0.020	0.040
	07/21/93	0.673	0.314	0.029	0.069
	07/25/94	0.495	<0.01	<0.01	<0.03
	08/09/95	5.86	<0.025	<0.025	<0.075
	08/27/96	0.327	<0.001	<0.001	<0.001
	08/12/97	0.138	<0.001	<0.001	<0.001
	08/06/98	0.892	<0.010	<0.010	<0.010
	08/19/99	13.6	0.25	<0.050	0.073
	08/16/00	2.92	<0.005	0.024	<0.005
MW-10	08/10/90	1.3	0.050	0.034	0.016
	01/23/91	0.98	0.015	0.016	<0.005
	06/27/91	9.7	0.42	0.084	0.039
	07/21/93	0.004	<0.002	<0.002	NS
	07/25/94	4.16	0.21	0.23	0.86
	08/09/95	3.66	0.033	<0.025	<0.075
	08/27/96	2.98	0.060	<0.025	<0.025
	08/12/97	4.71	<0.050	<0.050	<0.050
	08/06/98	1.50	0.011	0.013	0.008
	08/20/99	1.01	<0.010	<0.010	<0.010
MW-11	08/17/00	3.70	<0.005	<0.005	<0.005
	08/10/90	0.001	0.002	0.003	0.006
	06/26/91	<0.002	<0.002	<0.002	<0.003
	10/17/91	0.002	0.002	<0.001	<0.001
	01/23/92	<0.001	<0.001	<0.001	<0.001
	04/28/92	0.002	<0.001	<0.001	<0.001
	07/30/92	0.031	0.007	0.002	0.001
	10/21/92	0.078	0.130	0.022	0.051
	01/20/93	0.001	<0.001	<0.001	0.001
	04/15/93	0.001	<0.001	<0.001	0.001
	07/20/93	0.016	0.031	<0.002	0.012
	10/26/93	<0.002	<0.002	<0.002	<0.006
	01/06/94	0.004	0.006	<0.001	0.004
	05/03/94	<0.001	<0.001	0.001	0.004
WQCC Standards (mg/l)		0.010	0.75	0.75	0.62
Samples analyzed for BTEX using EPA Method 602/8021B.					
New Mexico Water Quality Control Commission (WQCC) standards are listed as specified in Section 3-103.					

Table 3 (continued)
BTEX Analytical Results In Groundwater
Duke Energy Field Services - Lee Plant

Monitoring Well	Date Sampled	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Xylenes (mg/l)
MW-11	07/26/94	0.002	0.001	<0.001	<0.003
	10/12/94	<0.001	0.002	<0.001	<0.003
	03/16/95	<0.001	0.002	<0.001	0.003
	06/24/95	<0.001	0.001	<0.001	<0.003
	08/10/95	<0.001	<0.001	<0.001	<0.003
	10/10/95	<0.001	<0.001	<0.001	<0.001
	01/16/96	<0.001	<0.001	<0.001	<0.001
	04/25/96	<0.001	<0.001	<0.001	<0.001
	08/27/96	<0.001	<0.001	<0.001	<0.001
	11/20/96	<0.001	<0.001	<0.001	<0.001
	01/21/97	<0.001	<0.001	<0.001	<0.001
	04/17/97	<0.001	<0.001	<0.001	<0.001
	08/12/97	<0.001	<0.001	<0.001	<0.001
	01/19/98	<0.001	<0.001	<0.001	<0.001
	08/05/98	<0.001	<0.001	<0.001	<0.001
	02/15/99	<0.001	<0.001	<0.001	<0.001
	08/18/99	<0.001	<0.001	<0.001	<0.001
	02/16/00	0.001	<0.001	<0.001	<0.001
	08/16/00	<0.001	<0.001	<0.001	<0.001
MW-12	08/10/90	0.001	0.001	0.001	0.003
	01/23/91	0.12	0.001	0.004	0.001
	06/26/91	<0.002	0.002	<0.002	<0.003
	10/17/91	0.004	0.003	<0.001	<0.001
	01/23/92	<0.001	<0.001	<0.001	<0.001
	04/28/92	<0.001	<0.001	<0.001	<0.001
	07/30/92	0.018	0.004	0.001	0.001
	10/21/92	0.064	0.130	0.024	0.056
	01/20/93	0.067	0.001	<0.001	<0.001
	04/15/93	0.030	<0.001	<0.001	<0.001
	07/20/93	0.011	0.029	<0.002	0.012
	10/26/93	<0.002	<0.002	<0.002	<0.006
	01/06/94	0.003	0.004	<0.001	<0.003
	05/03/94	<0.001	0.002	0.001	0.004
	07/26/94	0.004	<0.001	<0.001	<0.003
	10/12/94	<0.001	<0.001	<0.001	<0.003
	03/16/95	<0.001	0.003	<0.001	0.004
	06/24/95	<0.001	<0.001	<0.001	<0.003
	08/10/95	<0.001	<0.001	<0.001	<0.003
	10/10/95	<0.001	<0.001	<0.001	<0.001
	01/16/96	<0.001	<0.001	<0.001	<0.001
	04/25/96	<0.001	<0.001	<0.001	<0.001
	08/27/96	<0.001	<0.001	<0.001	<0.001
	11/20/96	<0.001	<0.001	<0.001	<0.001
	01/21/97	<0.001	<0.001	<0.001	<0.001
	04/17/97	<0.001	<0.001	<0.001	<0.001

Table 3 (continued)
BTEX Analytical Results In Groundwater
Duke Energy Field Services - Lee Plant

Monitoring Well	Date Sampled	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Xylenes (mg/l)
MW-12	08/12/97	<0.001	<0.001	<0.001	<0.001
	01/20/98	<0.001	<0.001	<0.001	<0.001
	08/05/98	<0.001	<0.001	<0.001	<0.001
	02/15/99	<0.001	<0.001	<0.001	<0.001
	08/18/99	<0.001	<0.001	<0.001	<0.001
	02/16/00	0.338	<0.001	<0.001	<0.001
	08/16/00	<0.005	<0.005	<0.005	<0.005
MW-13	01/27/91	0.016	0.003	0.019	0.005
	06/26/91	0.002	<0.002	<0.002	<0.003
	10/17/91	0.001	0.001	<0.001	<0.001
	01/23/92	<0.001	<0.001	<0.001	<0.001
	07/30/92	<0.001	<0.001	<0.001	<0.001
	10/21/92	0.084	0.150	0.026	0.062
	01/20/93	0.028	<0.001	<0.001	<0.001
	04/15/93	0.013	<0.001	<0.001	<0.001
	07/20/93	0.015	0.034	<0.002	0.013
	10/26/93	0.029	0.030	<0.002	0.010
	01/06/94	0.002	0.003	<0.001	<0.003
	05/03/94	<0.001	<0.001	<0.001	<0.003
	07/26/94	0.007	0.001	<0.001	<0.003
	10/12/94	<0.001	<0.001	<0.001	<0.001
	03/16/95	<0.001	0.003	<0.001	<0.003
	06/24/95	<0.001	<0.001	<0.001	0.003
	08/10/95	<0.001	<0.001	<0.001	<0.003
	10/10/95	<0.001	<0.001	<0.001	<0.001
	01/16/96	<0.001	<0.001	<0.001	<0.001
	04/25/96	<0.001	<0.001	<0.001	<0.001
	08/27/96	<0.001	<0.001	<0.001	<0.001
	11/20/96	<0.001	<0.001	<0.001	<0.001
	01/21/97	<0.001	<0.001	<0.001	<0.001
	04/17/97	<0.001	<0.001	<0.001	<0.001
	08/12/97	<0.001	<0.001	<0.001	<0.001
	01/20/98	<0.001	<0.001	<0.001	<0.001
	08/05/98	<0.001	<0.001	<0.001	<0.001
	02/15/99	<0.001	<0.001	<0.001	<0.001
	08/18/99	<0.001	<0.001	<0.001	<0.001
	02/16/00	<0.001	<0.001	<0.001	<0.001
	08/15/00	<0.001	<0.001	<0.001	<0.001
MW-14	01/27/91	<0.001	<0.001	<0.001	<0.001
	06/27/91	<0.002	<0.002	<0.002	<0.003
	10/21/92	0.043	0.099	0.019	0.045
	01/20/93	0.019	<0.001	<0.001	0.001
	04/15/93	0.013	0.003	0.003	0.006
	04/25/96	2.22	<0.010	0.049	<0.010
	04/17/97	3.79	<0.025	0.050	<0.025

Table 3 (continued)
BTEX Analytical Results In Groundwater
Duke Energy Field Services - Lee Plant

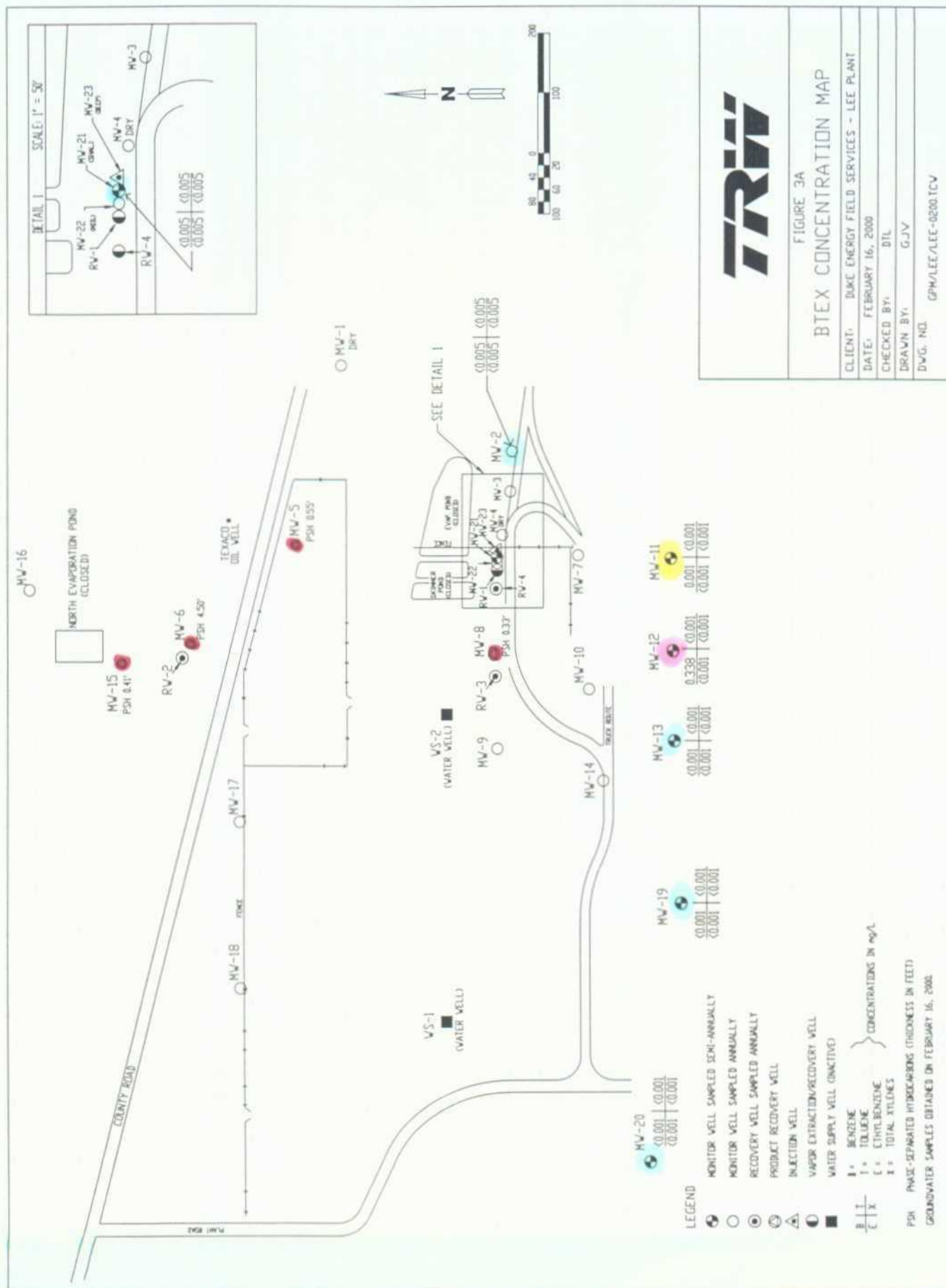
Monitoring Well	Date Sampled	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Xylenes (mg/l)
MW-14	08/13/97	3.42	<0.050	<0.050	<0.050
	08/06/98	0.002	<0.001	<0.001	<0.001
	08/19/99	0.024	<0.001	<0.001	<0.001
	08/17/00	0.284	<0.001	<0.001	<0.001
MW-15	10/29/91	4.2	0.45	0.10	0.10
	03/16/95	6.24	0.981	0.087	0.214
MW-16	10/18/91	0.004	0.002	<0.001	<0.001
	07/30/92	0.42	0.077	0.008	0.008
	07/20/93	1.19	0.157	0.030	0.048
	07/26/94	3.82	1.66	0.120	<0.300
	08/10/95	3.53	0.540	0.137	0.378
	08/27/96	0.724	0.166	0.035	0.021
	08/13/97	0.891	0.216	0.042	0.081
	08/06/98	1.950	0.304	0.046	0.129
	08/20/99	0.454	0.053	<0.005	0.034
	08/17/00	0.076	0.003	0.001	0.003
MW-17	10/27/91	0.008	0.002	<0.001	<0.001
	03/16/95	0.062	0.020	0.004	0.010
	01/16/96	<0.001	<0.001	<0.001	<0.001
	08/13/97	0.002	<0.001	<0.001	<0.001
	08/06/98	<0.001	<0.001	<0.001	<0.001
	08/19/99	0.028	0.002	<0.001	<0.001
	08/16/00	0.037	<0.005	<0.005	<0.005
MW-18	10/28/91	<0.001	0.001	<0.001	<0.001
	07/30/92	0.023	0.006	0.002	0.001
	07/20/93	0.011	0.029	<0.002	0.012
	01/06/94	<0.001	0.002	<0.001	<0.003
	07/26/94	0.057	0.008	0.002	<0.003
	03/16/95	<0.001	0.002	<0.001	<0.003
	08/10/95	<0.001	<0.001	<0.001	<0.003
	01/16/96	<0.001	<0.001	<0.001	<0.001
	08/27/96	<0.001	<0.001	<0.001	<0.001
	01/21/97	<0.001	<0.001	<0.001	<0.001
	08/13/97	<0.001	<0.001	<0.001	<0.001
	08/05/98	<0.001	<0.001	<0.001	<0.001
	08/19/99	<0.005	<0.005	<0.005	<0.005
	08/16/00	<0.005	<0.005	<0.005	<0.005
MW-19	10/25/91	<0.001	0.001	<0.001	<0.001
	07/30/92	0.014	0.004	0.002	0.001
	07/20/93	0.015	0.036	<0.002	0.014
	10/26/93	0.011	0.012	<0.002	<0.006
	01/06/94	0.003	0.003	<0.001	<0.003
	05/03/94	<0.001	<0.001	<0.001	<0.003
	07/26/94	0.005	<0.001	<0.001	<0.003
	10/12/94	<0.001	<0.001	<0.001	<0.003
	03/16/95	0.079	0.028	0.005	0.011

Table 3 (continued)
BTEX Analytical Results In Groundwater
Duke Energy Field Services - Lee Plant

Monitoring Well	Date Sampled	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Xylenes (mg/l)
MW-19	05/24/95	0.003	0.004	0.002	0.003
	08/10/95	<0.001	<0.001	<0.001	<0.003
	10/10/95	<0.001	<0.001	<0.001	<0.001
	01/16/96	<0.001	<0.001	<0.001	<0.001
	04/25/96	<0.001	<0.001	<0.001	<0.001
	08/27/96	<0.001	<0.001	<0.001	<0.001
	11/20/96	<0.001	<0.001	<0.001	<0.001
	01/21/97	<0.001	<0.001	<0.001	<0.001
	04/17/97	<0.001	<0.001	<0.001	<0.001
	08/12/97	<0.001	<0.001	<0.001	<0.001
	01/20/98	<0.001	<0.001	<0.001	<0.001
	08/05/98	<0.001	<0.001	<0.001	<0.001
	02/15/99	<0.005	<0.005	<0.005	<0.005
	08/18/99	<0.001	<0.001	<0.001	<0.001
	02/16/00	<0.005	<0.005	<0.005	<0.005
	08/15/00	<0.001	<0.001	<0.001	<0.001
MW-20	10/29/91	0.080	0.041	0.003	0.003
	01/23/92	<0.001	<0.001	<0.001	<0.001
	07/30/92	0.22	0.076	0.006	0.006
	01/20/93	<0.001	<0.001	<0.001	<0.001
	04/15/93	0.001	<0.001	<0.001	0.002
	07/20/93	0.217	0.102	0.011	0.034
	10/26/93	0.018	0.014	<0.002	<0.006
	01/06/94	0.004	0.005	0.003	0.010
	05/03/94	<0.001	<0.001	<0.001	<0.003
	07/26/94	<0.001	<0.001	<0.001	<0.003
	10/12/94	<0.001	<0.001	<0.001	<0.003
	03/16/95	0.001	0.006	<0.001	0.006
	06/24/95	<0.001	<0.001	<0.001	0.003
	08/10/95	<0.001	<0.001	<0.001	<0.003
	10/10/95	<0.001	<0.001	<0.001	<0.001
	01/16/96	<0.001	<0.001	<0.001	<0.001
	04/25/96	<0.001	<0.001	<0.001	<0.001
	08/27/96	<0.001	<0.001	<0.001	<0.001
	11/20/96	<0.001	<0.001	<0.001	<0.001
	01/21/97	<0.001	<0.001	<0.001	<0.001
	04/17/97	<0.001	<0.001	<0.001	<0.001
	08/12/97	<0.001	<0.001	<0.001	<0.001
	01/20/98	<0.005	<0.005	<0.005	<0.005
	08/05/98	<0.001	<0.001	<0.001	<0.001
	02/15/99	<0.005	<0.005	<0.005	<0.005
	08/18/99	<0.001	<0.001	<0.001	<0.001
	02/16/00	<0.005	<0.005	<0.005	<0.005
	08/15/00	<0.005	<0.005	<0.005	<0.005
WQCC Standards (mg/l)		0.010	0.75	0.75	0.62
Samples analyzed for BTEX using EPA Method 602/8021B.					
New Mexico Water Quality Control Commission (WQCC) standards are listed as specified in Section 3-103.					

Table 3 (continued)
BTEX Analytical Results In Groundwater
Duke Energy Field Services - Lee Plant

Monitoring Well	Date Sampled	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Xylenes (mg/l)
MW-21	07/20/93	37	5	<2	<6
	04/23/94	0.007	<0.001	<0.001	<0.003
	05/04/94	0.517	0.052	<0.001	<0.003
	07/26/94	0.078	0.051	<0.001	0.011
	03/16/95	0.042	<0.001	<0.001	<0.003
	10/10/95	0.092	<0.001	<0.001	<0.001
	04/25/96	0.001	<0.001	<0.001	<0.001
	11/20/96	0.010	<0.001	<0.001	<0.001
	04/17/97	3.51	<0.025	<0.025	<0.025
	08/13/97	33	0.31	0.73	0.90
	01/20/98	11.0	<0.100	<0.100	<0.100
	08/06/98	<0.001	<0.001	<0.001	<0.001
	02/15/99	<0.001	<0.001	<0.001	<0.001
	08/19/99	<0.001	<0.001	<0.001	<0.001
	02/16/00	<0.005	<0.005	<0.005	<0.005
	08/16/00	<0.005	<0.005	<0.005	<0.005
MW-22	07/20/93	0.170	0.065	0.036	0.048
	04/23/94	2.52	0.26	<0.10	<0.30
	05/04/94	0.007	0.002	<0.001	0.007
	07/26/94	0.005	0.001	<0.001	<0.003
	03/16/95	<0.001	<0.001	<0.001	<0.003
	10/10/95	<0.001	<0.001	<0.001	<0.001
	04/25/96	<0.001	<0.001	<0.001	<0.001
	11/20/96	<0.001	<0.001	<0.001	<0.001
	08/13/97	0.002	0.001	<0.001	<0.001
	08/06/98	<0.001	0.006	<0.001	<0.001
	08/19/99	<0.005	<0.005	<0.005	<0.005
	08/16/00	<0.005	<0.005	<0.005	<0.005
MW-23	07/20/93	0.190	0.130	0.010	0.046
	08/13/97	<0.001	<0.001	<0.001	<0.001
WS-1	Mar-90	0.015	0.004	0.002	0.004
	08/10/90	0.010	0.001	0.001	0.001
	06/27/91	0.007	<0.002	<0.002	<0.003
	01/23/92	0.110	0.020	0.020	0.010
	07/30/92	0.015	0.003	0.003	0.002
	04/15/93	0.007	0.003	0.002	0.002
	07/26/94	0.020	<0.001	0.002	<0.003
WS-2	Mar-90	0.007	<0.001	0.001	<0.001
	06/27/91	0.280	0.027	0.002	0.003
	01/23/92	0.010	<0.001	<0.001	<0.001
	07/30/92	0.46	0.011	0.005	0.002
	04/15/93	1.6	<0.001	0.019	0.014
RW-1	04/04/90	2.6	0.32	0.58	0.19
WQCC Standards (mg/l)		0.010	0.75	0.75	0.62
Samples analyzed for BTEX using EPA Method 602/8021B. New Mexico Water Quality Control Commission (WQCC) standards are listed as specified in Section 3-103.					



TRW

**FIGURE 3A
BTEX CONCENTRATION MAP**

CLIENT:	DUKE ENERGY FIELD SERVICES - LEE PLANT
DATE:	FEBRUARY 16, 2000
CHECKED BY:	DTL
DRAWN BY:	GJV
DWG. NO.	GPM/LEE/LEE-0200.TCV

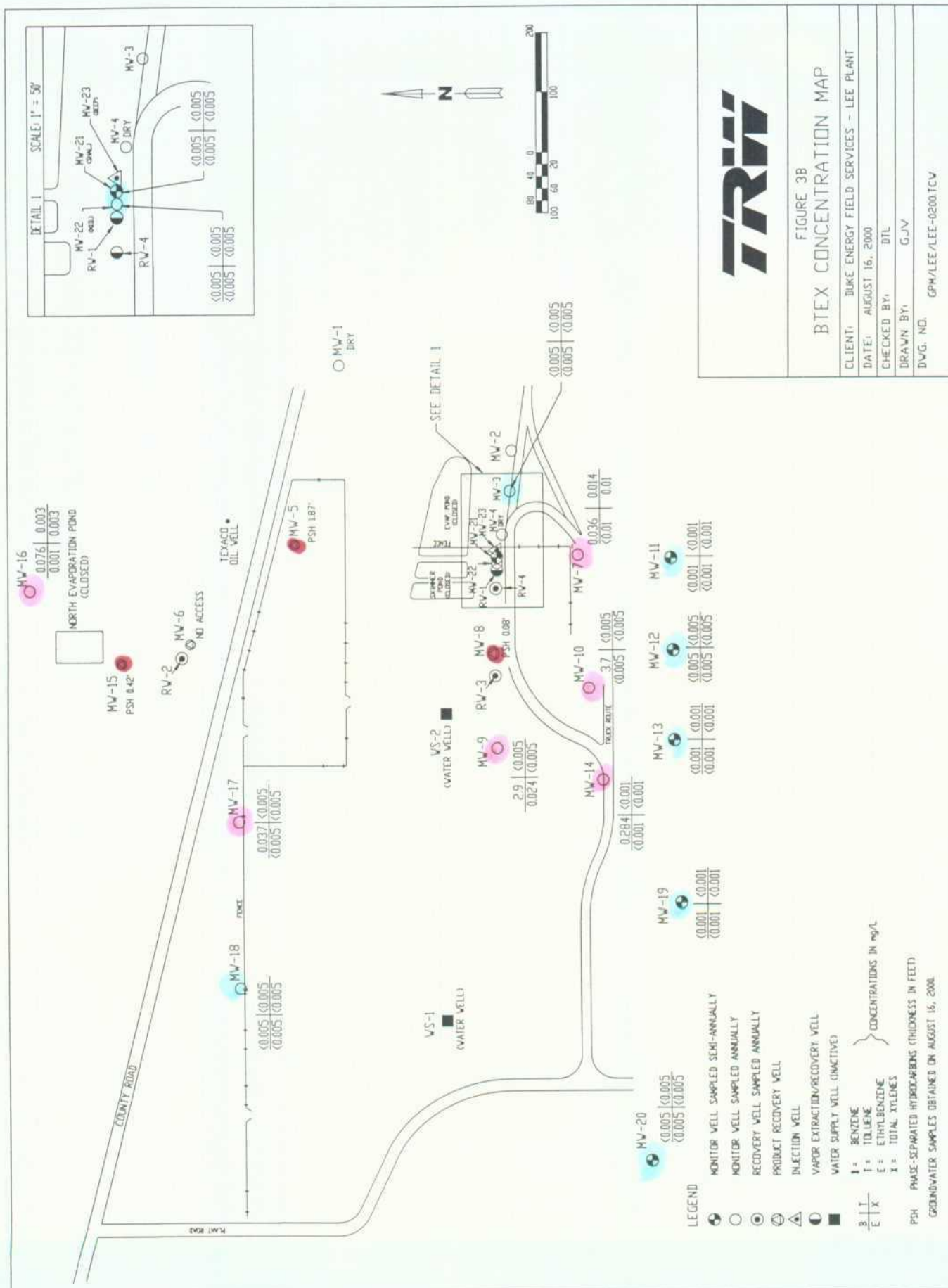


Figure 4A
Hydrocarbon Concentration Versus Time (Central Area Wells)

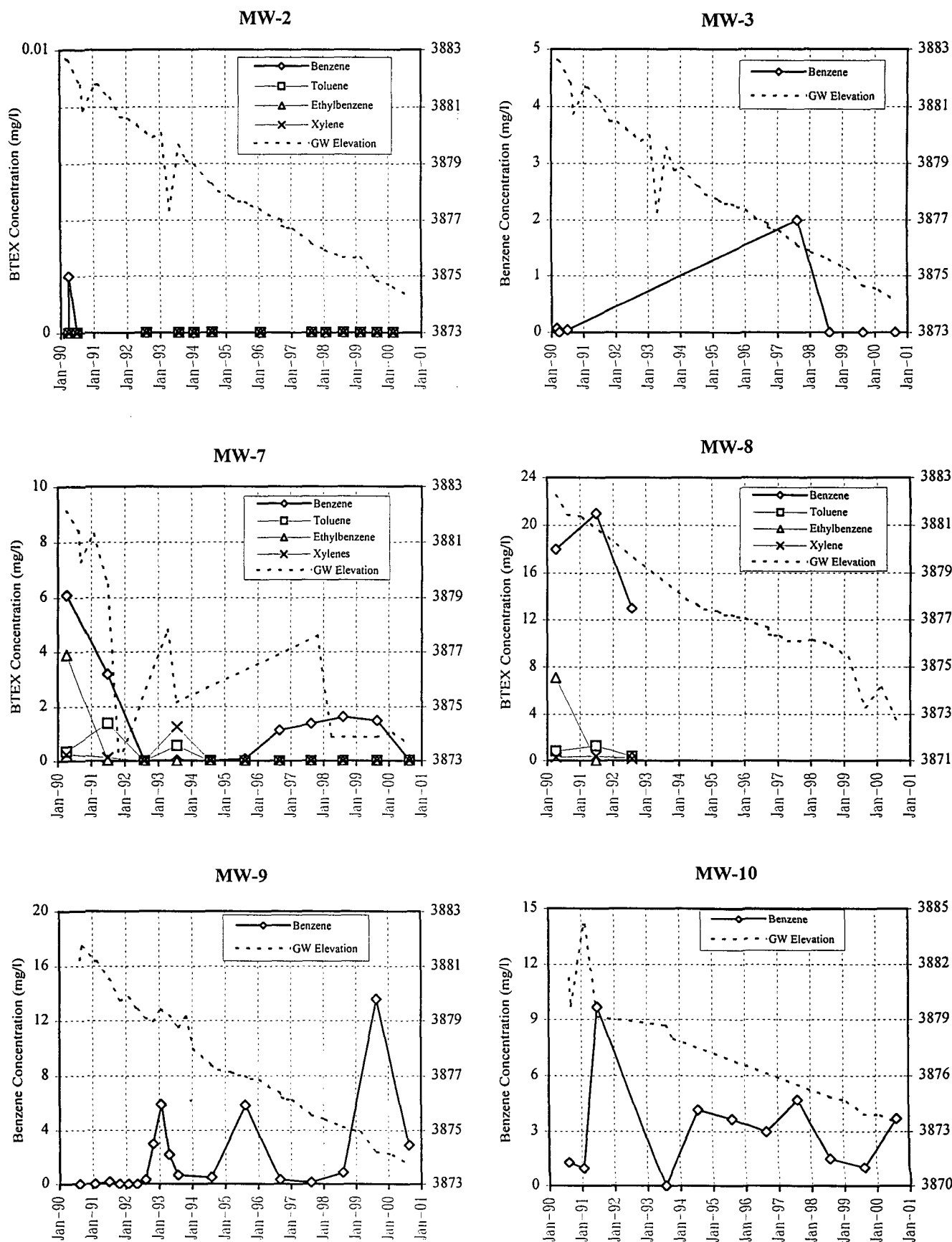


Figure 4A (continued)
Hydrocarbon Concentration Versus Time (Central Area Wells)

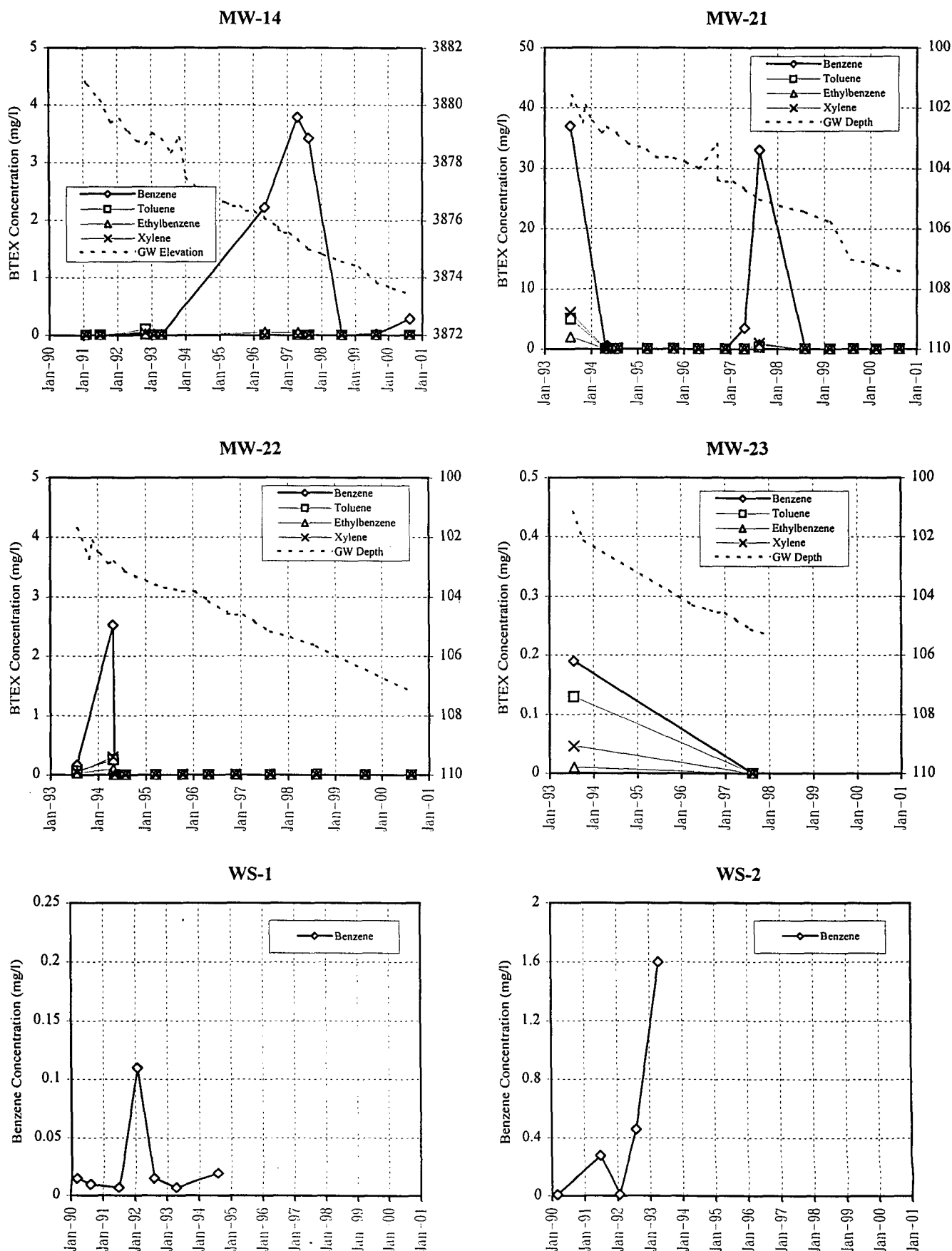


Figure 4B
Hydrocarbon Concentration Versus Time (North Area Wells)

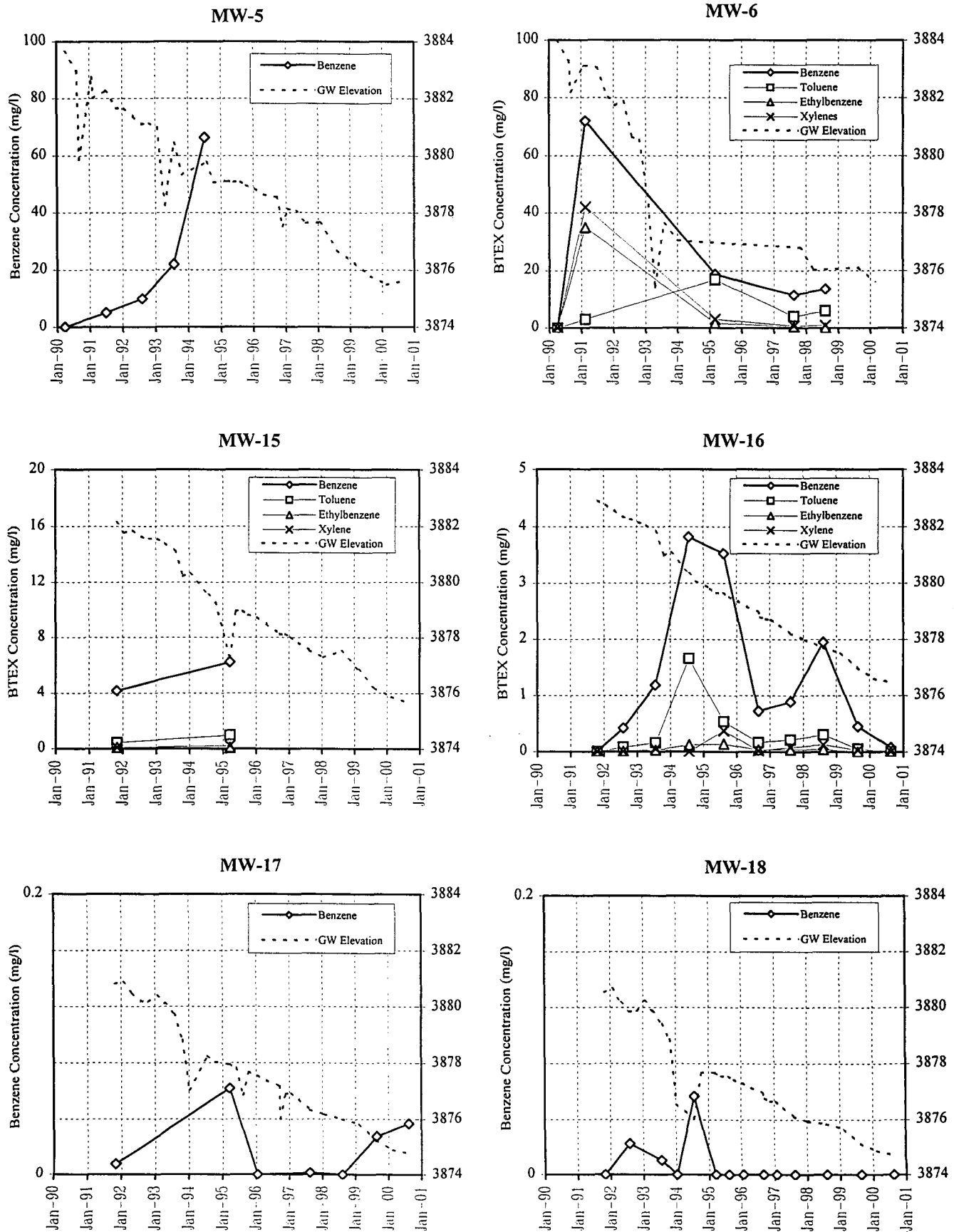
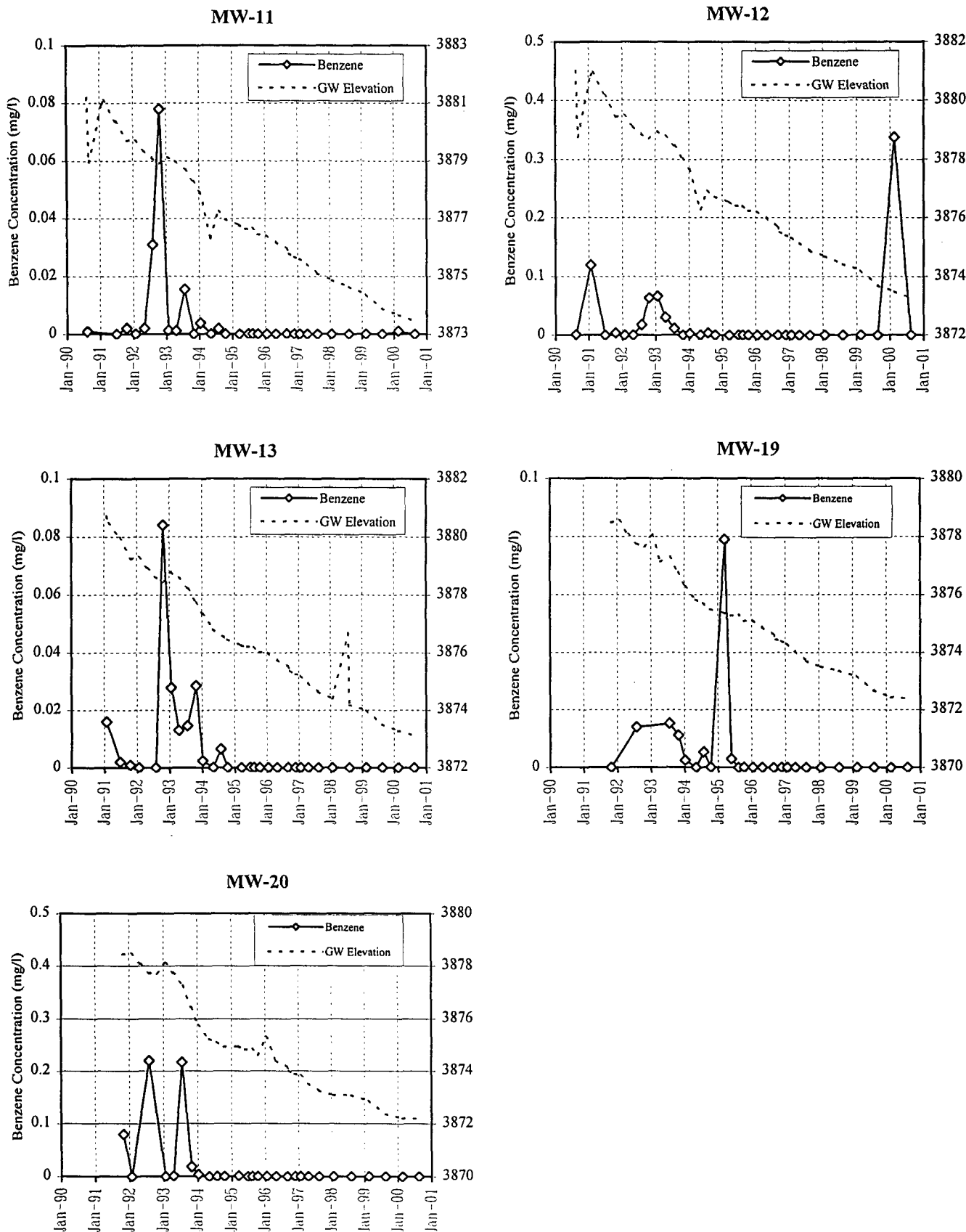


Figure 4C
Hydrocarbon Concentration Versus Time (Downgradient - South Area Wells)



6.0 Remediation System Performance

The estimated total fluid extraction volumes from the remediation system recovery wells, for the fourth quarter of 1999 through the third quarter of 2000, are summarized in Table 4. A graphical representation of monthly groundwater recovery volumes for the period of record (October 1, 1999 through September 30, 2000) is depicted in Figure 5. A total of 6,270,238 gallons of groundwater was recovered by the three recovery wells during the period of record.

Due to increasing levels of free product occurring in MW-6 and the reduced free product in MW-15, the Xitech product recovery system was moved from MW-15 to MW-6 on December 20, 1999. Free product has also been observed in monitoring wells MW-5, MW-8, and MW-15 therefore passive bailers, absorbent socks, and hand bailing has been implemented to remove the free product from these wells.

The soil vapor extraction well system at RW-1 and the air sparge well at MW-23 remain in operation. Vapor extraction utilizing a Roots positive displacement blower (Model 24URAI – 2hp) at RW-1 has been in operation since August 1993. Air sparging is accomplished by means of a Gast® Piston air compressor (Model 8H – 2 hp) which has been in operation since July 10, 1998. Effectiveness of the vapor extraction and air sparge systems is evidenced by the lack of measurable BTEX concentrations in MW-21, which remain at levels below the laboratory detection limit of 0.005 mg/L for each constituent.

The groundwater recovery, air sparging, and vapor extraction systems have been effective in limiting the downgradient migration of the dissolved-phase hydrocarbon plume. Also, the groundwater recovery system, Xitech product recovery system, passive skimmer, and hand bailing techniques have been effective in recovering free product (condensate), although the total amount of free product recovery is unknown. A summary of the measurable free product recovery volumes for the period of October 1, 1999 to October 31, 2000 is provided in Table 5.

Table 4
Total Fluids Extraction Volumes for 10/1/99-9/30/00
Duke Energy Field Services - Lee Gas Plant

Month - Year	Gallons of Groundwater Recovered			
	RW-2	RW-3	RW-4	Monthly Totals
Oct-99	0	139,112	296,058	435,170
Nov-99	290,510	81,180	26,272	397,962
Dec-99	367,726	150,030	0	517,756
Jan-00	287,962	121,103	2	409,067
Feb-00	343,272	18,283	159,344	520,899
Mar-00	300,000	0	280,474	580,474
Apr-00	273,010	0	120,489	393,499
May-00	204,407	183,252	352,583	740,242
Jun-00	119,503	279,950	367,472	766,925
Jul-00	0	234,729	233,605	468,334
Aug-00	0	179,229	326,938	506,167
Sep-00	0	244,227	289,516	533,743
Well Totals	2,186,390	1,631,095	2,452,753	6,270,238

Due to stuck flowmeter, RW-4 estimated at 6.28 gallons per minute for period from 2-16-2000 to 3-31-2000.

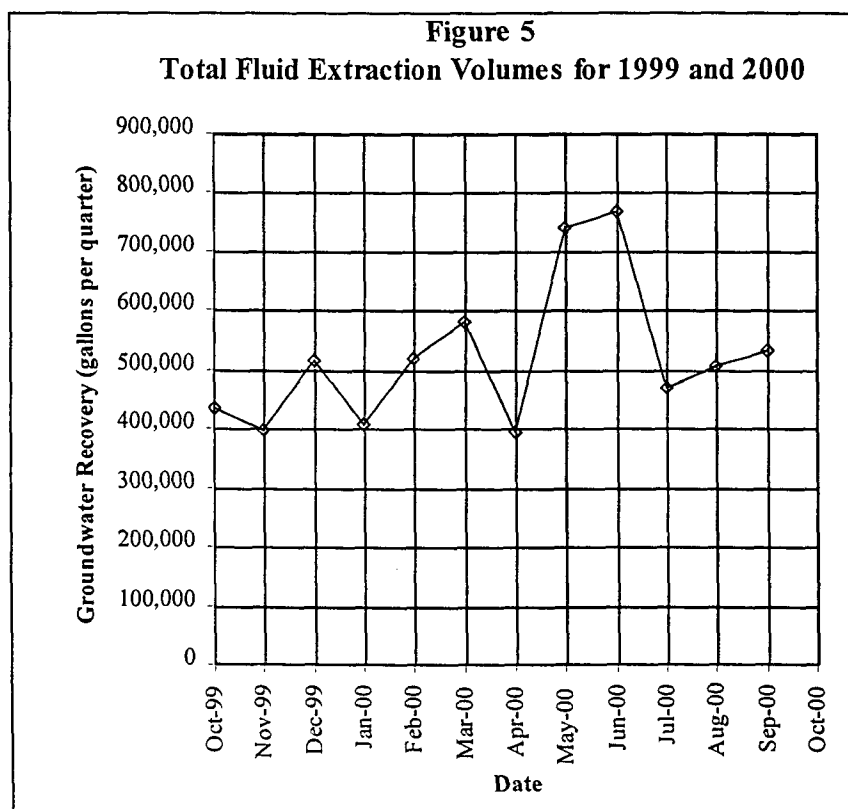


Table 5
Measurable Free Product Recovery Volumes for 10/1/99-10/31/00
Duke Energy Field Services - Lee Gas Plant

Month - Year	Measurable Free Product Recovered (gallons)				
	MW-5	MW-6	MW-8	MW-15	Monthly Totals
Oct-99	0.0	0.0	0.00	32	32.0
Nov-99	0.31	0.0	0.00	0.40	0.7
Dec-99	0.40	0.0	0.00	0.44	0.8
Jan-00	0.48	0.0	0.00	0.53	1.0
Feb-00	0.47	0.0	0.00	0.71	1.2
Mar-00	0.0	0.0	0.00	0.77	0.8
Apr-00	0.90	79	0.74	1.82	82.5
May-00	1.02	60	0.99	2.16	64.2
Jun-00	1.41	80	1.68	1.77	84.9
Jul-00	1.03	70	0.05	2.41	73.5
Aug-00	1.91	63	0.0	0.41	65.3
Sep-00	0.0	58	0.0	0.0	58.0
Oct-00	0.0	0	0.0	0.0	0.0
Well Totals	7.9	410	3.5	10.6	432

* Actual free product recovery volumes are underestimated due to evaporation of product from storage tank which cannot be measured.

Also, total fluid recovery from submersible pumps in RW-2, RW-3, & RW-4 recover free product in those wells and also MW-6 & MW-8

7.0 Conclusions

The groundwater conditions and the remediation performance at the Lee Gas Plant as determined during the last annual monitoring period indicate that hydrocarbon concentrations are not detectable above the WQCC standards in each of the downgradient and crossgradient monitoring wells. It is believed that these results are attributable to the success of the current groundwater recovery, air sparge, vapor extraction, and free product removal operations.

Elevated dissolved hydrocarbon concentrations in the groundwater remain within the defined plume, however the levels appear to be generally stable to declining. The recovery of free product from the groundwater has increased to at least 100 gallons per month by the transfer of the Xitech product recovery system from MW-15 to MW-6.

The hydraulic gradient is approximately 0.0035 feet/foot and the direction of the groundwater flow is to the southwest, which is consistent with previous gauging data. Average water elevations continue to decrease at a rate of approximately 1 foot/year.

8.0 Recommendations

The following recommendations are proposed for the remediation system and monitoring operations at the Lee Gas Plant.

- Continue groundwater recovery operations since the present system has been effective in limiting the downgradient migration of the dissolved-phase hydrocarbon plume.
- Continue free product recovery at monitoring well MW-6 with the Xitech system.
- Continue free product recovery from monitoring well MW-5, MW-8, and MW-15 using passive bailers and/or hydrophobic adsorbent socks, and hand bailing methods as appropriate.
- Continue the sampling and monitoring program on a semi-annual basis. The next sampling event is scheduled during the first quarter of 2001.

Appendix A

Laboratory Analytical Reports

and

Chain-of-Custody Documentation

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9
4725 Ripley Avenue, Suite A

Lubbock, Texas 79424
El Paso, Texas 79922

800•378•1296
888•588•3443
E-Mail: lab@traceanalysis.com

806•794•1296
915•585•3443

FAX 806•794•1298
FAX 915•585•4944

Analytical and Quality Control Report

Gil Van Deventer
TRW
415 West Wall Suite 1818
Midland, TX 79701

Report Date: August 29, 2000

Order ID Number: A00082108

Project Number: P/6494/1AC
Project Name: Duke Energy Field Service/E2L15-702010
Project Location: Lee Gas Plant

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace Analysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
151741	MW-20	Water	8/15/00	15:10	8/19/00
151742	MW19	Water	8/15/00	16:05	8/19/00
151743	MW13	Water	8/15/00	17:15	8/19/00
151744	MW11	Water	8/16/00	9:55	8/19/00
151745	MW18	Water	8/16/00	11:45	8/19/00
151746	MW17	Water	8/16/00	12:35	8/19/00
151747	MW12	Water	8/16/00	15:00	8/19/00
151748	MW9	Water	8/16/00	16:45	8/19/00
151749	MW21	Water	8/16/00	9:15	8/19/00
151750	MW22	Water	8/16/00	10:20	8/19/00
151751	MW3	Water	8/16/00	11:05	8/19/00
151752	MW14	Water	8/17/00	9:20	8/19/00
151753	MW10	Water	8/17/00	10:30	8/19/00
151754	MW16	Water	8/17/00	11:25	8/19/00
151755	Duplicate	Water	8/17/00	:	8/19/00
151756	Rinsate	Water	8/17/00	12:25	8/19/00
151757	MW7	Water	8/16/00	16:45	8/19/00
151758	Trip Blank	Water	8/15/00	:	8/19/00

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 12 pages and shall not be reproduced except in its entirety, without written approval of Trace Analysis, Inc.


Dr. Blair Leftwich, Director

Analytical and Quality Control Report

Sample: 151741 - MW-20

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC04511 Date Analyzed: 8/27/00
Analyst: RC Preparation Method: 5035 Prep Batch: PB03929 Date Prepared: 8/27/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.005	mg/L	5	0.001
Toluene		<0.005	mg/L	5	0.001
Ethylbenzene		<0.005	mg/L	5	0.001
M,P,O-Xylene		<0.005	mg/L	5	0.001
Total BTEX		<0.005	mg/L	5	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.4	mg/L	1	0.10	80	72 - 128
4-BFB		0.473	mg/L	1	0.10	94	72 - 128

Sample: 151742 - MW19

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC04511 Date Analyzed: 8/27/00
Analyst: RC Preparation Method: 5035 Prep Batch: PB03929 Date Prepared: 8/27/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.001	mg/L	1	0.001
Toluene		<0.001	mg/L	1	0.001
Ethylbenzene		<0.001	mg/L	1	0.001
M,P,O-Xylene		<0.001	mg/L	1	0.001
Total BTEX		<0.001	mg/L	1	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.098	mg/L	1	0.10	98	72 - 128
4-BFB		0.099	mg/L	1	0.10	99	72 - 128

Sample: 151743 - MW13

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC04511 Date Analyzed: 8/27/00
Analyst: RC Preparation Method: 5035 Prep Batch: PB03929 Date Prepared: 8/27/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.001	mg/L	1	0.001
Toluene		<0.001	mg/L	1	0.001
Ethylbenzene		<0.001	mg/L	1	0.001
M,P,O-Xylene		<0.001	mg/L	1	0.001
Total BTEX		<0.001	mg/L	1	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.107	mg/L	1	0.10	107	72 - 128
4-BFB		0.104	mg/L	1	0.10	104	72 - 128

Sample: 151744 - MW11

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC04511 Date Analyzed: 8/27/00
Analyst: RC Preparation Method: 5035 Prep Batch: PB03929 Date Prepared: 8/27/00

Param	Flag	Result	Units	Dilution	RD L
Benzene		<0.001	mg/L	1	0.001
Toluene		<0.001	mg/L	1	0.001
Ethylbenzene		<0.001	mg/L	1	0.001
M,P,O-Xylene		<0.001	mg/L	1	0.001
Total BTEX		<0.001	mg/L	1	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.098	mg/L	1	0.10	98	72 - 128
4-BFB		0.098	mg/L	1	0.10	98	72 - 128

Sample: 151745 - MW18

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC04511 Date Analyzed: 8/27/00
Analyst: RC Preparation Method: 5035 Prep Batch: PB03929 Date Prepared: 8/27/00

Param	Flag	Result	Units	Dilution	RD L
Benzene		<0.005	mg/L	5	0.001
Toluene		<0.005	mg/L	5	0.001
Ethylbenzene		<0.005	mg/L	5	0.001
M,P,O-Xylene		<0.005	mg/L	5	0.001
Total BTEX		<0.005	mg/L	5	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.374	mg/L	1	0.10	74	72 - 128
4-BFB		0.47	mg/L	1	0.10	94	72 - 128

Sample: 151746 - MW17

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC04511 Date Analyzed: 8/27/00
Analyst: RC Preparation Method: 5035 Prep Batch: PB03929 Date Prepared: 8/27/00

Param	Flag	Result	Units	Dilution	RD L
Benzene		0.037	mg/L	5	0.001
Toluene		<0.005	mg/L	5	0.001
Ethylbenzene		<0.005	mg/L	5	0.001
M,P,O-Xylene		<0.005	mg/L	5	0.001

Continued ...

... Continued Sample: 151746 Analysis: BTEX

Param	Flag	Result	Units	Dilution	RDL
Total BTEX		0.037	mg/L	5	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.413	mg/L	1	0.10	82	72 - 128
4-BFB		0.467	mg/L	1	0.10	93	72 - 128

Sample: 151747 - MW12

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC04512 Date Analyzed: 8/27/00
Analyst: RC Preparation Method: 5035 Prep Batch: PB03930 Date Prepared: 8/27/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.005	mg/L	5	0.001
Toluene		<0.005	mg/L	5	0.001
Ethylbenzene		<0.005	mg/L	5	0.001
M,P,O-Xylene		<0.005	mg/L	5	0.001
Total BTEX		<0.005	mg/L	5	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.432	mg/L	1	0.10	86	72 - 128
4-BFB		0.494	mg/L	1	0.10	99	72 - 128

Sample: 151748 - MW9

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC04512 Date Analyzed: 8/27/00
Analyst: RC Preparation Method: 5035 Prep Batch: PB03930 Date Prepared: 8/27/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		2.92	mg/L	5	0.001
Toluene		<0.005	mg/L	5	0.001
Ethylbenzene		0.024	mg/L	5	0.001
M,P,O-Xylene		<0.005	mg/L	5	0.001
Total BTEX		2.94	mg/L	5	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.42	mg/L	1	0.10	84	72 - 128
4-BFB		0.479	mg/L	1	0.10	96	72 - 128

Sample: 151749 - MW21

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC04512 Date Analyzed: 8/27/00
Analyst: RC Preparation Method: 5035 Prep Batch: PB03930 Date Prepared: 8/27/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.005	mg/L	5	0.001
Toluene		<0.005	mg/L	5	0.001
Ethylbenzene		<0.005	mg/L	5	0.001
M,P,O-Xylene		<0.005	mg/L	5	0.001
Total BTEX		<0.005	mg/L	5	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.413	mg/L	1	0.10	83	72 - 128
4-BFB		0.474	mg/L	1	0.10	95	72 - 128

Sample: 151750 - MW22

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC04512 Date Analyzed: 8/27/00
Analyst: RC Preparation Method: 5035 Prep Batch: PB03930 Date Prepared: 8/27/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.005	mg/L	5	0.001
Toluene		<0.005	mg/L	5	0.001
Ethylbenzene		<0.005	mg/L	5	0.001
M,P,O-Xylene		<0.005	mg/L	5	0.001
Total BTEX		<0.005	mg/L	5	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.442	mg/L	1	0.10	88	72 - 128
4-BFB		0.488	mg/L	1	0.10	98	72 - 128

Sample: 151751 - MW3

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC04512 Date Analyzed: 8/27/00
Analyst: RC Preparation Method: 5035 Prep Batch: PB03930 Date Prepared: 8/27/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.005	mg/L	5	0.001
Toluene		<0.005	mg/L	5	0.001
Ethylbenzene		<0.005	mg/L	5	0.001
M,P,O-Xylene		<0.005	mg/L	5	0.001
Total BTEX		<0.005	mg/L	5	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.483	mg/L	1	0.10	96	72 - 128
4-BFB		0.432	mg/L	1	0.10	86	72 - 128

Sample: 151752 - MW14

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC04512 Date Analyzed: 8/27/00
Analyst: RC Preparation Method: 5035 Prep Batch: PB03930 Date Prepared: 8/27/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		0.284	mg/L	1	0.001
Toluene		<0.001	mg/L	1	0.001
Ethylbenzene		<0.001	mg/L	1	0.001
M,P,O-Xylene		<0.001	mg/L	1	0.001
Total BTEX		0.284	mg/L	1	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.099	mg/L	1	0.10	99	72 - 128
4-BFB		0.089	mg/L	1	0.10	89	72 - 128

Sample: 151753 - MW10

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC04512 Date Analyzed: 8/27/00
Analyst: RC Preparation Method: 5035 Prep Batch: PB03930 Date Prepared: 8/27/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		3.7	mg/L	5	0.001
Toluene		<0.005	mg/L	5	0.001
Ethylbenzene		<0.005	mg/L	5	0.001
M,P,O-Xylene		<0.005	mg/L	5	0.001
Total BTEX		3.7	mg/L	5	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.51	mg/L	1	0.10	102	72 - 128
4-BFB		0.458	mg/L	1	0.10	91	72 - 128

Sample: 151754 - MW16

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC04512 Date Analyzed: 8/27/00
Analyst: RC Preparation Method: 5035 Prep Batch: PB03930 Date Prepared: 8/27/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		0.076	mg/L	1	0.001
Toluene		0.003	mg/L	1	0.001
Ethylbenzene		0.001	mg/L	1	0.001
M,P,O-Xylene		0.003	mg/L	1	0.001
Total BTEX		0.083	mg/L	1	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.101	mg/L	1	0.10	101	72 - 128
4-BFB		0.092	mg/L	1	0.10	92	72 - 128

Sample: 151755 - Duplicate

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC04512 Date Analyzed: 8/27/00
Analyst: RC Preparation Method: 5035 Prep Batch: PB03930 Date Prepared: 8/27/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		3.7	mg/L	5	0.001
Toluene		<0.005	mg/L	5	0.001
Ethylbenzene		<0.005	mg/L	5	0.001
M,P,O-Xylene		<0.005	mg/L	5	0.001
Total BTEX		3.7	mg/L	5	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.487	mg/L	1	0.10	97	72 - 128
4-BFB		0.456	mg/L	1	0.10	91	72 - 128

Sample: 151756 - Rinsate

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC04512 Date Analyzed: 8/27/00
Analyst: RC Preparation Method: 5035 Prep Batch: PB03930 Date Prepared: 8/27/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		0.001	mg/L	1	0.001
Toluene		<0.001	mg/L	1	0.001
Ethylbenzene		<0.001	mg/L	1	0.001
M,P,O-Xylene		<0.001	mg/L	1	0.001
Total BTEX		0.001	mg/L	1	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.095	mg/L	1	0.10	95	72 - 128
4-BFB		0.085	mg/L	1	0.10	85	72 - 128

Sample: 151757 - MW7

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC04512 Date Analyzed: 8/27/00
Analyst: RC Preparation Method: 5035 Prep Batch: PB03930 Date Prepared: 8/27/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		0.036	mg/L	10	0.001
Toluene		0.014	mg/L	10	0.001
Ethylbenzene		<0.01	mg/L	10	0.001
M,P,O-Xylene		0.01	mg/L	10	0.001
Total BTEX		0.061	mg/L	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.978	mg/L	1	0.10	97	72 - 128
4-BFB		0.916	mg/L	1	0.10	91	72 - 128

Sample: 151758 - Trip Blank

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC04512 Date Analyzed: 8/27/00
Analyst: RC Preparation Method: 5035 Prep Batch: PB03930 Date Prepared: 8/27/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.001	mg/L	1	0.001
Toluene		<0.001	mg/L	1	0.001
Ethylbenzene		<0.001	mg/L	1	0.001
M,P,O-Xylene		<0.001	mg/L	1	0.001
Total BTEX		<0.001	mg/L	1	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.101	mg/L	1	0.10	101	72 - 128
4-BFB		0.09	mg/L	1	0.10	90	72 - 128

Quality Control Report Method Blank

Sample: Method Blank

QCBatch: QC04511

Param	Flag	Results	Units	Reporting Limit
Benzene		<0.001	mg/L	0.001
Toluene		<0.001	mg/L	0.001
Ethylbenzene		<0.001	mg/L	0.001
M,P,O-Xylene		<0.001	mg/L	0.001
Total BTEX		<0.001	mg/L	0.001

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
TFT		0.083	mg/L	0.10	83	72 - 128
4-BFB		0.08	mg/L	0.10	80	72 - 128

Sample: Method Blank

QCBatch: QC04512

Param	Flag	Results	Units	Reporting Limit
Benzene		<0.001	mg/L	0.001
Toluene		<0.001	mg/L	0.001
Ethylbenzene		<0.001	mg/L	0.001
M,P,O-Xylene		<0.001	mg/L	0.001
Total BTEX		<0.001	mg/L	0.001

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
TFT		0.102	mg/L	0.10	102	72 - 128
4-BFB		0.087	mg/L	0.10	87	72 - 128

Quality Control Report Lab Control Spikes and Duplicate Spikes

Sample: LCS

QC Batch: QC04511

Param	Flag	Sample Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec.	RPD	% Rec. Limit	RPD Limit
MTBE		0.098	mg/L	1	0.10	<0.001	98		80 - 120	20
Benzene		0.092	mg/L	1	0.10	<0.001	92		80 - 120	20
Toluene		0.093	mg/L	1	0.10	<0.001	93		80 - 120	20
Ethylbenzene		0.093	mg/L	1	0.10	<0.001	93		80 - 120	20
M,P,O-Xylene		0.275	mg/L	1	0.30	<0.001	91		80 - 120	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
TFT		0.082	mg/L	1	0.10	82	72 - 128
4-BFB		0.078	mg/L	1	0.10	78	72 - 128

Sample: LCSD

QC Batch: QC04511

Param	Flag	Sample Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec.	RPD	% Rec. Limit	RPD Limit
MTBE		0.095	mg/L	1	0.10	<0.001	95	3	80 - 120	20
Benzene		0.09	mg/L	1	0.10	<0.001	90	2	80 - 120	20
Toluene		0.09	mg/L	1	0.10	<0.001	90	3	80 - 120	20
Ethylbenzene		0.092	mg/L	1	0.10	<0.001	92	1	80 - 120	20
M,P,O-Xylene		0.272	mg/L	1	0.30	<0.001	90	1	80 - 120	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
TFT		0.081	mg/L	1	0.10	81	72 - 128
4-BFB		0.078	mg/L	1	0.10	78	72 - 128

Sample: LCS

QC Batch: QC04512

Param	Flag	Sample Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec.	RPD	% Rec. Limit	RPD Limit
MTBE		0.103	mg/L	1	0.10	<0.001	103		80 - 120	20
Benzene		0.096	mg/L	1	0.10	<0.001	96		80 - 120	20
Toluene		0.093	mg/L	1	0.10	<0.001	93		80 - 120	20
Ethylbenzene		0.095	mg/L	1	0.10	<0.001	95		80 - 120	20
M,P,O-Xylene		0.309	mg/L	1	0.30	<0.001	103		80 - 120	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
TFT		0.104	mg/L	1	0.10	104	72 - 128
4-BFB		0.094	mg/L	1	0.10	94	72 - 128

Sample: LCSD

QC Batch: QC04512

Param	Flag	Sample Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec.	RPD	% Rec. Limit	RPD Limit
MTBE		0.105	mg/L	1	0.10	<0.001	105	2	80 - 120	20
Benzene		0.096	mg/L	1	0.10	<0.001	96	0	80 - 120	20
Toluene		0.093	mg/L	1	0.10	<0.001	93	0	80 - 120	20
Ethylbenzene		0.094	mg/L	1	0.10	<0.001	94	1	80 - 120	20
M,P,O-Xylene		0.309	mg/L	1	0.30	<0.001	103	0	80 - 120	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
TFT		0.103	mg/L	1	0.10	103	72 - 128
4-BFB		0.092	mg/L	1	0.10	92	72 - 128

Quality Control Report Continuing Calibration Verification Standards

Sample: CCV (1)

QC Batch: QC04511

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.10	0.098	98	80 - 120	8/27/00
Toluene		mg/L	0.10	0.099	99	80 - 120	8/27/00
Ethylbenzene		mg/L	0.10	0.099	99	80 - 120	8/27/00
M,P,O-Xylene		mg/L	0.30	0.293	97	80 - 120	8/27/00

Sample: CCV (2) QC Batch: QC04511

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.10	0.115	115	80 - 120	8/27/00
Toluene		mg/L	0.10	0.115	115	80 - 120	8/27/00
Ethylbenzene		mg/L	0.10	0.115	115	80 - 120	8/27/00
M,P,O-Xylene		mg/L	0.30	0.338	112	80 - 120	8/27/00

Sample: ICV (1) QC Batch: QC04511

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.10	0.087	87	80 - 120	8/27/00
Toluene		mg/L	0.10	0.087	87	80 - 120	8/27/00
Ethylbenzene		mg/L	0.10	0.088	88	80 - 120	8/27/00
M,P,O-Xylene		mg/L	0.30	0.26	86	80 - 120	8/27/00

Sample: CCV (1) QC Batch: QC04512

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.10	0.089	89	80 - 120	8/27/00
Toluene		mg/L	0.10	0.085	85	80 - 120	8/27/00
Ethylbenzene		mg/L	0.10	0.086	86	80 - 120	8/27/00
M,P,O-Xylene		mg/L	0.30	0.276	92	80 - 120	8/27/00

Sample: CCV (2) QC Batch: QC04512

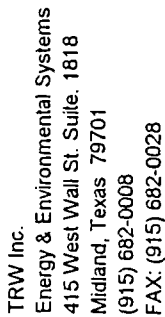
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.10	0.101	101	80 - 120	8/27/00
Toluene		mg/L	0.10	0.098	98	80 - 120	8/27/00
Ethylbenzene		mg/L	0.10	0.1	100	80 - 120	8/27/00
M,P,O-Xylene		mg/L	0.30	0.327	109	80 - 120	8/27/00

Sample: ICV (1) QC Batch: QC04512

Continued ...

... Continued

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.10	0.11	110	80 - 120	8/27/00
Toluene		mg/L	0.10	0.105	105	80 - 120	8/27/00
Ethylbenzene		mg/L	0.10	0.106	106	80 - 120	8/27/00
M,P,O-Xylene		mg/L	0.30	0.345	115	80 - 120	8/27/00



No 13513

Chain of Custody

Date _____ Page 1 of 2

Lab Name: <u>True Analysis Inc.</u>				Analysis Request																					
Address: <u>6701 Aberdeen Ave. Ste 9</u>																									
Telephone: <u>806/794-1296</u>																									
Sample Identification				Matrix	Date	Time	Number of Containers																		
MW-20				151741	Water	8-15-00	1510	✓	BTEX (EPA 8021B)	MTBE (EPA 8021B)	SVOC (EPA 8270)	PAH (EPA 8270)	VOC (EPA 8260)	TPH (EPA 418.1)	TPH (TX-1005)	TPH (TX-1006)	GRO (EPA 8015G)	DRO (EPA 8015D)	TDS (EPA 160.1)	Anions/Cations	Total Metals	TCLP Metals	2		
MW-19				742	Water	8-15-00	1605	✓															2		
MW-13				743	Water	8-15-00	1715	✓															2		
MW-11				744	Water	8-16-00	0955	✓															2		
MW-18				745	Water	8-16-00	1145	✓															2		
MW-17				746	Water	8-16-00	1235	✓															2		
MW-12				747	Water	9-16-00	1500	✓															2		
MW-9				748	Water	8-16-00	1645	✓															2		
MW-21				749	Water	9-16-00	0915	✓															2		
MW-22				750	Water	8-16-00	1020	✓															2		
Project Information				Sample Receipt				Relinquished By:			Relinquished By:			Relinquished By:											
Project Name: <u>Puke Energy Field Services</u>				Total Containers:				Relinquished By: (1)			Relinquished By: (2)			Relinquished By: (3)											
Project Location: <u>Lee Gas Plant</u>				COC Seals:				Relinquished By: (Signature)			Relinquished By: (Signature)			Relinquished By: (Signature)											
Project Manager: <u>Gil Van Deventer</u>				Rec'd Good Cond/Cold:				Relinquished By: (Date)			Relinquished By: (Date)			Relinquished By: (Date)											
Cost Center No.: <u>P/6494/1A C</u>				Conforms to Records:				Relinquished By: (Company)			Relinquished By: (Company)			Relinquished By: (Company)											
Shipping ID No.: <u>902 439 6030</u>				Lab No.:				Relinquished By: (1)			Relinquished By: (2)			Relinquished By: (3)											
P O No.: <u>E2L15-702D10</u>								Relinquished By: (Signature)			Relinquished By: (Signature)			Relinquished By: (Signature)											
Special Instructions/Comments:								Relinquished By: (Printed Name)			Relinquished By: (Printed Name)			Relinquished By: (Printed Name)											
Invoice directly to DEFS (Vicki Gunter)								Relinquished By: (Company)			Relinquished By: (Company)			Relinquished By: (Company)											

Distribution: White, Canary-Laboratory / Pink-TRW

~~11/10~~ 902 439 603 0 4. ms



TRW Inc.
Energy & Environmental Systems
415 West Wall St. Suite. 1818
Midland, Texas 79701
(915) 682-0008
FAX: (915) 682-0028

60082108

No 13514

Chain of Custody

Date 2 of 2

Lab Name: <u>Trace Analysis Inc.</u>				Analysis Request																
Address: <u>6701 Aberdeen Ave, Ste 9</u>																				
Telephone: <u>806/794-1296</u>																				
Sample Identification				Matrix	Date	Time														
Samplers (SIGNATURES)																				
<u>[Signature]</u>																				
MW-3	751	Water	8-16-00	1105	✓	BTX (EPA 8021B)	MTBE (EPA 8021B)	SVOC (EPA 8270)	PAH (EPA 8270)	VOC (EPA 8260)	TPH (EPA 418.1)	TPH (TX-1005)	TPH (TX-1006)	GRO (EPA 8015G)	DRO (EPA 8015D)	TDS (EPA 160.1)	Anions/Cations	Total Metals	TCLP Metals	Number of Containers
MW-14	752	Water	8-17-00	0920	✓															2
MW-10	753	Water	8-17-00	1030	✓															2
MW-16	754	Water	8-17-00	1125	✓															2
Duplicate	755	Water	8-17-00	0900	✓															2
Rinsate	756	Water	8-17-00	1225	✓															2
MW-7	757	Water	8-16-00	1645	✓															2
Trip Blank	758	Water	8-20-00	0800	✓															2
Project Information				Sample Receipt				Relinquished By:				Relinquished By:				Relinquished By:				
Project Name: <u>Duke Energy Field Service</u>				Total Containers:				(Signature)				(Signature)				(Signature)				
Project Location: <u>Lee Gas Plant</u>				COC Seals:				(Printed Name)				(Printed Name)				(Printed Name)				
Project Manager: <u>Gil Van Deventer</u>				Rec'd Good Cond/Cold:				(Company)				(Company)				(Company)				
Cost Center No.: <u>P/6494/1AC</u>				Conforms to Records:				Received By:				Received By:				Received By:				
Shipping ID No.: <u>902 439 6030</u>				Lab No.:				(Signature)				(Signature)				(Signature)				
P O No.: <u>E2L15-702010</u>								(Printed Name)				(Printed Name)				(Printed Name)				
Special Instructions/Comments:								(Company)				(Company)				(Company)				
<u>Invoice directly to DEFS (Vicki Gunter)</u>																				

Distribution: White, Canary-Laboratory / Pink-TRW

TRW-6 902 139 6030 m

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9
4725 Ripley Avenue, Suite A

Lubbock, Texas 79424 800•378•1296
El Paso, Texas 79922 888•588•3443
E-Mail: lab@traceanalysis.com

806•794•1296 FAX 806•794•1298
915•585•3443 FAX 915•585•4944

Analytical and Quality Control Report

Gil Van Deventer
TRW
415 West Wall Suite 1818
Midland, TX 79701

Report Date: 2/28/00

Project Number: E2L15G0-702010
Project Name: GPM Gas Co. LLC
Project Location: Lee Gas Plant

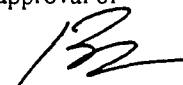
Order ID Number: A00021918

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to TraceAnalysis, Inc. for analysis:

Sample Number	Sample Description	Matrix	Date Taken	Time Taken	Date Received
141028	MW-20	Water	2/16/00	11:15	2/19/00
141029	MW-19	Water	2/16/00	13:40	2/19/00
141030	MW-13	Water	2/16/00	14:50	2/19/00
141031	MW-12	Water	2/16/00	15:55	2/19/00
141032	MW-11	Water	2/16/00	17:00	2/19/00
141033	MW-2	Water	2/16/00	16:40	2/19/00
141034	Duplicate	Water	2/16/00	-	2/19/00
141035	MW-21	Water	2/17/00	10:00	2/19/00
141036	Rinsate	Water	2/17/00	12:00	2/19/00
141037	Trip Blank (691A/691B)	Water	2/17/00	-	2/19/00

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 7 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.


Dr. Blair Leftwich, Director

Analytical Results Report

Sample Number: 141028
Description: MW-20

Param	Result	Dilution	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch #	QC Batch #	RDL
BTEX (mg/L)									
Benzene	<0.001	1	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Toluene	<0.001	1	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Ethylbenzene	<0.001	1	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
M,P,O-Xylene	<0.001	1	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Total BTEX	<0.001	1	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Surrogate (mg/L)									
	Result	Dilution	Spike Amount	% Rec.	% Rec. Limit	Analyst	Prep Batch #	QC Batch #	
TFT	0.128	1	0.1	128	72 - 128	ML	PB00893	QC01089	
4-BFB	0.126	1	0.1	126	72 - 128	ML	PB00893	QC01089	

Sample Number: 141029
Description: MW-19

Param	Result	Dilution	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch #	QC Batch #	RDL
BTEX (mg/L)									
Benzene	<0.001	1	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Toluene	<0.001	1	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Ethylbenzene	<0.001	1	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
M,P,O-Xylene	<0.001	1	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Total BTEX	<0.001	1	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Surrogate (mg/L)									
	Result	Dilution	Spike Amount	% Rec.	% Rec. Limit	Analyst	Prep Batch #	QC Batch #	
TFT	0.107	1	0.1	107	72 - 128	ML	PB00893	QC01089	
4-BFB	0.101	1	0.1	101	72 - 128	ML	PB00893	QC01089	

Sample Number: 141030
Description: MW-13

Param	Result	Dilution	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch #	QC Batch #	RDL
BTEX (mg/L)									
Benzene	<0.001	1	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Toluene	<0.001	1	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Ethylbenzene	<0.001	1	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
M,P,O-Xylene	<0.001	1	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Total BTEX	<0.001	1	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Surrogate (mg/L)									
	Result	Dilution	Spike Amount	% Rec.	% Rec. Limit	Analyst	Prep Batch #	QC Batch #	
TFT	0.094	1	0.1	94	72 - 128	ML	PB00893	QC01089	
4-BFB	0.084	1	0.1	84	72 - 128	ML	PB00893	QC01089	

Report Date: 2/28/00
E2L15G0-702010

Order ID Number: A00021918
GPM Gas Co. LLC

Page Number: 3 of 7
Lee Gas Plant

Sample Number: 141031
Description: MW-12

Param	Result	Dilution	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch #	QC Batch #	RDL
BTEX (mg/L)									
Benzene	0.338	1	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Toluene	<0.001	1	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Ethylbenzene	<0.001	1	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
M,P,O-Xylene	<0.001	1	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Total BTEX	0.338	1	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Surrogate (mg/L)									
	Result	Dilution	Spike Amount	% Rec.	% Rec. Limit	Analyst	Prep Batch #	QC Batch #	
TFT	0.083	1	0.1	83	72 - 128	ML	PB00893	QC01089	
4-BFB	0.083	1	0.1	83	72 - 128	ML	PB00893	QC01089	

Sample Number: 141032
Description: MW-11

Param	Result	Dilution	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch #	QC Batch #	RDL
BTEX (mg/L)									
Benzene	0.001	1	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Toluene	<0.001	1	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Ethylbenzene	<0.001	1	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
M,P,O-Xylene	<0.001	1	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Total BTEX	0.001	1	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Surrogate (mg/L)									
	Result	Dilution	Spike Amount	% Rec.	% Rec. Limit	Analyst	Prep Batch #	QC Batch #	
TFT	0.082	1	0.1	82	72 - 128	ML	PB00893	QC01089	
4-BFB	0.082	1	0.1	82	72 - 128	ML	PB00893	QC01089	

Sample Number: 141033
Description: MW-2

Param	Result	Dilution	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch #	QC Batch #	RDL
BTEX (mg/L)									
Benzene	<0.005	5	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Toluene	<0.005	5	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Ethylbenzene	<0.005	5	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
M,P,O-Xylene	<0.005	5	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Total BTEX	<0.005	5	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Surrogate (mg/L)									
	Result	Dilution	Spike Amount	% Rec.	% Rec. Limit	Analyst	Prep Batch #	QC Batch #	
TFT	0.568	1	0.1	114	72 - 128	ML	PB00893	QC01089	
4-BFB	0.552	1	0.1	110	72 - 128	ML	PB00893	QC01089	

Sample Number: 141034
Description: Duplicate

Param	Result	Dilution	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch #	QC Batch #	RDL
BTEX (mg/L)									
Benzene	<0.005	5	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Toluene	<0.005	5	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Ethylbenzene	<0.005	5	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
M,P,O-Xylene	<0.005	5	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001

Report Date: 2/28/00
E2L15G0-702010

Order ID Number: A00021918
GPM Gas Co. LLC

Page Number: 4 of 7
Lee Gas Plant

Total BTEX	<0.005	5	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Surrogate (mg/L)	Result	Dilution	Spike Amount	% Rec.	% Rec. Limit	Analyst	Prep Batch #	QC Batch #	
TFT	0.573	1	0.1	115	72 - 128	ML	PB00893	QC01089	
4-BFB	0.548	1	0.1	110	72 - 128	ML	PB00893	QC01089	

Sample Number: 141035
Description: MW-21

Param	Result	Dilution	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch #	QC Batch #	RDL
BTEX (mg/L)									
Benzene	<0.005	5	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Toluene	<0.005	5	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Ethylbenzene	<0.005	5	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
M,P,O-Xylene	<0.005	5	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Total BTEX	<0.005	5	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Surrogate (mg/L)	Result	Dilution	Spike Amount	% Rec.	% Rec. Limit	Analyst	Prep Batch #	QC Batch #	
TFT	0.581	1	0.1	116	72 - 128	ML	PB00893	QC01089	
4-BFB	0.568	1	0.1	114	72 - 128	ML	PB00893	QC01089	

Sample Number: 141036
Description: Rinsate

Param	Result	Dilution	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch #	QC Batch #	RDL
BTEX (mg/L)									
Benzene	<0.001	1	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Toluene	<0.001	1	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Ethylbenzene	0.002	1	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
M,P,O-Xylene	0.008	1	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Total BTEX	0.01	1	S 8021B	2/23/00	2/23/00	ML	PB00893	QC01089	0.001
Surrogate (mg/L)	Result	Dilution	Spike Amount	% Rec.	% Rec. Limit	Analyst	Prep Batch #	QC Batch #	
TFT	0.086	1	0.1	86	72 - 128	ML	PB00893	QC01089	
4-BFB	0.083	1	0.1	83	72 - 128	ML	PB00893	QC01089	

Sample Number: 141037
Description: Trip Blank (691A/691B)

Param	Result	Dilution	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch #	QC Batch #	RDL
BTEX (mg/L)									
Benzene	<0.001	1	S 8021B	2/25/00	2/25/00	RC	PB00950	QC01154	0.001
Toluene	<0.001	1	S 8021B	2/25/00	2/25/00	RC	PB00950	QC01154	0.001
Ethylbenzene	<0.001	1	S 8021B	2/25/00	2/25/00	RC	PB00950	QC01154	0.001
M,P,O-Xylene	<0.001	1	S 8021B	2/25/00	2/25/00	RC	PB00950	QC01154	0.001
Total BTEX	<0.001	1	S 8021B	2/25/00	2/25/00	RC	PB00950	QC01154	0.001
Surrogate (mg/L)	Result	Dilution	Spike Amount	% Rec.	% Rec. Limit	Analyst	Prep Batch #	QC Batch #	
TFT	0.078	1	0.1	78	72 - 128	RC	PB00950	QC01154	
4-BFB	0.074	1	0.1	74	72 - 128	RC	PB00950	QC01154	

Quality Control Report Method Blanks

Param	Flag	Blank Result	Reporting Limit	Date Analyzed	Prep Batch #	QC Batch #
Benzene (mg/L)		<0.001	0.001	2/23/00	PB00893	QC01089
Toluene (mg/L)		<0.001	0.001	2/23/00	PB00893	QC01089
Ethylbenzene (mg/L)		<0.001	0.001	2/23/00	PB00893	QC01089
M,P,O-Xylene (mg/L)		<0.001	0.001	2/23/00	PB00893	QC01089
Total BTEX (mg/L)		<0.001	0.001	2/23/00	PB00893	QC01089
Surrogate		Result	Spike Amount	% Rec.	% Rec. Limit	QC Batch #
TFT (mg/L)		0.089	0.1	89	72 - 128	QC01089
4-BFB (mg/L)		0.085	0.1	85	72 - 128	QC01089
Benzene (mg/L)		<0.001	0.001	2/25/00	PB00950	QC01154
Toluene (mg/L)		<0.001	0.001	2/25/00	PB00950	QC01154
Ethylbenzene (mg/L)		<0.001	0.001	2/25/00	PB00950	QC01154
M,P,O-Xylene (mg/L)		<0.001	0.001	2/25/00	PB00950	QC01154
Total BTEX (mg/L)		<0.001	0.001	2/25/00	PB00950	QC01154
Surrogate		Result	Spike Amount	% Rec.	% Rec. Limit	QC Batch #
TFT (mg/L)		0.102	0.1	102	72 - 128	QC01154
4-BFB (mg/L)		0.101	0.1	101	72 - 128	QC01154

Quality Control Report

Lab Control Spikes and Duplicate Spike

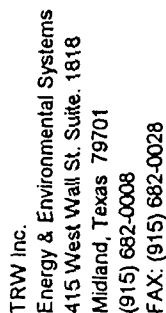
Param		Blank Result	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit	QC Batch #
LCS	MTBE (mg/L)	<0.001	1	0.1	0.095	95	0	80 - 120	0 - 20	QC01089
LCS	Benzene (mg/L)	<0.001	1	0.1	0.086	86	0	80 - 120	0 - 20	QC01089
LCS	Toluene (mg/L)	<0.001	1	0.1	0.092	92	0	80 - 120	0 - 20	QC01089
LCS	Ethylbenzene (mg/L)	<0.001	1	0.1	0.09	90	0	80 - 120	0 - 20	QC01089
LCS	M,P,O-Xylene (mg/L)	<0.001	1	0.3	0.265	88	0	80 - 120	0 - 20	QC01089
Standard	Surrogate		Dil.	Spike Amount	Result	% Rec.		% Rec. Limit		QC Batch #
LCS	TFT (mg/L)		1	0.1	0.086	86		72 - 128		QC01089
LCS	4-BFB (mg/L)		1	0.1	0.091	91		72 - 128		QC01089
LCSD	MTBE (mg/L)	<0.001	1	0.1	0.089	89	0	80 - 120	0 - 20	QC01089
LCSD	Benzene (mg/L)	<0.001	1	0.1	0.09	90	0	80 - 120	0 - 20	QC01089
LCSD	Toluene (mg/L)	<0.001	1	0.1	0.098	98	0	80 - 120	0 - 20	QC01089
LCSD	Ethylbenzene (mg/L)	<0.001	1	0.1	0.096	96	0	80 - 120	0 - 20	QC01089
LCSD	M,P,O-Xylene (mg/L)	<0.001	1	0.3	0.285	95	0	80 - 120	0 - 20	QC01089
Standard	Surrogate		Dil.	Spike Amount	Result	% Rec.		% Rec. Limit		QC Batch #
LCSD	TFT (mg/L)		1	0.1	0.097	97		72 - 128		QC01089
LCSD	4-BFB (mg/L)		1	0.1	0.1	100		72 - 128		QC01089

Param		Blank Result	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit	QC Batch #
LCS	MTBE (mg/L)	<0.001	1	0.1	0.106	106		80 - 120	0 - 20	QC01154
LCS	Benzene (mg/L)	<0.001	1	0.1	0.105	105		80 - 120	0 - 20	QC01154
LCS	Toluene (mg/L)	<0.001	1	0.1	0.105	105		80 - 120	0 - 20	QC01154
LCS	Ethylbenzene (mg/L)	<0.001	1	0.1	0.103	103		80 - 120	0 - 20	QC01154
LCS	M,P,O-Xylene (mg/L)	<0.001	1	0.3	0.308	103		80 - 120	0 - 20	QC01154
Standard	Surrogate		Dil.	Spike Amount	Result	% Rec.		% Rec. Limit		QC Batch #
LCS	TFT (mg/L)		1	0.1	0.099	99		72 - 128		QC01154
LCS	4-BFB (mg/L)		1	0.1	0.102	102		72 - 128		QC01154
LCSD	MTBE (mg/L)	<0.001	1	0.1	0.112	112	6	80 - 120	0 - 20	QC01154
LCSD	Benzene (mg/L)	<0.001	1	0.1	0.109	109	4	80 - 120	0 - 20	QC01154
LCSD	Toluene (mg/L)	<0.001	1	0.1	0.109	109	4	80 - 120	0 - 20	QC01154
LCSD	Ethylbenzene (mg/L)	<0.001	1	0.1	0.107	107	4	80 - 120	0 - 20	QC01154
LCSD	M,P,O-Xylene (mg/L)	<0.001	1	0.3	0.321	107	4	80 - 120	0 - 20	QC01154
Standard	Surrogate		Dil.	Spike Amount	Result	% Rec.		% Rec. Limit		QC Batch #
LCSD	TFT (mg/L)		1	0.1	0.098	98		72 - 128		QC01154
LCSD	4-BFB (mg/L)		1	0.1	0.1	100		72 - 128		QC01154

Quality Control Report Continuing Calibration Verification Standard

Standard	Param	Flag	CCVs TRUE Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed	QC Batch #
ICV	Benzene (mg/L)		0.1	0.1	100	80 - 120	2/23/00	QC01089
ICV	Toluene (mg/L)		0.1	0.112	112	80 - 120	2/23/00	QC01089
ICV	Ethylbenzene (mg/L)		0.1	0.12	120	80 - 120	2/23/00	QC01089
ICV	M,P,O-Xylene (mg/L)		0.3	0.362	121	80 - 120	2/23/00	QC01089
CCV 1	Benzene (mg/L)		0.1	0.101	101	80 - 120	2/23/00	QC01089
CCV 1	Toluene (mg/L)		0.1	0.109	109	80 - 120	2/23/00	QC01089
CCV 1	Ethylbenzene (mg/L)		0.1	0.106	106	80 - 120	2/23/00	QC01089
CCV 1	M,P,O-Xylene (mg/L)		0.3	0.305	102	80 - 120	2/23/00	QC01089
CCV 2	Benzene (mg/L)		0.1	0.102	102	80 - 120	2/23/00	QC01089
CCV 2	Toluene (mg/L)		0.1	0.11	110	80 - 120	2/23/00	QC01089
CCV 2	Ethylbenzene (mg/L)		0.1	0.107	107	80 - 120	2/23/00	QC01089
CCV 2	M,P,O-Xylene (mg/L)		0.3	0.312	104	80 - 120	2/23/00	QC01089

Standard	Param	Flag	CCVs TRUE Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed	QC Batch #
ICV	Benzene (mg/L)		0.1	0.103	103	80 - 120	2/25/00	QC01154
ICV	Toluene (mg/L)		0.1	0.103	103	80 - 120	2/25/00	QC01154
ICV	Ethylbenzene (mg/L)		0.1	0.1	100	80 - 120	2/25/00	QC01154
ICV	M,P,O-Xylene (mg/L)		0.3	0.299	100	80 - 120	2/25/00	QC01154
CCV 1	Benzene (mg/L)		0.1	0.104	104	80 - 120	2/25/00	QC01154
CCV 1	Toluene (mg/L)		0.1	0.104	104	80 - 120	2/25/00	QC01154
CCV 1	Ethylbenzene (mg/L)		0.1	0.101	101	80 - 120	2/25/00	QC01154
CCV 1	M,P,O-Xylene (mg/L)		0.3	0.299	100	80 - 120	2/25/00	QC01154



No. 13487

Chain of Custody

Date 2-17-00 Page 1 of 1

Lab Name: Trace Analysis Inc.
Address: 6701 Aberdeen Av., Ste 9
Weslaco, TX 79724
Telephone: 800/378-1296

Samplers (SIGNATURES)

ers (SIGNATURES)

Sample Identification	Matrix	Date	Time
MW-20	Water	2-16-00	1115
MW-19	Water	2-16-00	1340
MW-13	Water	2-16-00	1450
MW-12	Water	2-16-00	1555
MW-11	Water	2-16-00	1700
MW-2	Water	2-16-00	1640
MW-20 Duplicate	Water	2-16-00	2400
MW-21	Water	2-17-00	1000
Rinsate	Water	2-17-00	1200
Trip Blank (691A/691B)	Water	—	—

Project Information	Sample Receipt
Project Name: GPM Gas Co. LLC	Total Containers:
Project Location: Lee Gas Plant	COC Seals:
Project Manager: Gil Van Deventer	Rec'd Good Cond/Cold:
Cost Center No.: E2L15G0-702010	Conforms to Records:
Shipping ID No.: <i>Hayward</i>	Lab No.:
P.O. No.:	

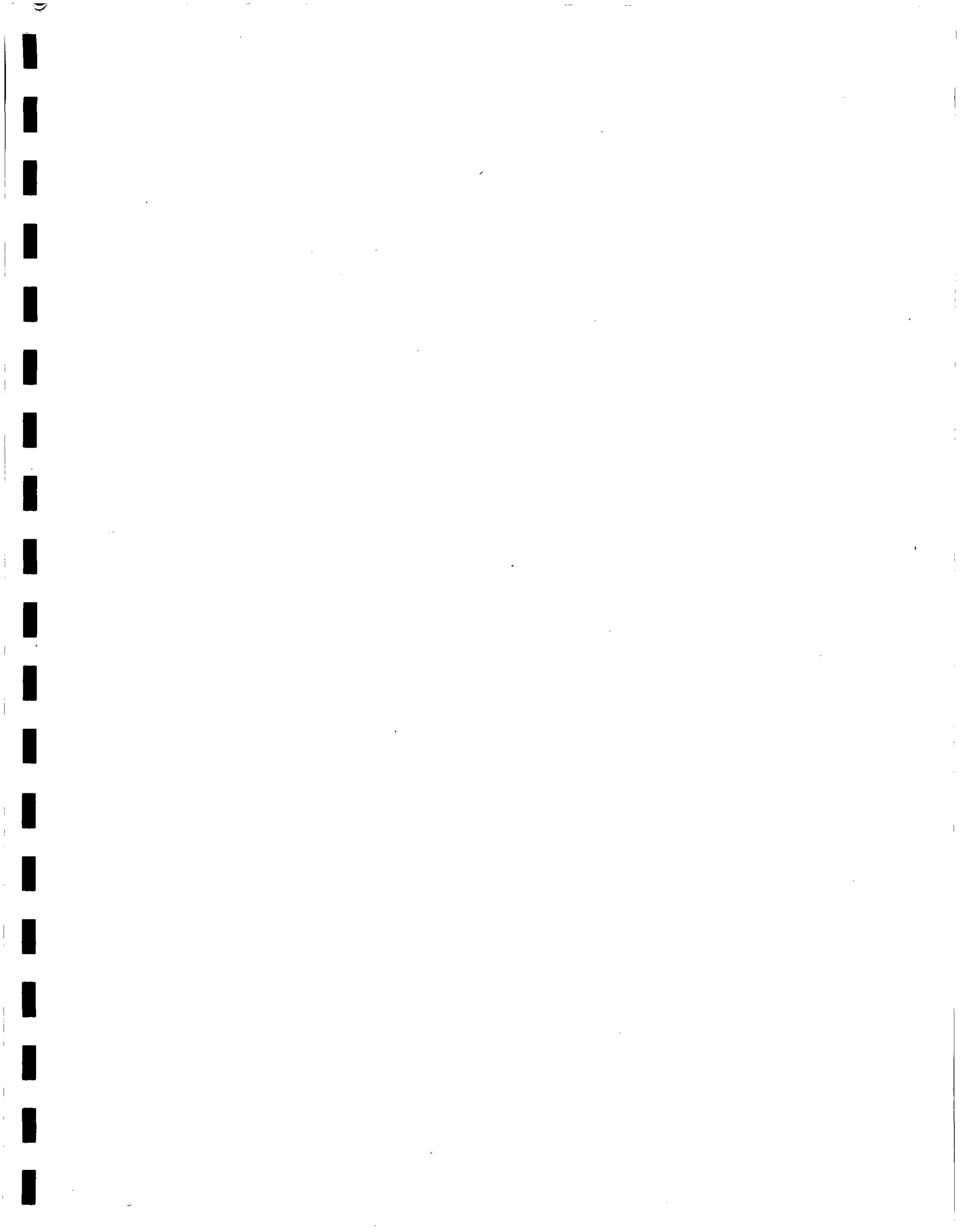
Special Instructions/Comments: Bill direct to GPM Gas Co LLC
New Mexico Region
Attn: Mel Driver
P.O. Box 5002-D

Analysis Request															
BTEX (EPA 8021B)	MTBE (EPA 8021B)	SVOC (EPA 8270)	PAH (EPA 8270)	VOC (EPA 8260)	TPH (EPA 418.1)	TPH (TX-1005)	TPH (TX-1006)	GRO (EPA 8015G)	DRO (EPA 8015D)	TDS (EPA 160.1)	Anions/Cations	Total Metals	TCLP Metals		
✓	✓													141028	3
✓	✓													29	3
✓	✓													30	3
✓	✓													31	2
✓	✓													32	2
✓	✓													33	2
✓	✓													34	2
✓	✓													35	2
✓	✓													36	2
✓	✓													37	2
Relinquished By:														(3)	
(Signature)														(Time)	
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(Signature)														(Time)	
(Printed Name)														(Date)	
(Company)															
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(Signature)														(Time)	
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(Company)															
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(Signature)														(Time)	
(Printed Name)														(Date)	
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(Company)															
Received By:														(3)	
(Signature)														(Time)	
(Printed Name)														(Date)	
(Company)															

Midland, Tx 79710-0020

Franklin - 145

Distribution: White, Canary-Laboratory / Pink-TRW



**1999 Annual Groundwater Monitoring and Sampling Report
GPM – Lee Gas Plant
Lea County, New Mexico**

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ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Prepared For:

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P. O. Box 50020
Midland, Texas 79710



Prepared By:



Energy & Environmental Systems
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**1999 Annual Groundwater Monitoring and Sampling Report
GPM – Lee Gas Plant
Lea County, New Mexico**

Prepared by:

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Energy & Environmental Systems
415 West Wall Street, Suite 1818
Midland, Texas 79701
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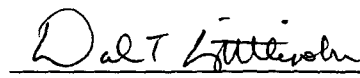
SUBMITTED BY:



Gilbert J. Van Deventer, REM
Project Manager

DATE:

11-4-99



Dale T. Littlejohn
Quality Assurance Officer

11-4-99

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1.0 Executive Summary

TRW Inc. – Energy and Environmental Systems (TRW), was retained by GPM Gas Corporation (GPM) to perform the sampling and monitoring operations at the Lee Gas Plant. This 1999 annual report summarizes the two sampling events performed by TRW at the GPM Lee Gas Plant on February 15, 1999 and August 18 through August 20, 1999.

Based on the sampling and monitoring data to date, the following conclusions relevant to groundwater conditions and remediation system performance at the Lee Gas Plant are evident:

- Benzene, toluene, ethylbenzene, and xylene (BTEX) concentrations in downgradient wells MW-11, MW-12, MW-13, MW-19 and MW-20, crossgradient wells MW-2, MW-3 and MW-18, and MW-22, which is screened below the vertical extent of the hydrocarbon plume, are below New Mexico Water Quality Control Commission (WQCC) standards and below laboratory detection limits.
- Benzene concentrations in monitoring wells MW-7, MW-9, MW-10, and MW-14, located within the areal extent of the dissolved-phase hydrocarbon plume, upgradient well MW-16, and crossgradient well MW-17, remain above WQCC standards.
- BTEX concentrations in monitoring well MW-21 have maintained levels below the laboratory detection limit of 0.001 mg/L since January 1998 due to successful air sparging and vapor extraction operations.
- Free product was measured in monitoring wells MW-5 (< 0.01 feet), MW-6 (3.93 feet), MW-8 (2.23 feet), and MW-15 (0.02 feet).
- A total of 1,915,552 gallons of groundwater was recovered by three recovery wells during the 1-year period of record (October 30, 1998 through September 30, 1999).
- The hydraulic gradient is approximately 0.004 feet/foot and the direction of groundwater flow is to the southwest based on the gauging data obtained on August 18, 1999.
- The average water table elevations across the site have decreased by an average of about 1 foot per year since March 28, 1988.

The following recommendations are proposed for the remediation system and monitoring operations at the Lee Gas Plant.

- Continue groundwater recovery operations since the present system has been effective in limiting the downgradient migration of the dissolved-phase hydrocarbon plume.
- Implement free product recovery at monitoring well MW-6 with the Xitech system currently in use at MW-15.
- Continue free product recovery from monitoring well MW-5 and MW-15 using passive bailers and/or hydrophobic adsorbent socks, and from MW-8 using hand bailing methods.
- Continue the sampling and monitoring program on a semi-annual basis. The next sampling event is scheduled during the first quarter of 2000.

2.0 Chronology of Events

April 1988	The New Mexico Environmental Improvement Division (NMEID) issued a Compliance Order/Schedule to Phillips 66 Natural Gas Company to install four monitoring wells and sample for groundwater quality to comply with Resource Conservation and Recovery Act (RCRA) monitoring requirements.
June 6, 1988	Four monitoring wells (MW-1, MW-2, MW-3 and MW-4) were installed by Geoscience Consultants Ltd. (GCL) between April 21, 1988 and April 29, 1988. The existing four monitoring wells were plugged and abandoned. Groundwater samples were collected on May 13, 1988.
September 23, 1988	GCL conducted a limited soil vapor survey at Lee Gas Plant. Two potential hydrocarbon sources were identified: the former evaporation pond located east of the main plant, and the small, former evaporation pond located north of the main plant.
January 1990	New Mexico Oil Conservation Division (OCD) takes jurisdiction for groundwater conditions at Lee Gas Plant. GCL submitted a work plan to the OCD for further investigation and implementation of remediation of free product.
May 30, 1990	GCL completed a subsurface investigation to define the limits of the free-phase hydrocarbon plume and to begin recovery of the floating product. The investigation included the installation and sampling of four monitoring wells (MW-5, MW-6, MW-7 and MW-8) and one recovery well (RW-1).
October 9, 1990	GCL completed Phase II of a subsurface investigation to further delineate the dissolved hydrocarbon plume. The investigation included the installation and sampling of four monitoring wells (MW-9, MW-10, MW-11 and MW-12).
March 11, 1991	GCL completed Phase III of a subsurface investigation to delineate the leading edge of the dissolved-phase hydrocarbon plume. The investigation included the installation and sampling of two monitoring wells (MW-13 and MW-14) and the conversion of two existing monitoring wells (MW-7 and MW-8) into recovery wells.
March 18, 1991	The OCD approved the Discharge Plan (GW-2) for Lee Gas Plant.
May 1991	GCL converted MW-10 into a recovery well per the OCD's April 2, 1991 request.
September 5, 1991	GCL completed Phase IV of a subsurface investigation that included the sampling of all on site monitoring wells (MW-1 through MW-14) and two water supply wells (WS-1 and WS-2). Two of the recovery wells (RW-1 and MW-4) and one monitoring well (MW-6) were not sampled due to the presence of free product. Prior sampling events were limited to collecting samples from just those wells installed in the current phase of work along with selected wells from previous phases to correlate analytical results.
1992	GCL conducted quarterly sampling activities on January 23, 1992, April 28, 1992, July 30, 1992 and October 21, 1992.

February 24, 1992	GCL completed the Final Phase of a subsurface investigation to complete delineation of the dissolved-phase hydrocarbon plume. The investigation included the installation of six monitoring wells (MW-15, MW-16, MW-17, MW-18, MW-19 and MW-20). Quarterly sampling of the on site monitoring wells was also conducted.
1993	GCL conducted quarterly sampling activities on January 20, 1993, April 15, 1993, July 20, 1993 and October 26, 1993.
April 7, 1993	GCL prepared the "Discharge Plan GW-2 Modification and Remedial Strategy" for Lee Gas Plant.
April 26, 1993	The OCD approved the "Discharge Plan GW-2 Modification and Remedial Strategy" for Lee Gas Plant.
July 1993	GCL completed installation of monitoring wells MW-21, MW-22 and MW-23 between July 19, 1993 and July 27, 1993.
August 3, 1993	GCL completed installation of soil vapor extraction system on recovery well RW-1.
November 15, 1993	GCL completed installation of air sparging injection unit in monitoring well MW-23.
1994	GCL conducted quarterly sampling activities on January 6, 1994, May 3, 1994, July 26, 1994 and October 12, 1994.
March 1994	GCL performed a successful cleanout (well restoration) of recovery well MW-7 during the week of March 21, 1994. However, attempts to restore MW-8 were unsuccessful due to well damage.
1995	BDM International, Inc. (formerly GCL) conducted quarterly sampling activities on March 16, 1995, June 24, 1995, August 10, 1995 and October 10, 1995.
1996	BDM International, Inc. (BDM) conducted quarterly sampling activities on January 16, 1996, April 25, 1996, August 27, 1996 and November 20, 1996.
January 15, 1996	Removed packer from injection well MW-23 and discontinued injection activities.
1997	BDM conducted quarterly sampling activities on January 21, 1997 and April 17, 1997.
June 18, 1997	Mr. Bill Olson (verbal communication) of the OCD approved a request by GPM to change the sampling frequency from a quarterly to semi-annual frequency.
August 12, 1997	BDM conducted annual sampling activities on August 12, 1997.
January 19, 1998	TRW conducted semi-annual sampling activities.
April 1, 1998	TRW replaced the submersible pumps in MW-6 and MW-7 with new pumps. The pump in MW-10 was not replaced due to damaged well conditions.

April 2, 1998	TRW installed a passive skimmer in MW-15.
April 9, 1998	TRW completed installation of Xitech product recovery system at MW-5.
July 10, 1998	TRW completed installation of air sparge system (air compressor) at MW-23.
August 5, 1998	TRW conducted annual sampling activities.
September 17, 1998	TRW replaced the submersible pump in RW-1 with a new pump.
November 18, 1998	Xitech product recovery system was transferred from MW-5 to MW-15.
February 15, 1999	TRW conducted semi-annual sampling activities.
June 16-19, 1999	Recovery wells MW-6, MW-7, and RW-1 were replaced by newly installed deeper wells RW-2, RW-3, and RW-4, respectively.
August 18-20, 1999	TRW conducted annual sampling activities.

3.0 Procedures

3.1 Groundwater Sampling Methods

Each monitoring well at the Lee Gas Plant was gauged for depth to groundwater on February 15, 1999 and August 18, 1999, using a Heron H.01L oil/water interface probe or comparable model. Depth to groundwater in the recovery wells were not gauged due access limitations caused by the presence of downhole pumping equipment.

Immediately prior to collecting groundwater samples, the monitoring wells were purged using a Grundfos Redi-Flo2 submersible pump with the exception of MW-2 and MW-3 which were purged using a decontaminated hand bailer. Purging operations were completed after groundwater parameters (pH, conductivity, dissolved oxygen and temperature) stabilized with the exception of MW-2 and MW-3, which were bailed dry. Conductivity, pH, dissolved oxygen (DO), and temperature readings were measured after every 5 gallons of purging using a Horiba Model U-10 or comparable DO meter. Approximately 600 gallons of well development water was purged from the monitoring wells during the 1999 sampling year.

Groundwater samples were obtained using a new, decontaminated, disposable bailer for each well after purging. Each groundwater sample was transferred into two air-tight, septum-sealed, 40-ml glass volatile organic analysis (VOA) sample vials with zero head space and preserved with sodium bisulfate (NaSO_4) for analysis of BTEX using EPA Method 8021B. Chain-of-custody (COC) forms documenting sample identification numbers, collection times, and delivery times to the laboratory were completed for each set of samples. One duplicate sample and one rinsate sample was collected during each sampling event. The water samples were placed into an ice-filled cooler immediately after collection and shipped next day delivery to Trace Analysis Inc. in Lubbock, Texas for laboratory analysis.

A summary of the monitoring wells sampled, sampling frequency, sampling dates, purge method, sampling method and purge volumes for the 1999 calendar year is presented in Table 1.

3.2 Recovery Well Installation Methods

Between June 16 to June 19, 1999, three groundwater recovery wells (RW-2, RW-3, and RW-4) were installed to replace existing recovery wells (MW-6, MW-7, and RW-1, respectively). The well replacement was necessary because of diminishing groundwater recovery volumes due to the decreasing water table elevation across the site. A New Mexico licensed water well driller (R. L. Straub Corporation) using a mud-rotary drilling rig constructed the wells. In order to maintain sufficient wellbore stability for installation of the well casing materials, it was necessary to use mud-rotary drilling techniques because of the loose unconsolidated sand formation. Each well was completed to a depth of 140 feet below ground surface. Copies of the well completion diagrams and lithologic logs for these wells are included in Appendix A. The locations of the three recovery wells are listed below.

- RW-2 was completed approximately 10 feet northwest of MW-6
- RW-3 was installed approximately 15 feet east of MW-8
- RW-4 was completed approximately 10 feet west of RW-1



1999 Annual Sampling and Monitoring Report
GPM - Lee Gas Plant

Table 1

Well Sampling Frequency and Methods

Well No.	Well Type	Sampling Frequency	1998 Sample Date	Purge Method	Sampling Method	Purge Volume
MW-1	Monitoring	Not sampled due to dry well conditions	NS	NS	NS	0 gallons
MW-2	Monitoring	Semi-annual event	02/15/99	Hand Bailer	Disposable bailer	1.5 gallons*
		Annual event	08/19/99	Hand Bailer	Disposable bailer	1 gallon*
MW-3	Monitoring	Annual event	08/19/99	Hand Bailer	Disposable bailer	2 gallons*
MW-4	Monitoring	Not sampled due to dry well conditions	NS	NS	NS	0 gallons
MW-5	Monitoring	Not sampled due to PSH presence	NS	NS	NS	0 gallons
MW-6	Recovery	Annual event	NS	NS	NS	0 gallons
MW-7	Recovery	Annual event	NS	NS	NS	0 gallons
MW-8	Monitoring	Annual event	08/19/99	Pump	Disposable bailer	8 gallons
MW-9	Monitoring	Not sampled due to PSH presence	NS	NS	NS	0 gallons
MW-10	Monitoring	Annual event	08/19/99	Pump	Disposable bailer	35 gallons
MW-11	Monitoring	Annual event	08/20/99	Pump	Disposable bailer	25 gallons
MW-12	Monitoring	Semi-annual event	02/15/99	Pump	Disposable bailer	30 gallons
		Annual event	08/18/99	Pump	Disposable bailer	35 gallons
MW-13	Monitoring	Semi-annual event	02/15/99	Pump	Disposable bailer	35 gallons
		Annual event	08/18/99	Pump	Disposable bailer	35 gallons
MW-14	Monitoring	Annual event	02/15/99	Pump	Disposable bailer	40 gallons
MW-15	Monitoring	Not sampled due to PSH presence	NS	NS	NS	35 gallons
MW-16	Monitoring	Annual event	08/20/99	Pump	Disposable bailer	0 gallons
MW-17	Monitoring	Annual event	08/19/99	Pump	Disposable bailer	33 gallons
MW-18	Monitoring	Annual event	08/19/99	Pump	Disposable bailer	35 gallons
MW-19	Monitoring	Semi-annual event	02/15/99	Pump	Disposable bailer	35 gallons
		Annual event	08/18/99	Pump	Disposable bailer	35 gallons
MW-20	Monitoring	Semi-annual event	02/15/99	Pump	Disposable bailer	35 gallons
		Annual event	08/18/99	Pump	Disposable bailer	35 gallons
MW-21	Monitoring	Semi-annual event	02/15/99	Hand Bailer	Disposable bailer	9 gallons
		Annual event	08/19/99	Pump	Disposable bailer	3 gallons
MW-22	Monitoring	Annual event	08/19/99	Pump	Disposable bailer	25 gallons
MW-23	Injection	Not sampled due to use as air sparge well.	NS	NS	NS	0 gallons
RW-1	Recovery	Not sampled due to PSH presence	NS	NS	NS	0 gallons

NS indicates well was not sampled.

* Monitoring wells MW-2 and MW-3 bailed dry.

4.0 Groundwater Elevations, Hydraulic Gradient and Flow Direction

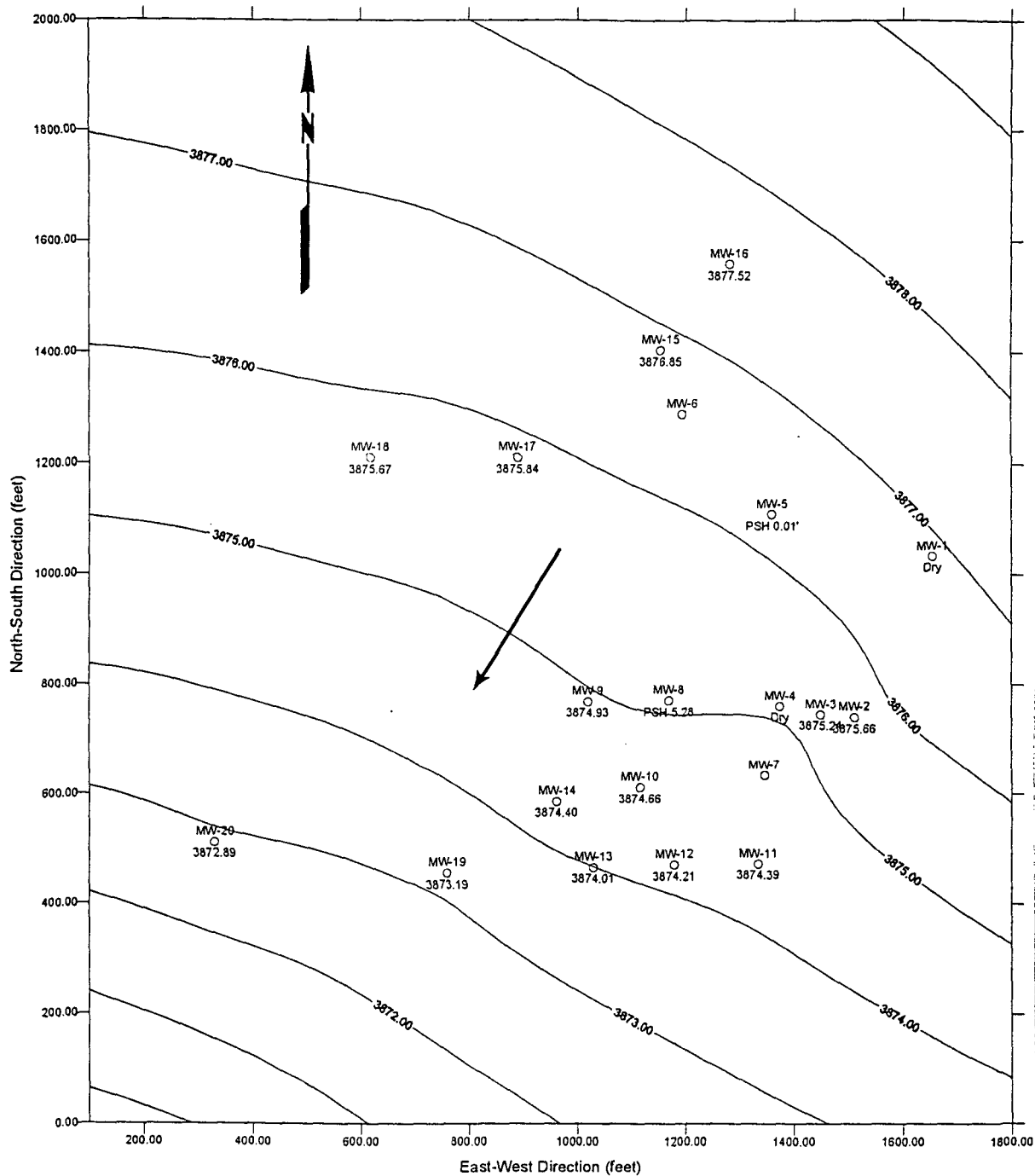
Based on the most recent gauging data collected by TRW on August 18, 1999, the groundwater conditions at the Lee Gas Plant are characterized below.

- The depth to the water table across the site varies from approximately 102 to 107 feet below ground surface
- The hydraulic gradient is approximately 0.004 feet/foot
- The direction of groundwater flow is to the southwest

Groundwater elevation maps depicting the water table elevation and direction of groundwater flow using the gauging data obtained during the two 1999 sampling events are presented in Figure 1a (February 15, 1999) and Figure 1b (August 18, 1999). Groundwater elevations and depth to water measurements for 1999 are summarized in Table 2.

The direction of groundwater flow and hydraulic gradient has remained consistent for the past eleven years. However, the average water table elevations across the site have decreased by an average of about 1 foot per year since March 28, 1988. Figure 2a is a graphical presentation that depicts the change in average water table elevation versus time. Figures 2b and 2c depict the changing water table elevations for individual monitoring wells.

Due to the declining water table elevations over the past eleven years, some of the older monitoring wells do not extend into (MW-1 and MW-4), or barely extend into (MW-2, MW-3, MW-5, and MW-8), the current water table. Since it is expected that the water table elevation will decrease more in the future, the availability of these wells as monitoring points will diminish.

**LEGEND**

Measurements Obtained on February 15, 1999

Water Table Elevations in Feet AMSL

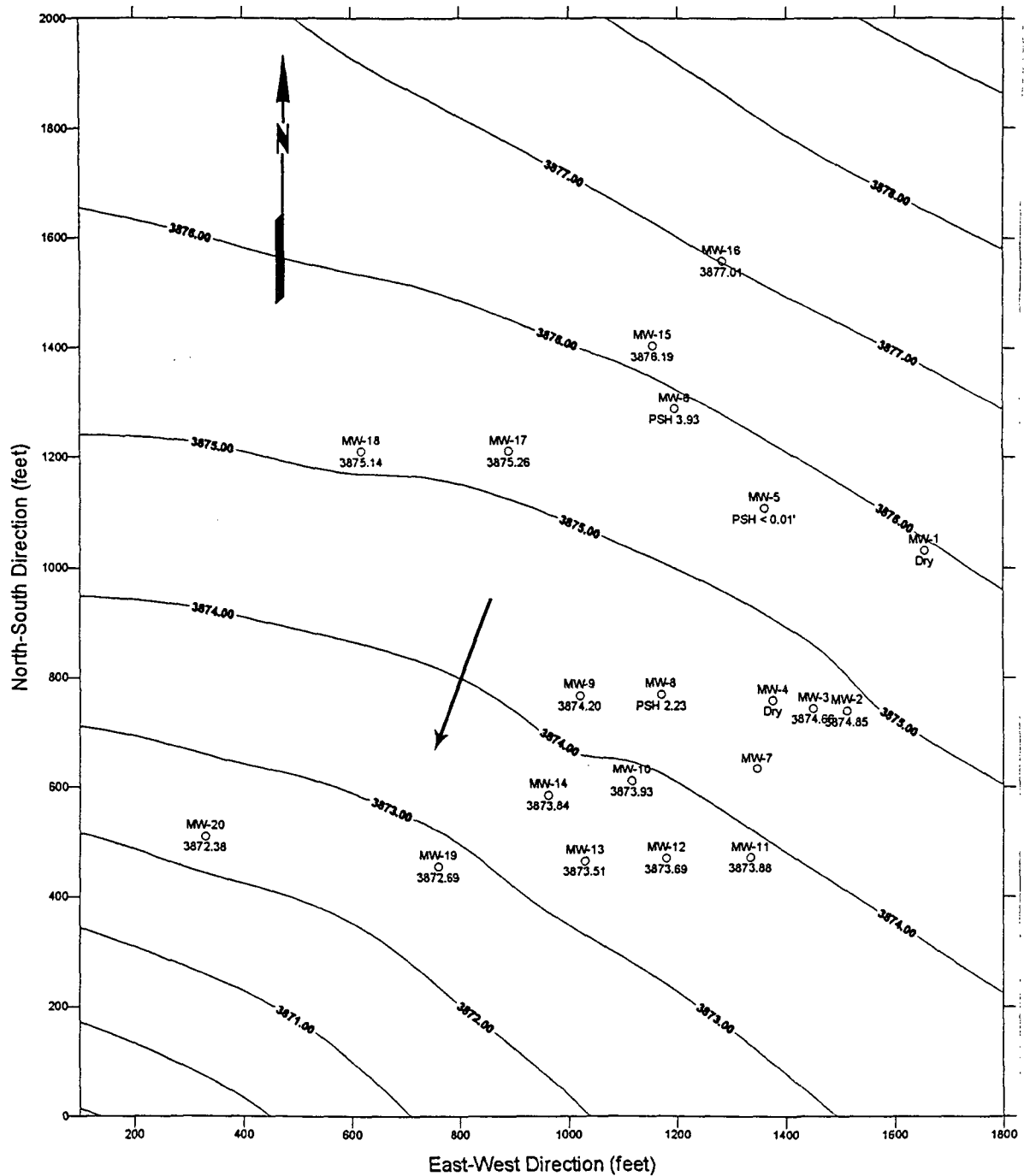
Contour Interval = 1.00 feet

Hydraulic Gradient = 0.004 ft/ft (southwest)



SITE: GPM - LEE PLANT	
DATE: 02/15/99	REV. NO.: 1
AUTHOR: GJV	DRN BY: JH
CK'D BY: DTL	SCALE: 1" = 300'

FIGURE 1a
WATER TABLE
ELEVATION MAP

**LEGEND**

Measurements Obtained on August 18, 1999

Water Table Elevations in Feet AMSL

Contour Interval = 1.00 feet

Hydraulic Gradient = 0.004 ft/ft (southwest)



SITE:	GPM - LEE PLANT		
DATE:	08/18/99	REV. NO.:	1
AUTHOR:	GJV	DRN BY:	JH
CK'D BY:	DTL	SCALE:	1" = 300'

FIGURE 1b
WATER TABLE
ELEVATION MAP

Table 2
1999 Groundwater Elevations
GPM - Lee Plant

Monitoring Well	Date Gauged	Relative Top of Casing Elevation (feet)*	Depth to Groundwater Below Top of Casing (feet)	Relative Groundwater Elevation (feet)**	Phase-Separated Hydrocarbon Thickness (feet)
MW-1	02/15/99	3979.25	Dry	Dry	0.00
	08/18/99	3979.25	Dry	Dry	0.00
MW-2	02/15/99	3980.50	104.84	3875.66	0.00
	08/18/99	3980.50	105.65	3874.85	0.00
MW-3	02/15/99	3980.27	105.03	3875.24	0.00
	08/18/99	3980.27	105.61	3874.66	0.00
MW-4	02/15/99	3980.16	Dry	Dry	0.00
	08/18/99	3980.16	Dry	Dry	0.00
MW-5	02/15/99	3979.82	103.58	3876.25	0.01
	08/18/99	3979.82	104.04	3875.78	0.00
MW-6	08/18/99	3981.79	109.10	3875.91	3.93
MW-7	08/18/99	3978.45	104.56	3873.89	0.00
MW-8	02/15/99	3979.96	109.13	3875.16	5.28
	08/18/99	3979.96	108.59	3873.20	2.23
MW-9	02/15/99	3980.17	105.24	3874.93	0.00
	08/18/99	3980.17	105.97	3874.20	0.00
MW-10	02/15/99	3979.66	105.00	3874.66	0.00
	08/18/99	3979.66	105.73	3873.93	0.00
MW-11	02/15/99	3978.50	104.11	3874.39	0.00
	08/18/99	3978.50	104.62	3873.88	0.00
MW-12	02/15/99	3978.82	104.61	3874.21	0.00
	08/18/99	3978.82	105.13	3873.69	0.00
MW-13	02/15/99	3980.52	106.51	3874.01	0.00
	08/18/99	3980.52	107.01	3873.51	0.00
MW-14	02/15/99	3982.23	107.83	3874.40	0.00
	08/18/99	3982.23	108.39	3873.84	0.00
MW-15	02/16/99	3981.70	104.93	3876.85	0.10
	08/18/99	3981.70	105.53	3876.19	0.02
MW-16	02/15/99	3980.80	103.28	3877.52	0.00
	08/18/99	3980.80	103.79	3877.01	0.00
MW-17	02/15/99	3981.80	105.96	3875.84	0.00
	08/18/99	3981.80	106.54	3875.26	0.00
MW-18	02/15/99	3983.10	107.43	3875.67	0.00
	08/18/99	3983.10	107.96	3875.14	0.00
MW-19	02/15/99	3980.80	107.61	3873.19	0.00
	08/18/99	3980.80	108.11	3872.69	0.00
MW-20	02/15/99	3983.30	110.41	3872.89	0.00
	08/18/99	3983.30	110.92	3872.38	0.00

Figure 2a
Average Groundwater Elevations

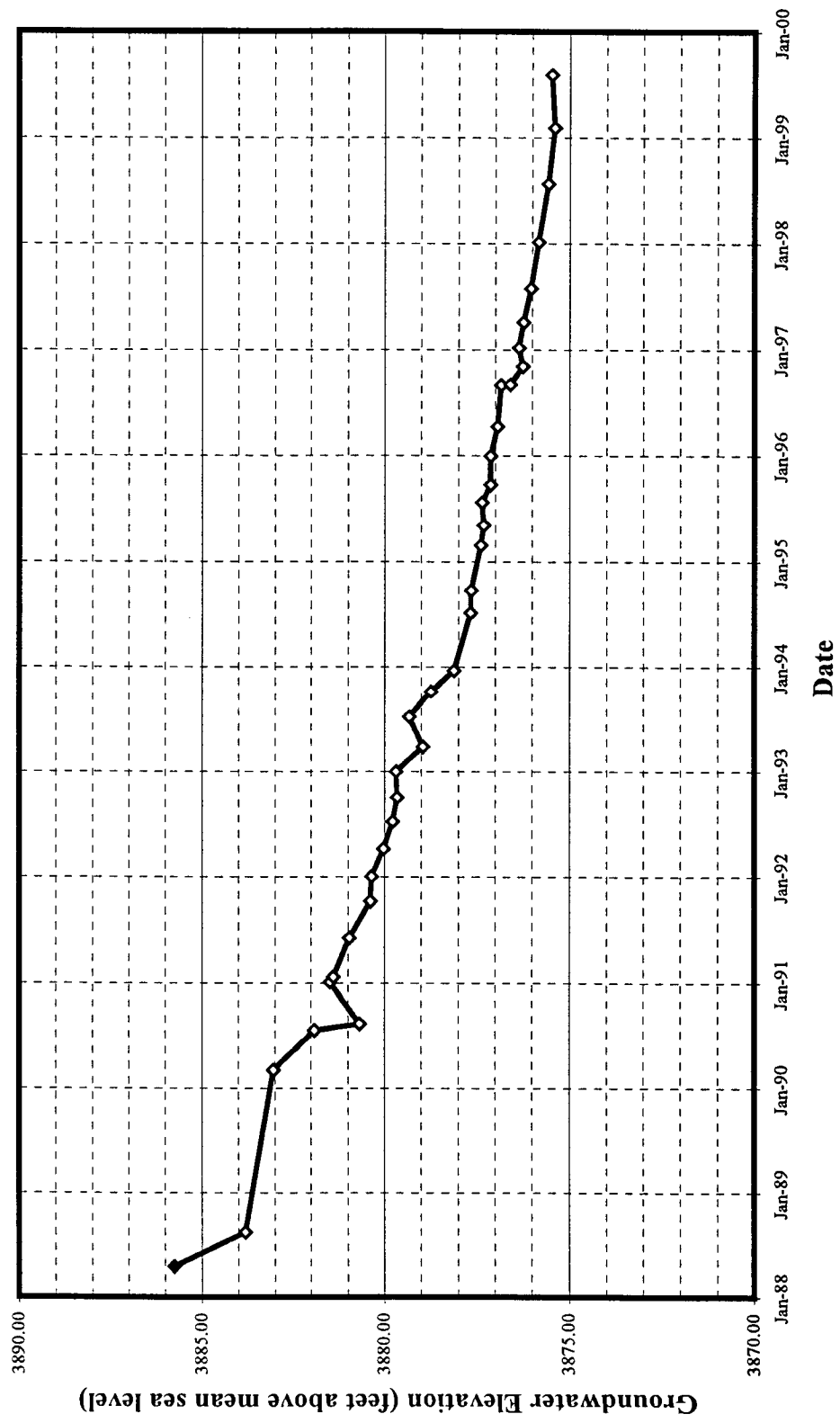


Figure 2b

Water Table Elevations for MW-1 through MW-12
(excluding recovery wells MW-6, MW-7 and MW-10)

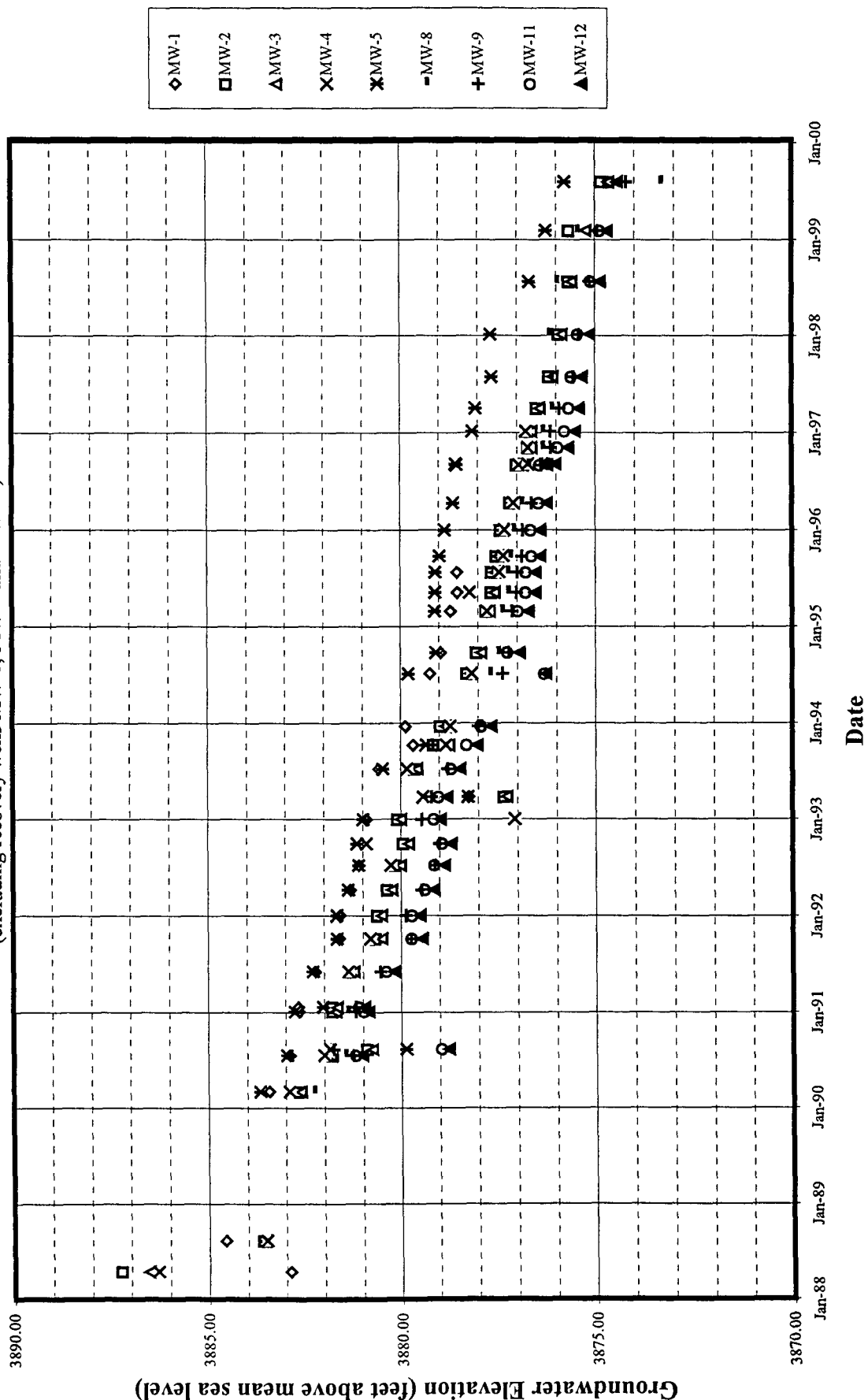
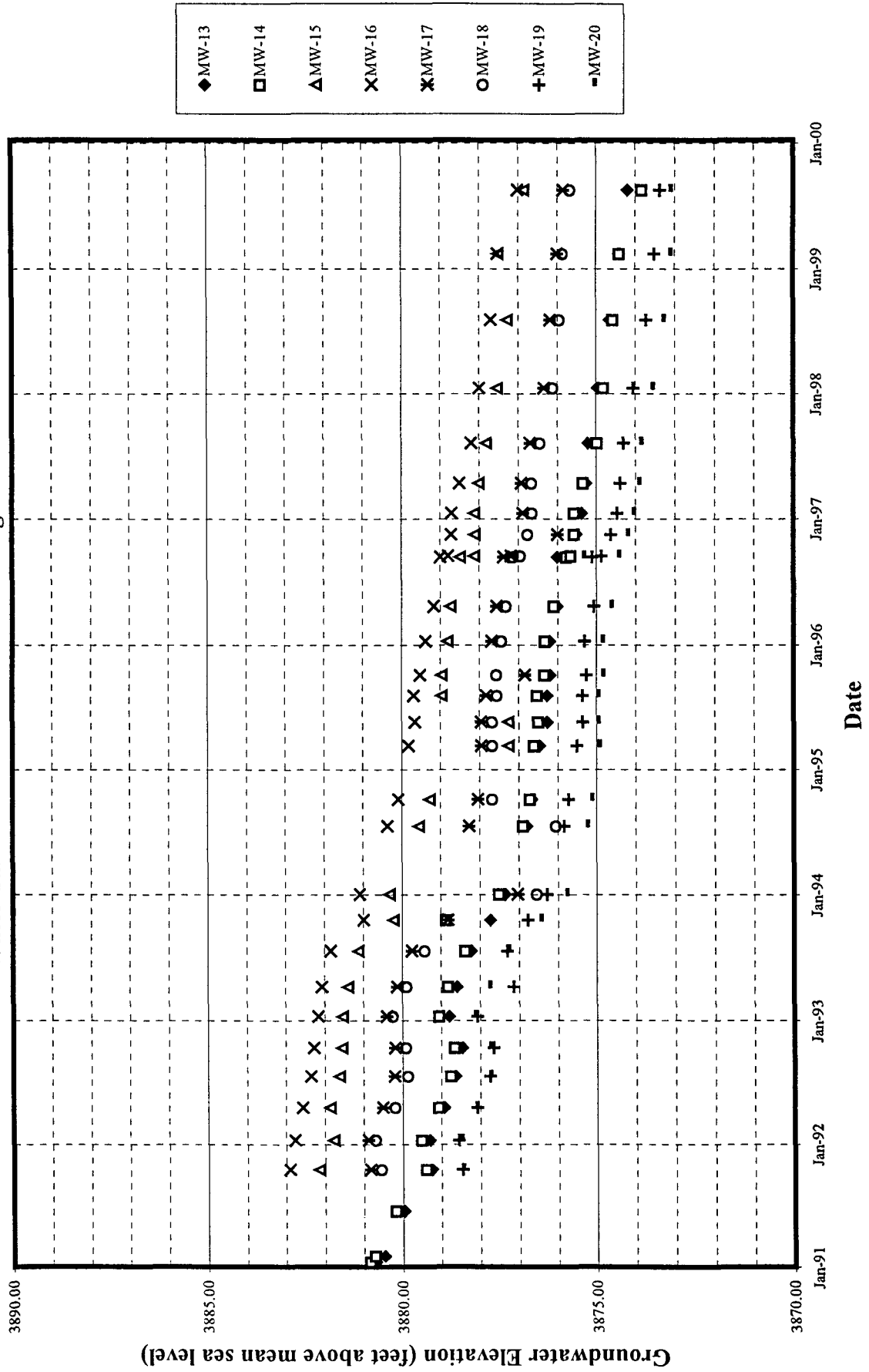


Figure 2 c

Water Table Elevations for MW-13 through MW-20



5.0 Distribution of Hydrocarbons in Groundwater

A historical listing of BTEX concentrations obtained from the on site monitoring wells are summarized in Table 3. BTEX concentration maps depicting the February 15, 1999 and August 18 through August 20, 1999 results are presented in Figures 3a and 3b. Hydrocarbon concentration versus time graphs for the central area wells (MW-2, MW-3, MW-7, MW-8, MW-9, MW-10, MW-14, MW-21, MW-22, MW-23, WS-1, and WS-2), north area wells (MW-5, MW-6, MW-15, MW-16, MW-17, and MW-18), and downgradient south area wells (MW-11, MW-12, MW-13, MW-19, and MW-20) are depicted in Figures 4a, 4b, and 4c, respectively. Laboratory analytical reports and chain-of-custody documentation are included in Appendix B.

Based on the most recent analytical data for samples collected by TRW from August 18 through August 20, 1999, the distribution of hydrocarbons at the Lee Gas Plant is described below.

- BTEX concentrations in downgradient wells MW-11, MW-12, MW-13, MW-19 and MW-20 have been below WQCC standards, and in most cases below laboratory detection limits, for the last 5 years.
- BTEX concentrations in crossgradient wells MW-2, MW-3 and MW-18 remain below the laboratory detection limit and below WQCC standards.
- Benzene concentrations in monitoring wells MW-7, MW-9, MW-10, and MW-14, located within the areal extent of the dissolved-phase hydrocarbon plume, upgradient well MW-16, and crossgradient well MW-17, remain above WQCC standards.
- BTEX concentrations in monitoring well MW-21 have maintained levels below the laboratory detection limit of 0.001 mg/L since January 1998 due to successful air sparging and vapor extraction operations.
- BTEX concentrations in monitoring well MW-22, which is screened below the vertical extent of the hydrocarbon plume, remain below laboratory detection limits and WQCC standards.
- Monitoring wells MW-1 and MW-4 could not be sampled due to dry well conditions.
- Monitoring wells MW-5, MW-6, MW-8, and MW-15 were not be sampled due to the presence of < 0.01 feet (sheen), 3.93 feet, 2.23 feet, and 0.02 feet of free product, respectively.

Table 3
BTEX Analytical Results In Groundwater
GPM - Lee Plant

Monitoring Well	Date Sampled	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Xylenes (mg/l)
MW-1	Mar-90	0.004	<0.001	<0.001	<0.001
	03/28/90	0.002	<0.001	<0.001	<0.001
	06/27/91	<0.002	<0.002	<0.002	<0.003
MW-2	Mar-90	<0.001	<0.001	<0.001	<0.001
	03/28/90	0.002	<0.001	<0.001	<0.001
	06/27/90	<0.002	<0.002	<0.002	<0.003
	07/30/92	<0.001	<0.001	<0.001	<0.001
	07/21/93	<0.002	<0.002	<0.002	<0.006
	01/06/94	<0.001	<0.001	<0.001	<0.003
	07/26/94	<0.001	<0.001	<0.001	<0.003
	01/16/96	<0.001	<0.001	<0.001	<0.001
	08/13/97	<0.001	<0.001	<0.001	<0.001
	01/20/98	<0.001	<0.001	<0.001	<0.001
	08/05/98	<0.001	<0.001	<0.001	<0.001
	08/19/99	<0.005	<0.005	<0.005	<0.005
MW-3	Mar-90	0.069	0.002	0.001	0.001
	03/28/90	<0.001	0.002	<0.001	<0.001
	06/27/90	0.043	0.006	0.002	<0.003
	08/13/97	1.990	0.078	0.042	0.061
	08/05/98	0.002	<0.001	0.007	<0.001
	08/19/99	<0.001	<0.001	<0.001	<0.001
MW-4	Never analyzed due to presence of phase-separated hydrocarbons or dry well conditions.				
MW-5	03/27/90	<0.001	0.098	<0.001	0.043
	06/27/91	5.00	0.570	0.015	0.088
	07/30/92	10.0	1.40	0.059	0.070
	07/21/93	22.0	7.87	0.570	1.27
	07/01/94	66.4	17.1	0.630	<1.5
MW-6	04/03/90	<0.001	<0.001	<0.001	<0.001
	02/13/91	72	3.0	35	42
	03/01/95	18.8	17.0	1.76	3.10
	08/13/97	11.6	4.1	0.49	0.82
	08/05/98	13.7	5.96	<0.500	0.991
MW-7	04/03/90	6.1	0.36	3.9	0.26
	06/27/91	3.2	1.4	0.023	0.13
	07/30/92	0.001	<0.001	<0.001	<0.001
	07/21/93	0.040	0.57	<0.001	1.27
	07/25/94	0.003	0.002	0.001	0.005
	08/09/95	0.083	0.001	0.002	<0.003
	08/27/96	1.14	<0.010	<0.010	<0.010
	08/13/97	1.39	<0.025	<0.025	<0.025
	08/05/98	1.63	<0.010	<0.010	<0.010
	08/19/99	1.50	0.016	0.02	0.016
MW-8	04/06/90	18	0.83	7.1	0.29
	06/27/91	21	1.3	0.012	0.42
	07/30/92	13	0.38	0.37	0.18
MW-9	08/11/90	0.006	0.001	0.001	0.002
	01/23/91	0.007	0.001	0.005	0.002
	06/27/91	0.16	0.056	0.003	0.004
	10/17/91	0.002	0.003	0.002	<0.001

Table 3 (continued)
BTEX Analytical Results In Groundwater
GPM - Lee Plant

Monitoring Well	Date Sampled	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Xylenes (mg/l)
MW-9	01/23/92	<0.001	0.003	0.005	<0.001
	04/28/92	<0.001	0.001	<0.001	<0.001
	07/30/92	0.31	0.004	0.010	0.003
	10/21/92	3.0	0.28	0.11	0.12
	01/20/93	5.9	0.004	0.022	0.011
	04/15/93	2.2	0.011	0.020	0.040
	07/21/93	0.673	0.314	0.029	0.069
	07/25/94	0.495	<0.01	<0.01	<0.03
	08/09/95	5.86	<0.025	<0.025	<0.075
	08/27/96	0.327	<0.001	<0.001	<0.001
	08/12/97	0.138	<0.001	<0.001	<0.001
	08/06/98	0.892	<0.010	<0.010	<0.010
	08/19/99	13.6	0.25	<0.050	0.073
MW-10	08/10/90	1.3	0.050	0.034	0.016
	01/23/91	0.98	0.015	0.016	<0.005
	06/27/91	9.7	0.42	0.084	0.039
	07/21/93	0.004	<0.002	<0.002	NS
	07/25/94	4.16	0.21	0.23	0.86
	08/09/95	3.66	0.033	<0.025	<0.075
	08/27/96	2.98	0.060	<0.025	<0.025
	08/12/97	4.71	<0.050	<0.050	<0.050
	08/06/98	1.50	0.011	0.013	0.008
	08/20/99	1.01	<0.010	<0.010	<0.010
MW-11	08/10/90	0.001	0.002	0.003	0.006
	06/26/91	<0.002	<0.002	<0.002	<0.003
	10/17/91	0.002	0.002	<0.001	<0.001
	01/23/92	<0.001	<0.001	<0.001	<0.001
	04/28/92	0.002	<0.001	<0.001	<0.001
	07/30/92	0.031	0.007	0.002	0.001
	10/21/92	0.078	0.130	0.022	0.051
	01/20/93	0.001	<0.001	<0.001	0.001
	04/15/93	0.001	<0.001	<0.001	0.001
	07/20/93	0.016	0.031	<0.002	0.012
	10/26/93	<0.002	<0.002	<0.002	<0.006
	01/06/94	0.004	0.006	<0.001	0.004
	05/03/94	<0.001	<0.001	0.001	0.004
	07/26/94	0.002	0.001	<0.001	<0.003
	10/12/94	<0.001	0.002	<0.001	<0.003
	03/16/95	<0.001	0.002	<0.001	0.003
	06/24/95	<0.001	0.001	<0.001	<0.003
	08/10/95	<0.001	<0.001	<0.001	<0.003
	10/10/95	<0.001	<0.001	<0.001	<0.001
	01/16/96	<0.001	<0.001	<0.001	<0.001
	04/25/96	<0.001	<0.001	<0.001	<0.001
	08/27/96	<0.001	<0.001	<0.001	<0.001
	11/20/96	<0.001	<0.001	<0.001	<0.001
	01/21/97	<0.001	<0.001	<0.001	<0.001
	04/17/97	<0.001	<0.001	<0.001	<0.001
	08/12/97	<0.001	<0.001	<0.001	<0.001

Table 3 (continued)
BTEX Analytical Results In Groundwater
GPM - Lee Plant

Monitoring Well	Date Sampled	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Xylenes (mg/l)
MW-11	01/19/98	<0.001	<0.001	<0.001	<0.001
	08/05/98	<0.001	<0.001	<0.001	<0.001
	02/15/99	<0.001	<0.001	<0.001	<0.001
	08/18/99	<0.001	<0.001	<0.001	<0.001
MW-12	08/10/90	0.001	0.001	0.001	0.003
	01/23/91	0.12	0.001	0.004	0.001
	06/26/91	<0.002	0.002	<0.002	<0.003
	10/17/91	0.004	0.003	<0.001	<0.001
	01/23/92	<0.001	<0.001	<0.001	<0.001
	04/28/92	<0.001	<0.001	<0.001	<0.001
	07/30/92	0.018	0.004	0.001	0.001
	10/21/92	0.064	0.130	0.024	0.056
	01/20/93	0.067	0.001	<0.001	<0.001
	04/15/93	0.030	<0.001	<0.001	<0.001
	07/20/93	0.011	0.029	<0.002	0.012
	10/26/93	<0.002	<0.002	<0.002	<0.006
	01/06/94	0.003	0.004	<0.001	<0.003
	05/03/94	<0.001	0.002	0.001	0.004
	07/26/94	0.004	<0.001	<0.001	<0.003
	10/12/94	<0.001	<0.001	<0.001	<0.003
	03/16/95	<0.001	0.003	<0.001	0.004
	06/24/95	<0.001	<0.001	<0.001	<0.003
	08/10/95	<0.001	<0.001	<0.001	<0.003
	10/10/95	<0.001	<0.001	<0.001	<0.001
	01/16/96	<0.001	<0.001	<0.001	<0.001
	04/25/96	<0.001	<0.001	<0.001	<0.001
	08/27/96	<0.001	<0.001	<0.001	<0.001
	11/20/96	<0.001	<0.001	<0.001	<0.001
	01/21/97	<0.001	<0.001	<0.001	<0.001
	04/17/97	<0.001	<0.001	<0.001	<0.001
	08/12/97	<0.001	<0.001	<0.001	<0.001
	01/20/98	<0.001	<0.001	<0.001	<0.001
	08/05/98	<0.001	<0.001	<0.001	<0.001
	02/15/99	<0.001	<0.001	<0.001	<0.001
	08/18/99	<0.001	<0.001	<0.001	<0.001
MW-13	01/27/91	0.016	0.003	0.019	0.005
	06/26/91	0.002	<0.002	<0.002	<0.003
	10/17/91	0.001	0.001	<0.001	<0.001
	01/23/92	<0.001	<0.001	<0.001	<0.001
	07/30/92	<0.001	<0.001	<0.001	<0.001
	10/21/92	0.084	0.150	0.026	0.062
	01/20/93	0.028	<0.001	<0.001	<0.001
	04/15/93	0.013	<0.001	<0.001	<0.001
	07/20/93	0.015	0.034	<0.002	0.013
	10/26/93	0.029	0.030	<0.002	0.010
	01/06/94	0.002	0.003	<0.001	<0.003
	05/03/94	<0.001	<0.001	<0.001	<0.003
	07/26/94	0.007	0.001	<0.001	<0.003
	10/12/94	<0.001	<0.001	<0.001	<0.001

Table 3 (continued)
BTEX Analytical Results In Groundwater
GPM - Lee Plant

Monitoring Well	Date Sampled	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Xylenes (mg/l)
MW-13	03/16/95	<0.001	0.003	<0.001	<0.003
	06/24/95	<0.001	<0.001	<0.001	0.003
	08/10/95	<0.001	<0.001	<0.001	<0.003
	10/10/95	<0.001	<0.001	<0.001	<0.001
	04/25/96	<0.001	<0.001	<0.001	<0.001
	08/27/96	<0.001	<0.001	<0.001	<0.001
	11/20/96	<0.001	<0.001	<0.001	<0.001
	01/21/97	<0.001	<0.001	<0.001	<0.001
	04/17/97	<0.001	<0.001	<0.001	<0.001
	08/12/97	<0.001	<0.001	<0.001	<0.001
	01/20/98	<0.001	<0.001	<0.001	<0.001
	08/05/98	<0.001	<0.001	<0.001	<0.001
	02/15/99	<0.001	<0.001	<0.001	<0.001
MW-14	08/18/99	<0.001	<0.001	<0.001	<0.001
	01/27/91	<0.001	<0.001	<0.001	<0.001
	06/27/91	<0.002	<0.002	<0.002	<0.003
	10/21/92	0.043	0.099	0.019	0.045
	01/20/93	0.019	<0.001	<0.001	0.001
	04/15/93	0.013	0.003	0.003	0.006
	04/25/96	2.22	<0.010	0.049	<0.010
	04/17/97	3.79	<0.025	0.050	<0.025
	08/13/97	3.42	<0.050	<0.050	<0.050
MW-15	08/06/98	0.002	<0.001	<0.001	<0.001
	08/19/99	0.024	<0.001	<0.001	<0.001
MW-16	10/29/91	4.2	0.45	0.10	0.10
	03/16/95	6.24	0.981	0.087	0.214
	10/18/91	0.004	0.002	<0.001	<0.001
	07/30/92	0.42	0.077	0.008	0.008
	07/20/93	1.19	0.157	0.030	0.048
	07/26/94	3.82	1.66	0.120	<0.300
	08/10/95	3.53	0.540	0.137	0.378
	08/27/96	0.724	0.166	0.035	0.021
	08/13/97	0.891	0.216	0.042	0.081
MW-17	08/06/98	1.950	0.304	0.046	0.129
	08/20/99	0.454	0.053	<0.005	0.034
	10/27/91	0.008	0.002	<0.001	<0.001
	03/16/95	0.062	0.020	0.004	0.010
	01/16/96	<0.001	<0.001	<0.001	<0.001
MW-18	08/13/97	0.002	<0.001	<0.001	<0.001
	08/06/98	<0.001	<0.001	<0.001	<0.001
	08/19/99	0.028	0.002	<0.001	<0.001
	10/28/91	<0.001	0.001	<0.001	<0.001
	07/30/92	0.023	0.006	0.002	0.001
	07/20/93	0.011	0.029	<0.002	0.012
MW-18	01/06/94	<0.001	0.002	<0.001	<0.003
	07/26/94	0.057	0.008	0.002	<0.003
	03/16/95	<0.001	0.002	<0.001	<0.003
	08/10/95	<0.001	<0.001	<0.001	<0.003
	01/16/96	<0.001	<0.001	<0.001	<0.001
	08/27/96	<0.001	<0.001	<0.001	<0.001

Table 3 (continued)
BTEX Analytical Results In Groundwater
GPM - Lee Plant

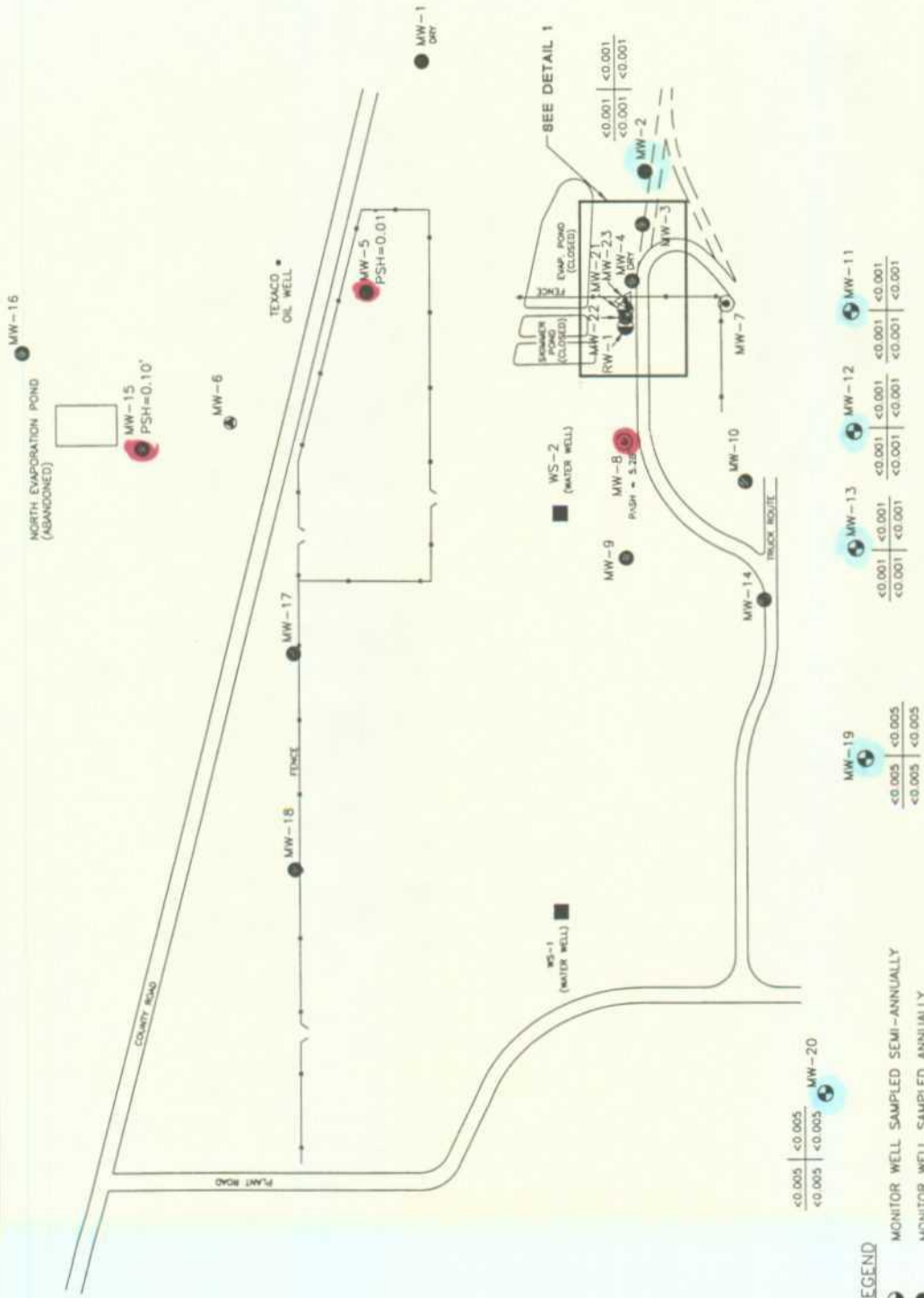
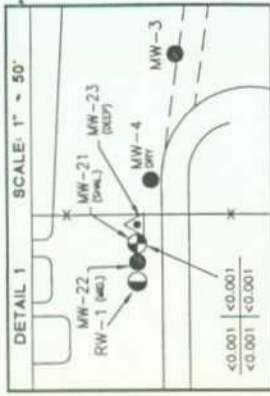
Monitoring Well	Date Sampled	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Xylenes (mg/l)
MW-18	01/21/97	<0.001	<0.001	<0.001	<0.001
	08/13/97	<0.001	<0.001	<0.001	<0.001
	08/05/98	<0.001	<0.001	<0.001	<0.001
	08/19/99	<0.005	<0.005	<0.005	<0.005
MW-19	10/25/91	<0.001	0.001	<0.001	<0.001
	07/30/92	0.014	0.004	0.002	0.001
	07/20/93	0.015	0.036	<0.002	0.014
	10/26/93	0.011	0.012	<0.002	<0.006
	01/06/94	0.003	0.003	<0.001	<0.003
	05/03/94	<0.001	<0.001	<0.001	<0.003
	07/26/94	0.005	<0.001	<0.001	<0.003
	10/12/94	<0.001	<0.001	<0.001	<0.003
	03/16/95	0.079	0.028	0.005	0.011
	05/24/95	0.003	0.004	0.002	0.003
	08/10/95	<0.001	<0.001	<0.001	<0.003
	10/10/95	<0.001	<0.001	<0.001	<0.001
	01/16/96	<0.001	<0.001	<0.001	<0.001
	04/25/96	<0.001	<0.001	<0.001	<0.001
	08/27/96	<0.001	<0.001	<0.001	<0.001
	11/20/96	<0.001	<0.001	<0.001	<0.001
	01/21/97	<0.001	<0.001	<0.001	<0.001
	04/17/97	<0.001	<0.001	<0.001	<0.001
	08/12/97	<0.001	<0.001	<0.001	<0.001
	01/20/98	<0.001	<0.001	<0.001	<0.001
	08/05/98	<0.001	<0.001	<0.001	<0.001
	02/15/99	<0.005	<0.005	<0.005	<0.005
	08/18/99	<0.001	<0.001	<0.001	<0.001
MW-20	10/29/91	0.080	0.041	0.003	0.003
	01/23/92	<0.001	<0.001	<0.001	<0.001
	07/30/92	0.22	0.076	0.006	0.006
	01/20/93	<0.001	<0.001	<0.001	<0.001
	04/15/93	0.001	<0.001	<0.001	0.002
	07/20/93	0.217	0.102	0.011	0.034
	10/26/93	0.018	0.014	<0.002	<0.006
	01/06/94	0.004	0.005	0.003	0.010
	05/03/94	<0.001	<0.001	<0.001	<0.003
	07/26/94	<0.001	<0.001	<0.001	<0.003
	10/12/94	<0.001	<0.001	<0.001	<0.003
	03/16/95	0.001	0.006	<0.001	0.006
	06/24/95	<0.001	<0.001	<0.001	0.003
	08/10/95	<0.001	<0.001	<0.001	<0.003
	10/10/95	<0.001	<0.001	<0.001	<0.001
	01/16/96	<0.001	<0.001	<0.001	<0.001
	04/25/96	<0.001	<0.001	<0.001	<0.001
	08/27/96	<0.001	<0.001	<0.001	<0.001
	11/20/96	<0.001	<0.001	<0.001	<0.001
	01/21/97	<0.001	<0.001	<0.001	<0.001
	04/17/97	<0.001	<0.001	<0.001	<0.001
	08/12/97	<0.001	<0.001	<0.001	<0.001

Table 3 (continued)
BTEX Analytical Results In Groundwater
GPM - Lee Plant

Monitoring Well	Date Sampled	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Xylenes (mg/l)
MW-20	01/20/98	<0.005	<0.005	<0.005	<0.005
	08/05/98	<0.001	<0.001	<0.001	<0.001
	02/15/99	<0.005	<0.005	<0.005	<0.005
	08/18/99	<0.001	<0.001	<0.001	<0.001
MW-21	07/20/93	37	5	<2	<6
	04/23/94	0.007	<0.001	<0.001	<0.003
	05/04/94	0.517	0.052	<0.001	<0.003
	07/26/94	0.078	0.051	<0.001	0.011
	03/16/95	0.042	<0.001	<0.001	<0.003
	10/10/95	0.092	<0.001	<0.001	<0.001
	04/25/96	0.001	<0.001	<0.001	<0.001
	11/20/96	0.010	<0.001	<0.001	<0.001
	04/17/97	3.51	<0.025	<0.025	<0.025
	08/13/97	33	0.31	0.73	0.90
	01/20/98	11.0	<0.100	<0.100	<0.100
	08/06/98	<0.001	<0.001	<0.001	<0.001
	02/15/99	<0.001	<0.001	<0.001	<0.001
	08/19/99	<0.001	<0.001	<0.001	<0.001
MW-22	07/20/93	0.170	0.065	0.036	0.048
	04/23/94	2.52	0.26	<0.10	<0.30
	05/04/94	0.007	0.002	<0.001	0.007
	07/26/94	0.005	0.001	<0.001	<0.003
	03/16/95	<0.001	<0.001	<0.001	<0.003
	10/10/95	<0.001	<0.001	<0.001	<0.001
	04/25/96	<0.001	<0.001	<0.001	<0.001
	11/20/96	<0.001	<0.001	<0.001	<0.001
	08/13/97	0.002	0.001	<0.001	<0.001
	08/06/98	<0.001	0.006	<0.001	<0.001
MW-23	07/20/93	0.190	0.130	0.010	0.046
	08/13/97	<0.001	<0.001	<0.001	<0.001
WS-1	Mar-90	0.015	0.004	0.002	0.004
	08/10/90	0.010	0.001	0.001	0.001
	06/27/91	0.007	<0.002	<0.002	<0.003
	01/23/92	0.110	0.020	0.020	0.010
	07/30/92	0.015	0.003	0.003	0.002
	04/15/93	0.007	0.003	0.002	0.002
	07/26/94	0.020	<0.001	0.002	<0.003
WS-2	Mar-90	0.007	<0.001	0.001	<0.001
	06/27/91	0.280	0.027	0.002	0.003
	01/23/92	0.010	<0.001	<0.001	<0.001
	07/30/92	0.46	0.011	0.005	0.002
	04/15/93	1.6	<0.001	0.019	0.014
RW-1	04/04/90	2.6	0.32	0.58	0.19
WQCC Standards (mg/l)		0.010	0.75	0.75	0.62

Samples analyzed for BTEX using EPA Method 602/8021B.

New Mexico Water Quality Control Commission (WQCC) standards are listed as specified in Section 3-103.



LEGEND

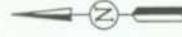
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- MONITOR WELL SAMPLED ANNUALLY
- RECOVERY WELL SAMPLED ANNUALLY
- PRODUCT RECOVERY WELL
- INJECTION WELL
- VAPOR EXTRACTION/RECOVERY WELL
- WATER SUPPLY WELL (INACTIVE)

B = BENZENE
T = TOLUENE
E = ETHYL BENZENE
X = TOTAL XYLENES

CONCENTRATIONS IN mg/L

PSH = PHASE-SEPARATED HYDROCARBONS (THICKNESS IN FEET)

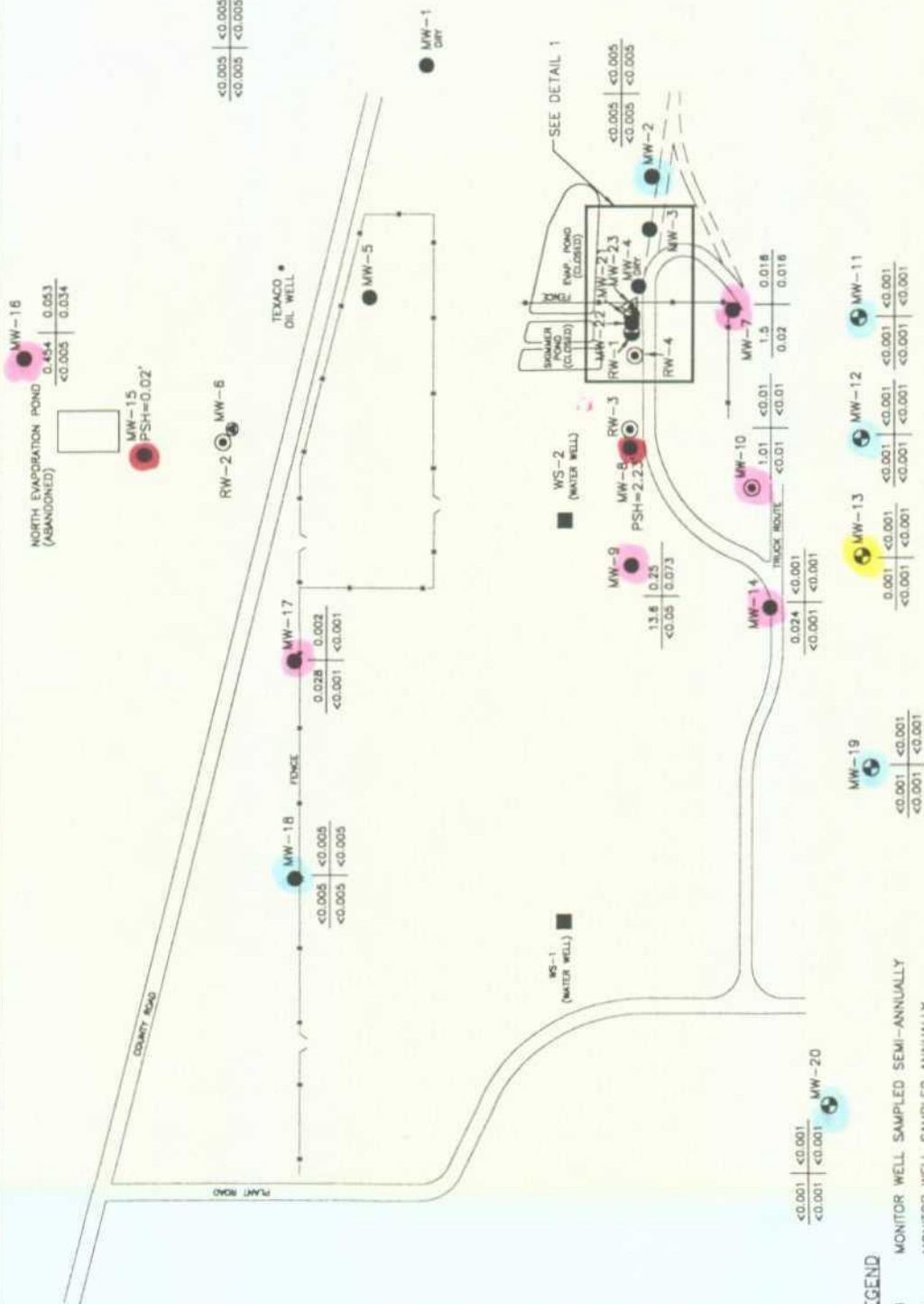
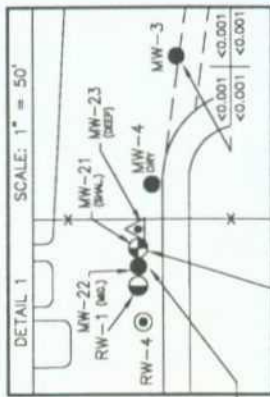
GROUNDWATER SAMPLES OBTAINED ON FEBRUARY 15, 1999.



TRW

FIGURE 3 BTEX CONCENTRATION MAP

CLIENT: GPM GAS CORPORATION - LEE PLANT
DATE: FEBRUARY 15, 1999
CHECKED BY: GJM
DRAWN BY: DAG
DWG. NO. 0:\P2341\BTEX0898.DWG



LEGEND

- MONITOR WELL SAMPLED SEMI-ANNUALLY
- MONITOR WELL SAMPLED ANNUALLY
- RECOVERY WELL SAMPLED ANNUALLY
- PRODUCT RECOVERY WELL
- INJECTION WELL
- VAPOR EXTRACTION/RECOVERY WELL
- WATER SUPPLY WELL (INACTIVE)

B = BENZENE
T = TOLUENE
E = ETHYLBENZENE
X = TOTAL XYLENES

CONCENTRATIONS IN mg/L

PSH PHASE-SEPARATED HYDROCARBONS (THICKNESS IN FEET)

GROUNDWATER SAMPLES OBTAINED ON SEPTEMBER 18-20, 1999



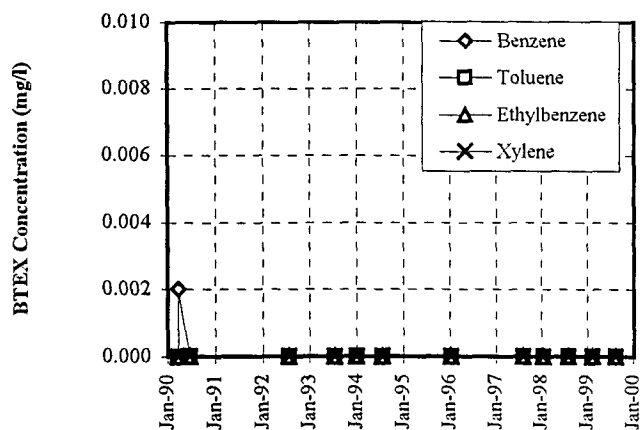
FIGURE 3b

BTEX CONCENTRATION MAP

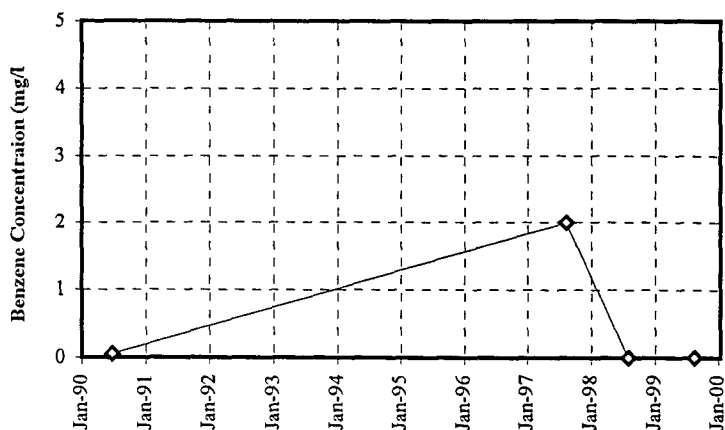
CLIENT: GPM GAS CORPORATION - LEE PLANT
DATE: September 18-20, 1999
CHECKED BY: GJV
DRAWN BY: DAG
DWG. NO. 012341/BTEX0999.DWG

Figure 4
Hydrocarbon Concentrations Versus Time
(Central Area Wells)

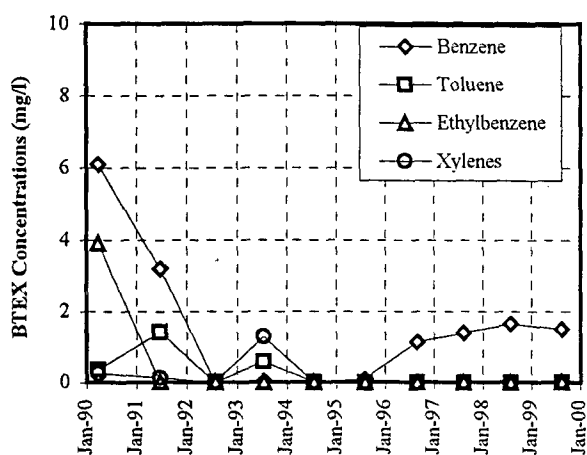
MW-2



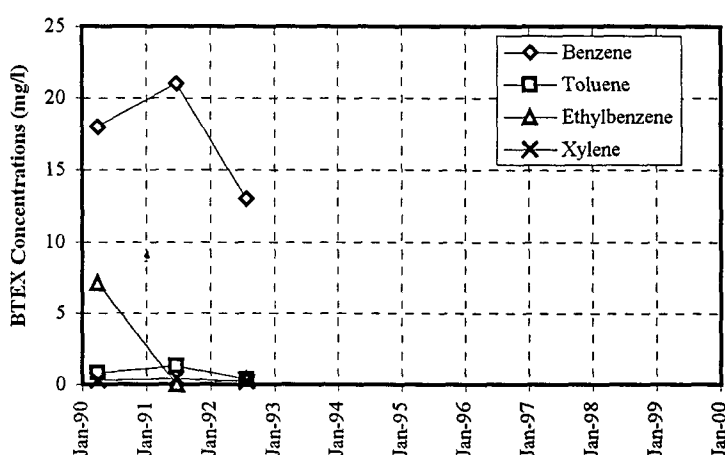
MW-3



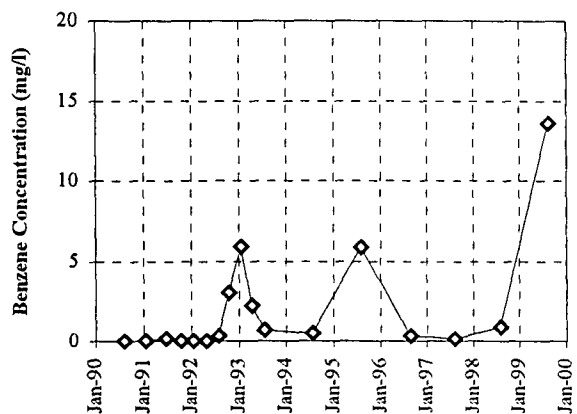
MW-7



MW-8



MW-9



MW-10

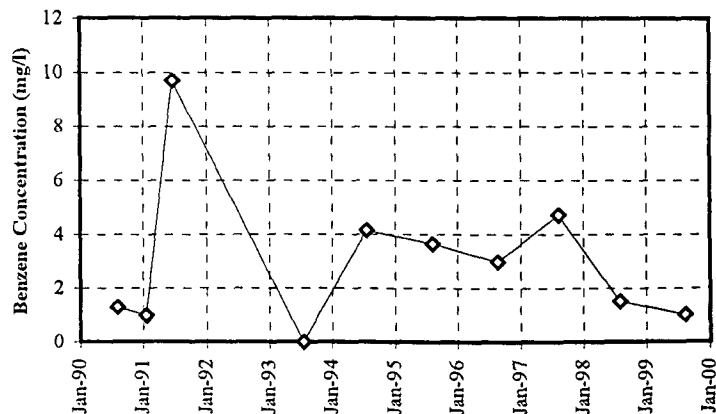


Figure 4
Hydrocarbon Concentrations Versus Time
(North Area Wells)

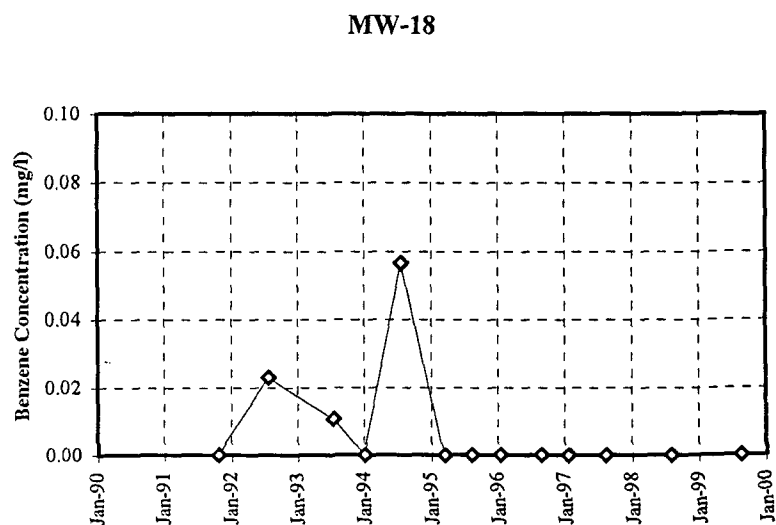
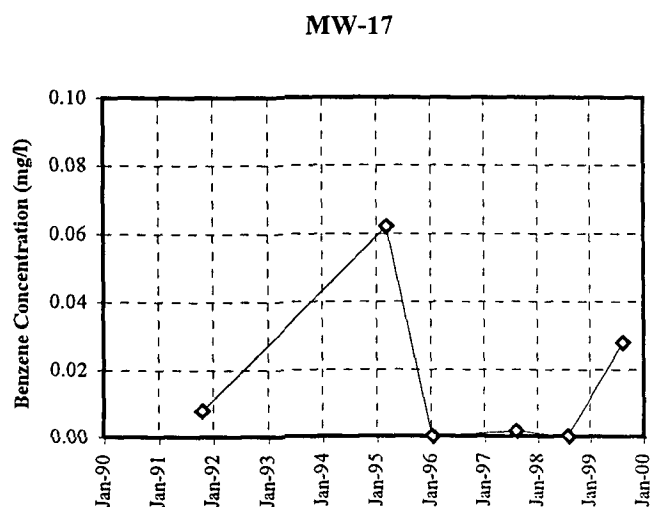
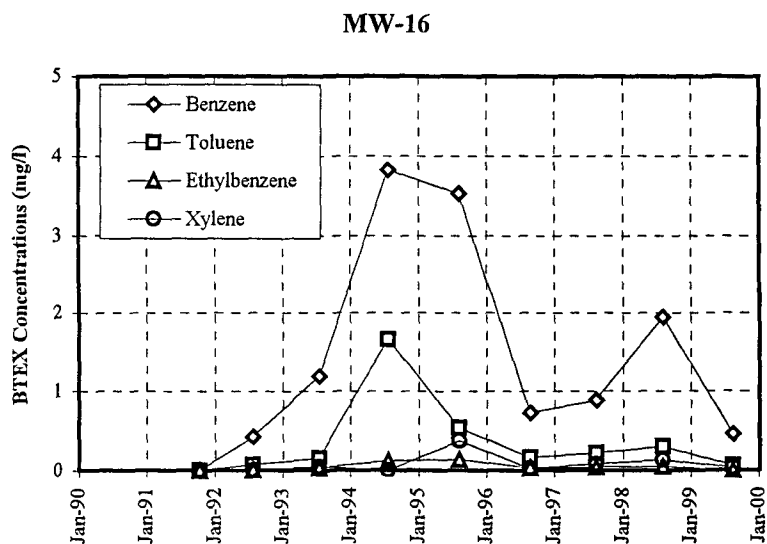
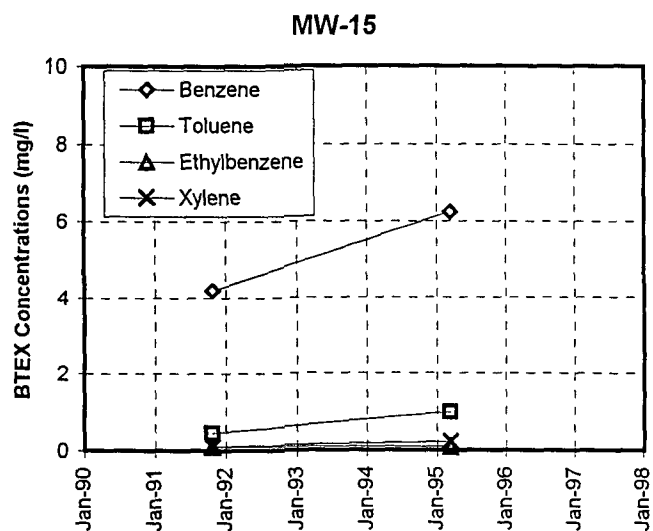
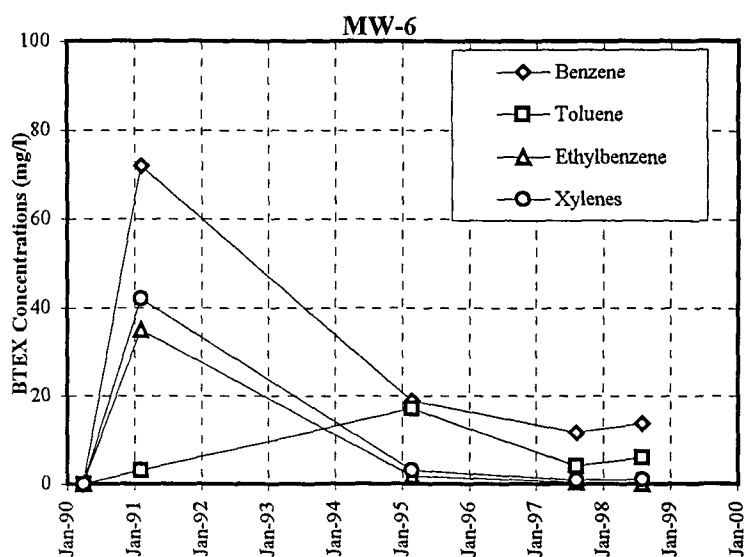
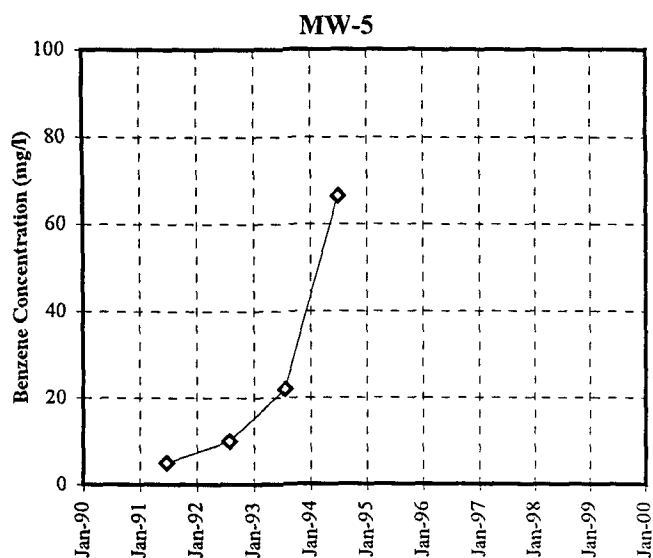
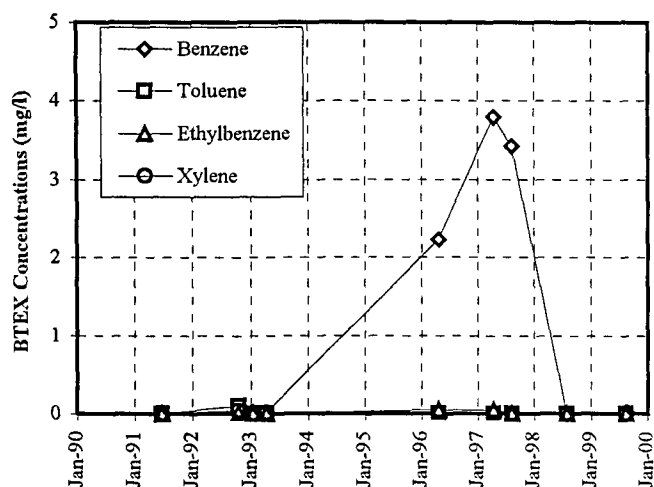
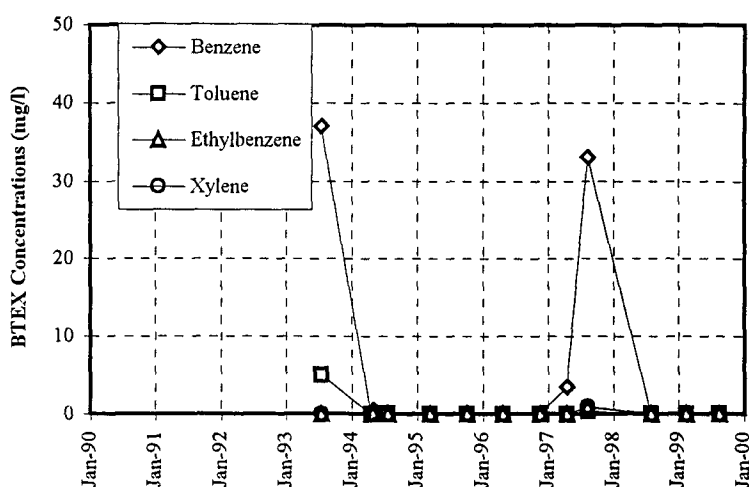


Figure 4
Hydrocarbon Concentrations Versus Time
(Central Area Wells)

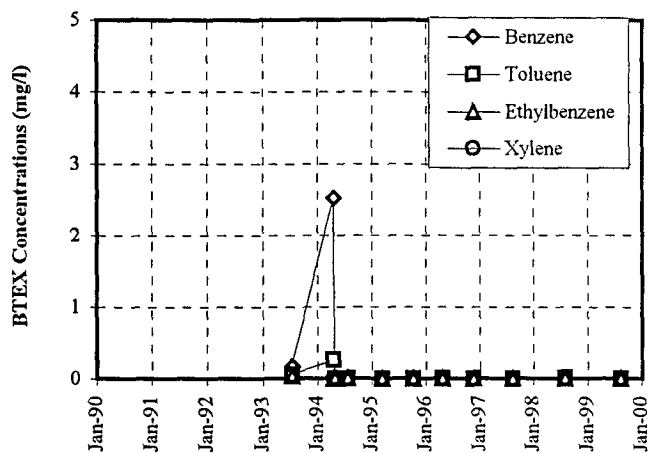
MW-14



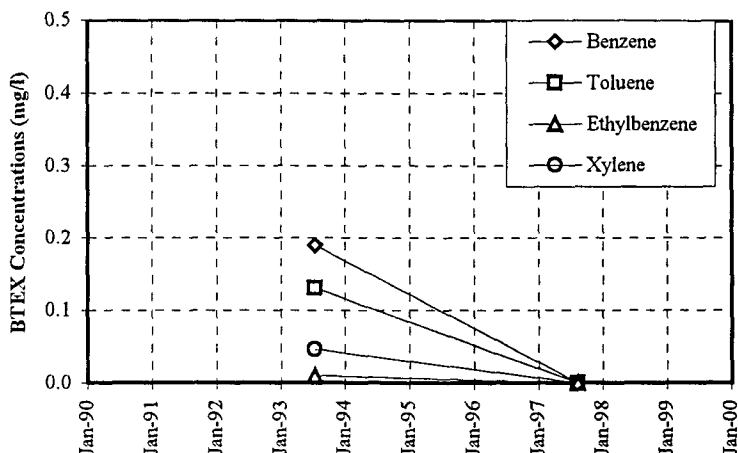
MW-21



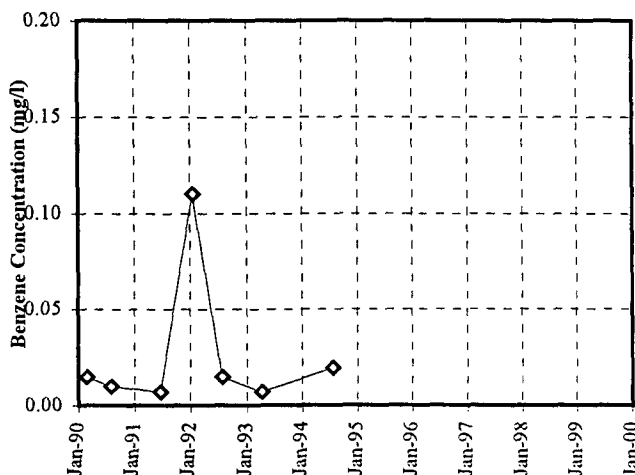
MW-22



MW-23



WS-1



WS-2

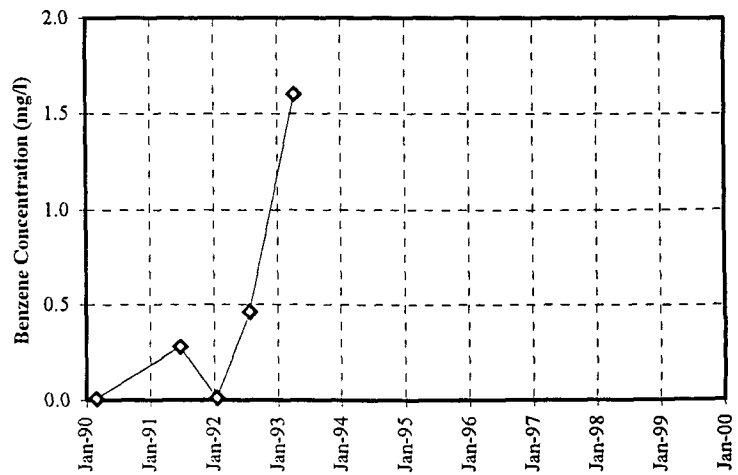
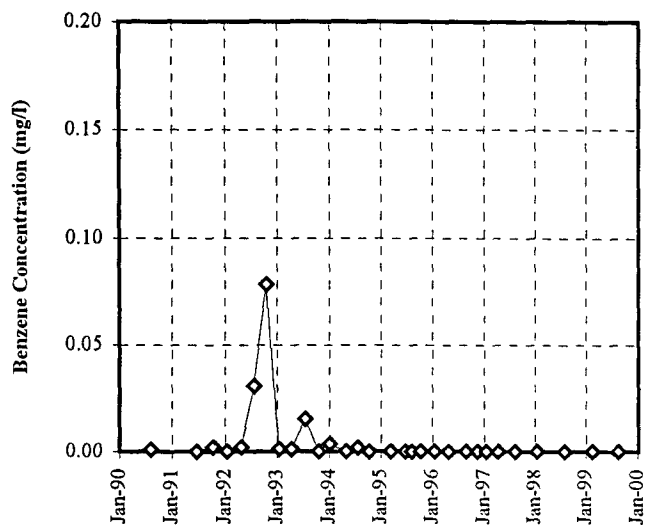
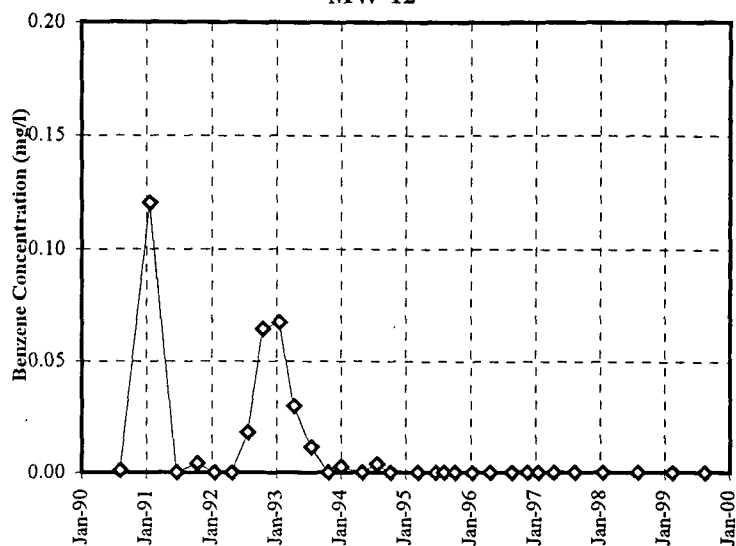


Figure 4
Hydrocarbon Concentrations Versus Time
(Downgradient - South Area Wells)

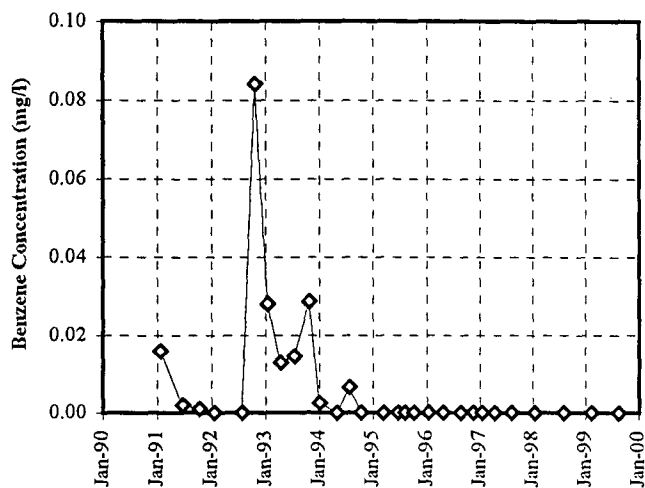
MW-11



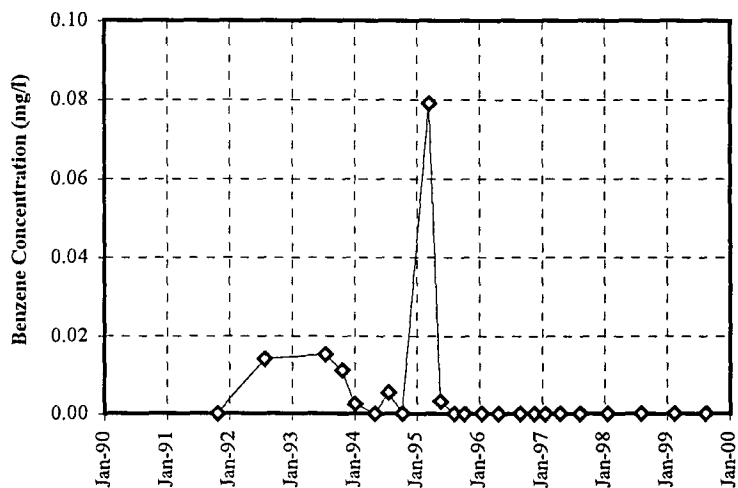
MW-12



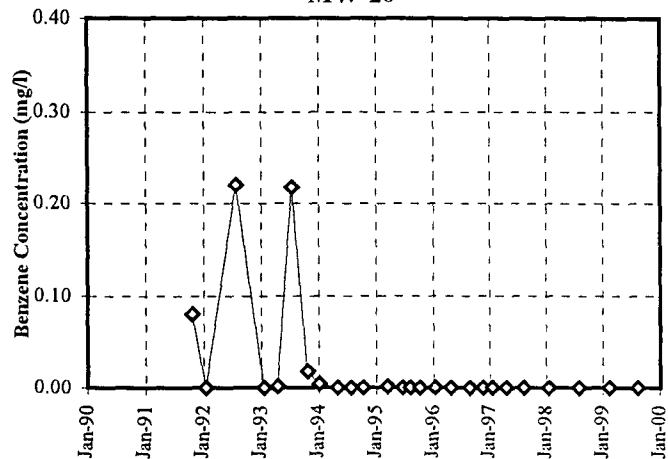
MW-13



MW-19



MW-20



6.0 Remediation System Performance

In June 1999, three groundwater recovery wells (RW-2, RW-3, and RW-4) were installed to replace existing recovery wells (MW-6, MW-7, and RW-1, respectively). The well replacement was necessary because of diminishing groundwater recovery volumes due to the decreasing water table elevation across the site. The estimated total fluid extraction volumes from the remediation system recovery wells, for the fourth quarter of 1998 through the third quarter of 1999, are summarized in Table 4. A graphical representation of monthly groundwater recovery volumes for the period of record (October 1, 1998 through September 30, 1999) is depicted in Figure 5. A total of 1,915,552 gallons of groundwater was recovered by the three recovery wells during the period of record.

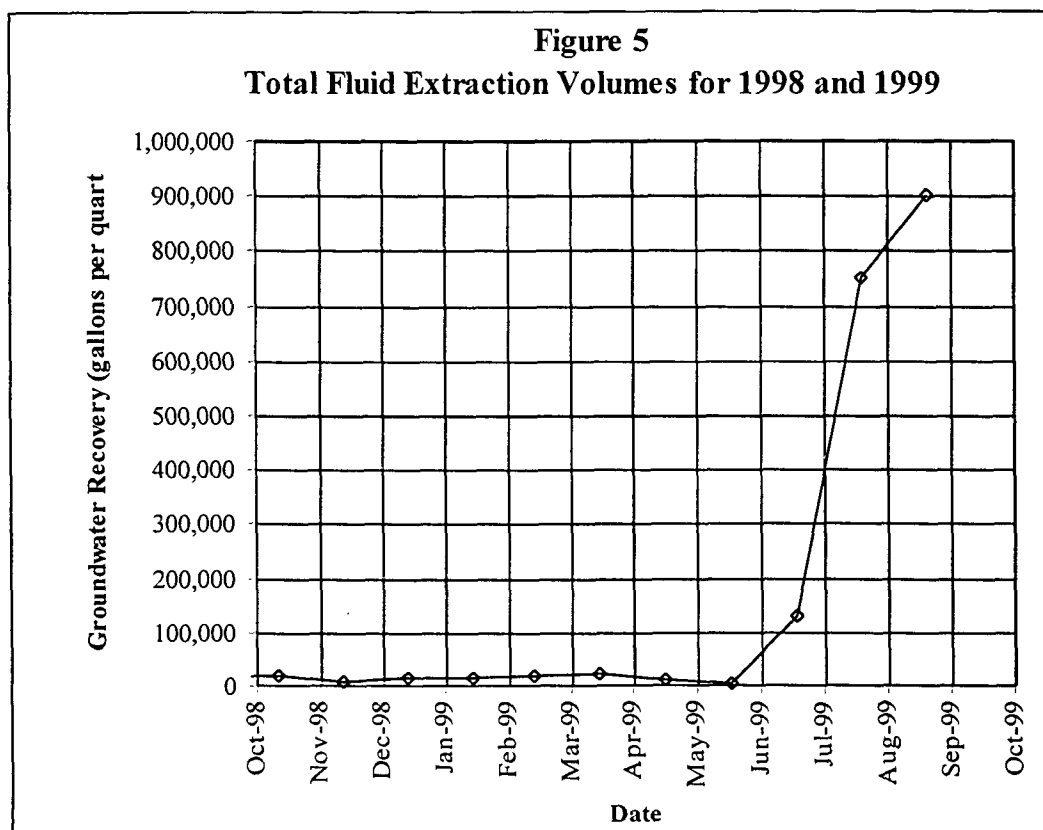
Utilizing the Xitech product recovery system, free product (condensate) thickness in MW-5 has been reduced from 6.66 feet on January 19, 1998 to 0.01 feet on August 18, 1999. Due to increasing levels of free product occurring in MW-15 and the reduced free product in MW-5, the Xitech product recovery system was moved from MW-5 to MW-15 on November 18, 1998. A hydrophobic adsorbent sock was placed in MW-5 to recover any free product that may reappear. Since the installation of the Xitech product recovery system, the product thickness in MW-15 has been reduced from 3.98 feet on August 5, 1998 to 0.02 feet on August 18, 1999. Unfortunately, product recovery volumes cannot be measured because the product in the recovery tank quickly evaporates before measurements can be obtained. Free product has also observed in monitoring wells MW-6 and MW-8, therefore hand bailing has been implemented to remove the free product from these wells. Plans are to move the Xitech product recovery system from MW-15 to MW-6 during one of the upcoming site visits. Since the total depth of MW-8 limits the use of the Xitech system, hand bailing must be continued to remove free product from this well.

The soil vapor extraction well system at RW-1 and the air sparge well at MW-23 remain in operation. Vapor extraction utilizing a Roots positive displacement blower (Model 24URAI – 2 hp) at RW-1 has been in operation since August 1993. Air sparging is accomplished by means of a Gast® Piston air compressor (Model 8H – 2 hp) which has been in operation since July 10, 1998. Effectiveness of the vapor extraction and air sparge systems is evidenced by the lack of measurable BTEX concentrations in MW-21, which remain at levels below the laboratory detection limit of 0.001 mg/L.

The groundwater recovery, air sparging, and vapor extraction systems have been effective in limiting the downgradient migration of the dissolved-phase hydrocarbon plume. Also, the groundwater recovery system, Xitech product recovery system, passive skimmer, and hand bailing techniques have been effective in recovering free product (condensate), although the total amount of free product recovery is unknown since it cannot be measured.

Month - Year	Gallons of Groundwater Recovered						Monthly Totals
	RW-1	MW-6	MW-7	RW-2	RW-3	RW-4	
Oct-98	8547	7203	4408	*	*	*	20,158
Nov-98	7468	5780	3593	*	*	*	16,842
Dec-98	5339	651	3083	*	*	*	9,072
Jan-99	6219	7476	2498	*	*	*	16,193
Feb-99	1656	11863	1470	*	*	*	14,990
Mar-99	1571	14765	1288	*	*	*	17,625
Apr-99	5149	14990	1319	*	*	*	21,459
May-99	4173	7810	769	*	*	*	12,752
Jun-99	1509	3259	367	*	*	*	5,135
Jul-99	*	*	*	77,042	555	52,062	129,659
Aug-99	*	*	*	384,121	298,688	67,199	750,008
Sep-99	*	*	*	328,668	190,335	382,658	901,661
Well Totals	41,631	73,798	18,796	789,831	489,578	501,919	1,915,552

* Recovery wells MW-6, MW-7, and RW-1 replaced by wells RW-2, RW-3, and RW-4, respectively, in Jun



7.0 Conclusions

Conclusions relevant to groundwater conditions and the remediation performance at the Lee Gas Plant are presented below.

- BTEX concentrations in downgradient wells MW-11, MW-12, MW-13, MW-19 and MW-20, crossgradient wells MW-2, MW-3 and MW-18, and MW-22, which is screened below the vertical extent of the hydrocarbon plume, are below WQCC standards and below laboratory detection limits.
- Benzene concentrations in monitoring wells MW-7, MW-9, MW-10, and MW-14, located within the areal extent of the dissolved-phase hydrocarbon plume, upgradient well MW-16, and crossgradient well MW-17, remain above WQCC standards.
- BTEX concentrations in monitoring well MW-21 have maintained levels below the laboratory detection limit of 0.001 mg/L since January 1998 due to successful air sparging and vapor extraction operations.
- Free product was measured in monitoring wells MW-5 (< 0.01 feet), MW-6 (3.93 feet), MW-8 (2.23 feet), and MW-15 (0.02 feet).
- A total of 1,915,552 gallons of groundwater was recovered by three recovery wells during the 1-year period of record (October 30, 1998 through September 30, 1999).
- The hydraulic gradient is approximately 0.004 feet/foot and the direction of groundwater flow is to the southwest based on the gauging data obtained on August 18, 1999.
- The average water table elevations across the site have decreased by an average of about 1 foot per year since March 28, 1988.

8.0 Recommendations

The following recommendations are proposed for the remediation system and monitoring operations at the Lee Gas Plant.

- Continue groundwater recovery operations since the present system has been effective in limiting the downgradient migration of the dissolved-phase hydrocarbon plume.
- Implement free product recovery at monitoring well MW-6 with the Xitech system currently in use at MW-15.
- Continue free product recovery from monitoring well MW-5 and MW-15 using passive bailers and/or hydrophobic adsorbent socks, and from MW-8 using hand bailing methods.
- Continue the sampling and monitoring program on a semi-annual basis. The next sampling event is scheduled during the first quarter of 2000.

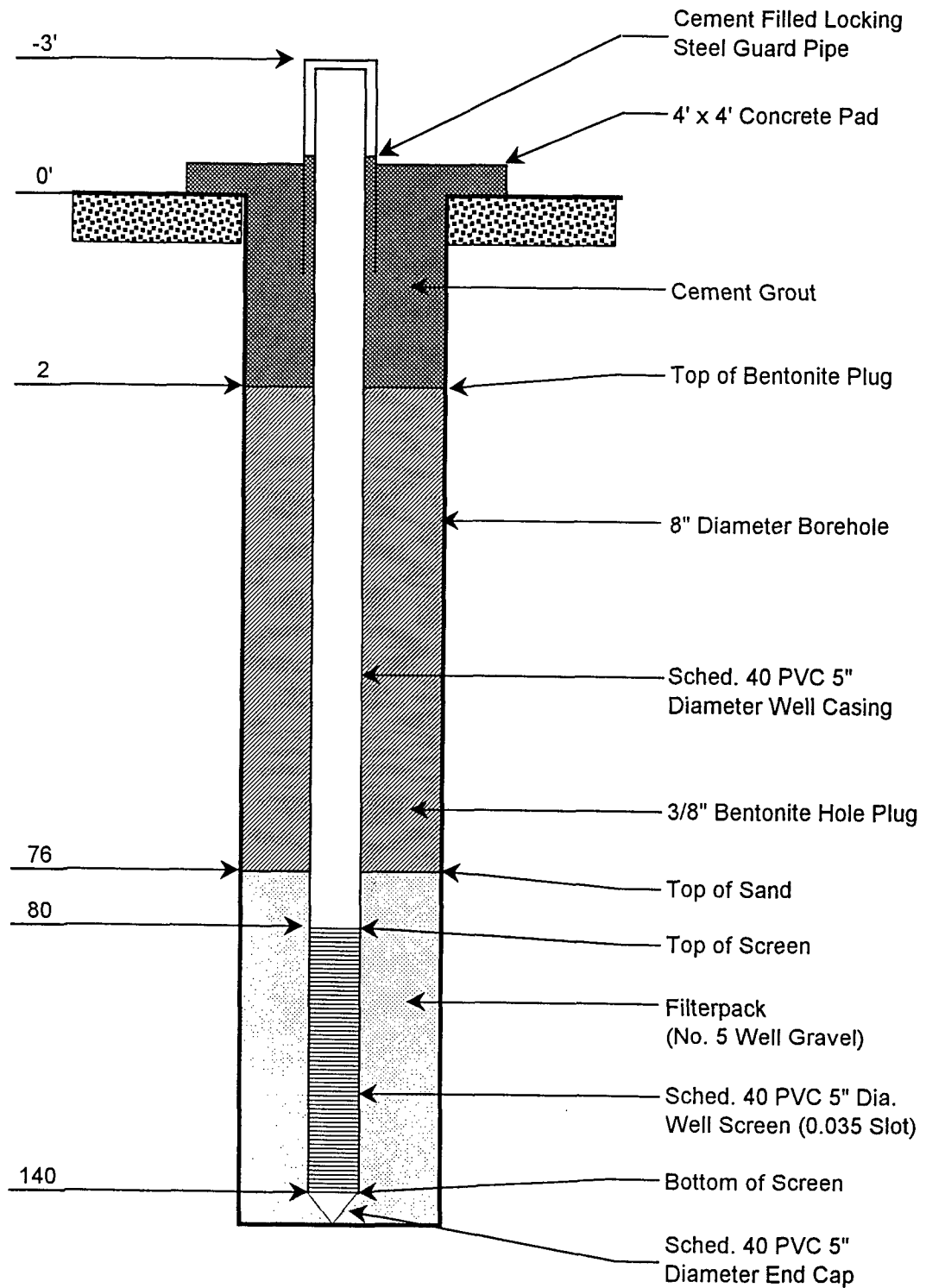
APPENDIX A

Recovery Well Construction Diagrams

and

Lithologic Logs

RECOVERY WELL CONSTRUCTION DIAGRAM (RW-2)



TRW

Energy & Environmental Systems

SITE: GPM - Lee Gas Plant

DATE: 06/18/99

REV. NO.:

1

AUTHOR: GJV

DRAWN BY:

GJV

CK'D BY: DTL

FILE: Well Bore Diagram

RW-2

**Recovery Well
Construction Diagram**

LITHOLOGIC LOG (RECOVERY WELL)



Energy & Environmental
Systems

RECOVERY WELL NO.: RW-2
SITE ID: Lee Plant
SURFACE ELEVATION: 3980 FT AMSL
CONTRACTOR: Straub Corporation
DRILLING METHOD: Air/Mud Rotary
START DATE: 06/17/1999
COMPLETION DATE: 06/18/1999
COMMENTS: Located approximately 10 feet northwest of MW-6.

TOTAL DEPTH: 140 Feet
CLIENT: GPM Gas Corp.
COUNTY: Lea
STATE: New Mexico
LOCATION: SW/4 SE/4 S30-T17S-R35E
FIELD REP.: J. Fergerson
FILE NAME:

LITH.	SAMPLE				DEPTH	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. DEATURES
	USCS	FROM	TO	TIME		
SM				1354		Sandy Silt, dk brown, moist, no odor, w/caliche fragments.
CAL					5	Caliche, white-tan, no odor, w/silt and clay in matrix.
CAL		10	11	1424	0.7	
CAL					15	
SW		20	21	1452	0.4	Silty sand, tan-lt brown, vf grain, w sorted, unconsol, no odor, interbedded with caliche and sandstone.
SW					25	Initiated mud rotary using a foam mist during drilling!
SW				1510	30	
SW					35	Silty sand, tan-lt brown, vf grain, w sorted, lossely consol, w/mod cemented sandstone interbedded.
SW		40	41	1523	40	
SW					45	Silty sand, tan-lt brown, vf grain, w sorted, loosely consol, w/mod-well cemented sandstone interbedded.
				1538	50	

5 Inch PVC Blank Casing

3/8 Bentonite Hole Plug

RECOVERY WELL NO.:

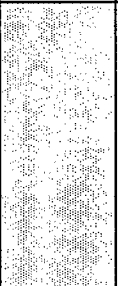
RW-2

TOTAL DEPTH:

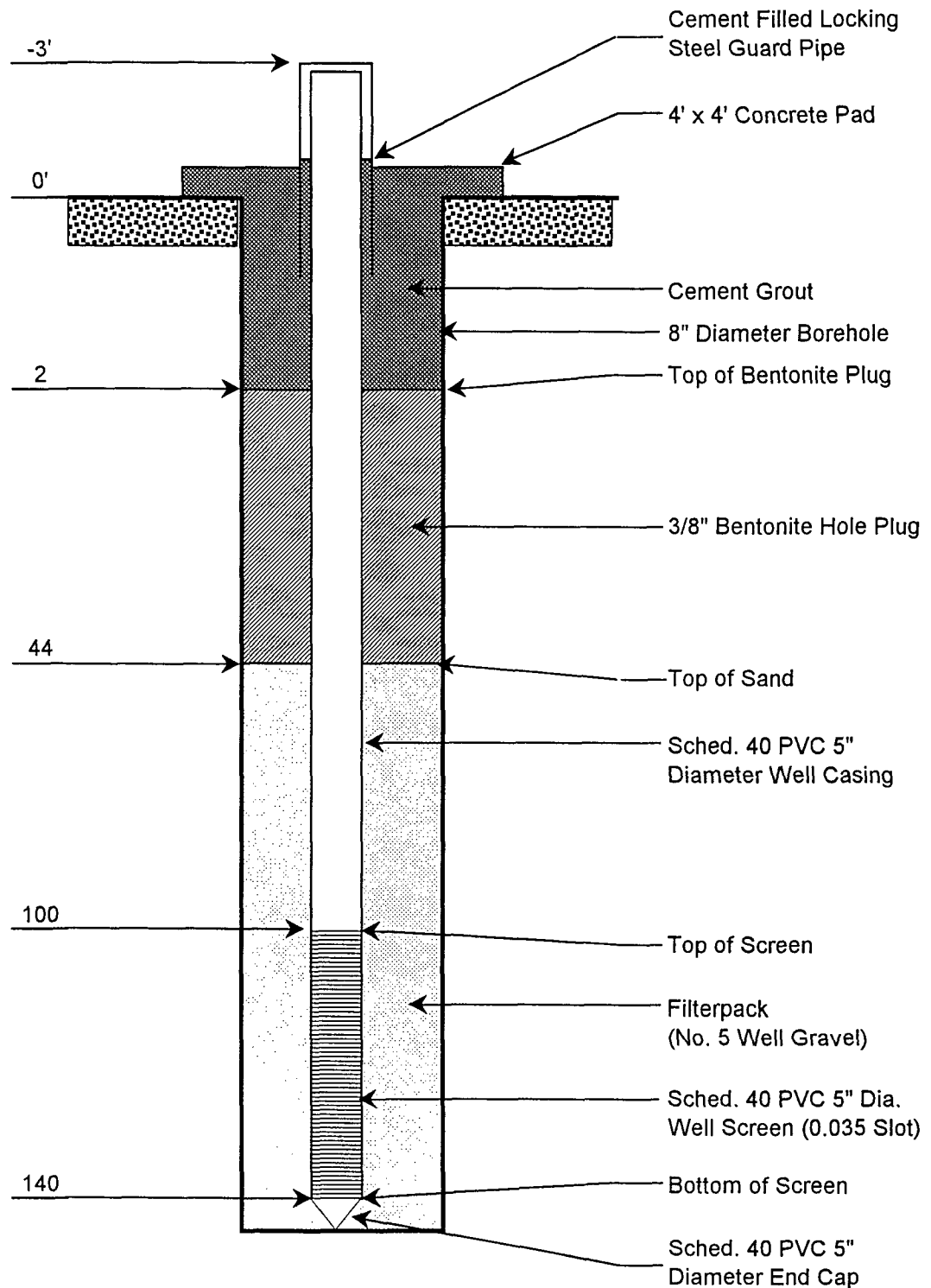
140 Feet

		LITH.	SAMPLE				DEPTH	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. DEATURES	
			USCS	FROM	TO	TIME			PID
5 Inch PVC Blank Casing	3/8 Bentonite Hole Plug		SW	50	51	1538		Silty sand, tan-lt brown, vf grain, w sorted, loosely consol, w/mod-well cemented sandstone interbedded.	
								55	
								60	
			SW	60	61	1550		Silty sand, tan-brown, vf grain, w sorted, unconsol, w/mod-well cemented sandstone.	
								65	
								70	
			SW	70	71	1601		Silty sand, tan-brown, vf grain, w sorted, unconsol, w/mod-well cemented sandstone.	
								75	
80									
0.035 Inch Slotted PVC Screen	No. 5 Well Gravel Pack		SW	80	81	1609		Silty sand, tan-brown, vf grain, w sorted, unconsol, w/mod-well cemented sandstone.	
								85	
								90	
			SW	90	91	1620		Silty sand, tan-brown, vf grain, w sorted, unconsol, w/mod-well cemented sandstone.	
								95	
			SW	100	101	1633		Silty sand, tan-brown, vf grain, w sorted, unconsol, w/mod-well cemented sandstone.	
								105	
								Detected strong hydrocarbon odor.	
				</					

TOTAL DEPTH: 140 Feet

		LITH.	SAMPLE				DEPTH	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. DEATURES	
			USCS	FROM	TO	TIME			PID
0.035 Inch Slotted PVC Screen 	No. 5 Well Gravel Pack 		SW	110	111			Silty sand, tan-brown, vf grain, w sorted, unconsol, w/mod cemented sandstone interbedded.	
							115		
							120		
			SW	120	121	1648			Silty sand, tan-brown, vf grain, w sorted, unconsol, w/mod cemented sandstone interbedded.
								125	
								130	
			SW	130	131	1705			Silty sand, tan-brown, vf grain, w sorted, unconsol, w/mod cemented sandstone interbedded.
								135	
			139	140	1231		140	TOTAL DEPTH 140 FEET	

RECOVERY WELL CONSTRUCTION DIAGRAM (RW-3)



TRW

Energy & Environmental Systems

SITE: GPM - Lee Gas Plant

DATE: 06/16/99

REV. NO.: 1

AUTHOR: GJV

DRAWN BY: GJV

CK'D BY: DTL

FILE: Well Bore Diagram

RW-3

**Recovery Well
Construction Diagram**

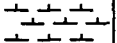
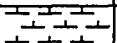
LITHOLOGIC LOG (RECOVERY WELL)



Energy & Environmental
Systems

RECOVERY WELL NO.: RW-3
SITE ID: Lee Plant
SURFACE ELEVATION: 3979 FT AMSL
CONTRACTOR: Straub Corporation
DRILLING METHOD: Air/Mud Rotary
START DATE: 06/15/1999
COMPLETION DATE: 06/16/1999
COMMENTS: Located approximately 15 feet east of MW-8.

TOTAL DEPTH: 140 Feet
CLIENT: GPM Gas Corp.
COUNTY: Lea
STATE: New Mexico
LOCATION: SW/4 SE/4 S30-T17S-R35E
FIELD REP.: J. Fergerson
FILE NAME:

LITH.	SAMPLE				DEPTH	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. DEATURES
	USCS	FROM	TO	TIME		
	SM			1142		Sandy silt, dk brown, moist, no odor, w/caliche fragments.
						Caliche, tan-lt brown, sl odor, w/silt in matrix.
	CAL				5	
					10	
	CAL	10	11	1155	9.0	Caliche, tan-lt gray, sl odor, w/silt in matrix
					15	
	SW	20	21	1202	1.6	Silty sand, tan-brown, vf grain, w sorted, unconsol, sl odor, w/mod-well cemented sandstone interbedded.
					25	
	SW	30	31	1240	1.6	Silty sand, tan-brown, vf grain, w sorted, unconsol, sl odor, w/mod-well cemented sandstone interbedded.
					35	
	SW	39	40	1253	0.5	Initiated mud rotary drilling operations
					40	Silty sand, tan-brown, vf grain, w sorted, unconsol, sl odor, w/mod-well cemented sandstone interbedded.
	SW				45	
					50	
				1428		

5 Inch PVC Blank Casing

3/8 Bentonite Hole Plug

Natural Sand Pack

RECOVERY WELL NO.:

RW-3

TOTAL DEPTH:

140 Feet

	LITH.	SAMPLE					DEPTH	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
		USCS	FROM	TO	TIME	PID		
5 Inch PVC Blank Casing	Natural Sand Pack	SW			1428			Silty sand, tan-brown, vf grain, w sorted, unconsol, sl odor, w/mod-well cemented sandstone interbedded.
							55	
0.035 Inch Slotted PVC Screen	No. 5 Well Gravel Pack	SW			1440		60	Silty sand, tan-brown, vf grain, w sorted, unconsol, sl odor, w/mod cemented sandstone interbedded.
							65	
		SW			1450		70	Silty sand, tan-brown, vf grain, w sorted, unconsol, sl odor, w/mod cemented sandstone interbedded.
							75	
		SW			1455		80	Silty sand, tan-brown, vf grain, w sorted, unconsol, sl odor, w/mod cemented sandstone interbedded.
							85	
		SW			1621		90	Silty sand, tan-brown, vf grain, w sorted, unconsol, sl odor, w/mod cemented sandstone interbedded.
							95	
		SW			1627		100	Silty sand, tan-brown, vf grain, w sorted, unconsol, sl odor, w/mod cemented sandstone interbedded.
							105	
					1638		110	Moderate hydrocarbon odor detected while drilling.

RECOVERY WELL NO.:

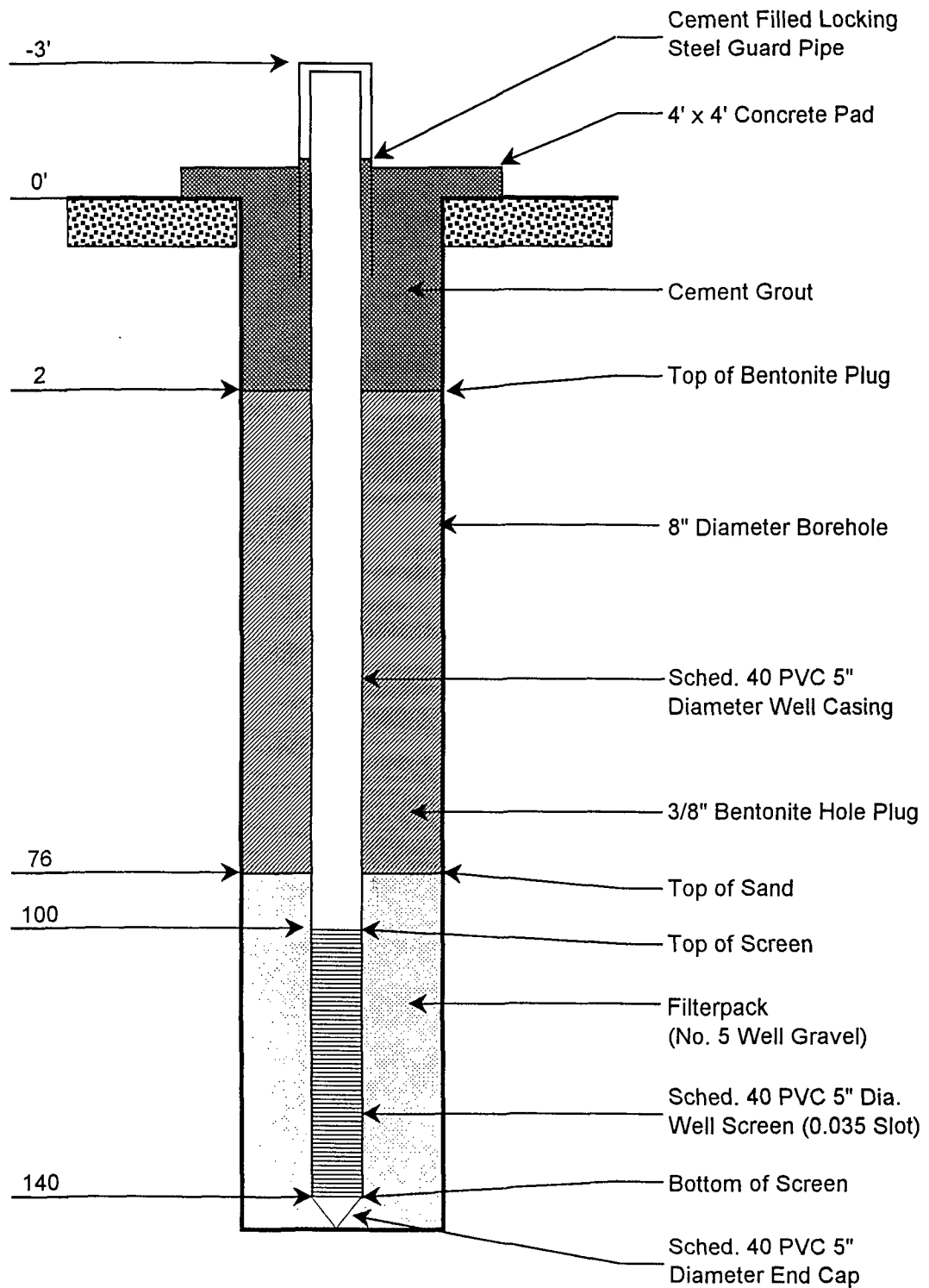
RW-3

TOTAL DEPTH:

140 Feet

		LITH.	SAMPLE					DEPTH	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. DEATURES							
			USCS	FROM	TO	TIME	PID									
0.035 Inch Slotted PVC Screen		No. 5 Well Gravel Pack		SW			1642		Silty sand, tan-brown, vf grain, w sorted, unconsol, w/10% clay in matrix, and mod cemented sandstone interbedded.							
										115						
											SW	1646	120	Silty sand, tan-brown, vf grain, w sorted, unconsol, w/10% clay in matrix, and mod cemented sandstone interbedded.		
													125			
															SW	1656
			135													
			TOTAL DEPTH OF WELL 138 FEET													
			NSP							1703	140	TOTAL DEPTH OF BORING 140 FEET				

RECOVERY WELL CONSTRUCTION DIAGRAM (RW-4)



TRW

Energy & Environmental Systems

SITE: GPM - Lee Gas Plant

DATE: 06/17/99

REV. NO.:

1

AUTHOR: GJV

DRAWN BY:

GJV

CK'D BY: DTL

FILE: Well Bore Diagram

RW-4

**Recovery Well
Construction Diagram**

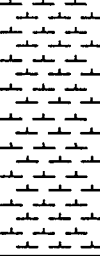
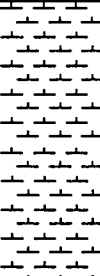
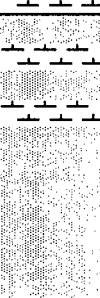
LITHOLOGIC LOG (RECOVERY WELL)



Energy & Environmental
Systems

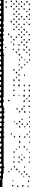
RECOVERY WELL NO.: RW-4
SITE ID: Lee Plant
SURFACE ELEVATION: 3978 FT AMSL
CONTRACTOR: Straub Corporation
DRILLING METHOD: Air/Mud Rotary
START DATE: 06/16/1999
COMPLETION DATE: 06/17/1999
COMMENTS: Located approximately 10 feet west of VE unit.

TOTAL DEPTH: 140 Feet
CLIENT: GPM Gas Corp.
COUNTY: Lea
STATE: New Mexico
LOCATION: SW/4 SE/4 S30-T17S-R35E
FIELD REP.: J. Ferguson
FILE NAME:

LITH.	SAMPLE				DEPTH	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. DEATURES
	USCS	FROM	TO	TIME		
	SM			1135		Sandy Silt, dk brown, moist, no odor, w/caliche fragments.
	CAL				5	Caliche, white-tan-lt brown, sl odor, w/silt in matrix.
	CAL	10	11	1145	1.5	Caliche, white-tan-lt gray, sl odor, w/silt in matrix.
	SW	20	21	1250	20	Initiated mud rotary drilling operations.
	SW			1450	25	Silty sand, tan-reddish brown, vf grain, w sorted, loosely consol, no odor, w/caliche and mod-well cemented sandstone interbedded.
	SW			1609	30	Silty sand, tan-reddish brown, vf grain, w sorted, loosely consol, w/mod-well cemented sandstone interbedded.
	SW			1627	35	Silty sand, tan-reddish brown, vf grain, w sorted, loosely consol, w/mod-well cemented sandstone interbedded.
					40	
					45	
					50	

5 Inch PVC Blank Casing

3/8 Bentonite Hole Plug

RECOVERY WELL NO.: _____ RW-4							TOTAL DEPTH: _____ 140 Feet	
		LITH.	SAMPLE				DEPTH	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. DEATURES
			USCS	FROM	TO	TIME		
5 Inch PVC Blank Casing			SW			1627		Silty sand, tan-brown, vf grain, w sorted, unconsol, w/mod-well cemented sandstone interbedded.
No. 5 Well Gravel Pack			SW			1725		Silty sand, tan-brown, vf grain, w sorted, unconsol, w/mod-w/mod cemented sandstone interbedded.
			SW			1735		Silty sand, tan-brown, vf grain, w sorted, unconsol, w/mod-w/mod cemented sandstone interbedded.
0.035 Inch Slotted Screen			SW			1741		Silty sand, tan-brown, vf grain, w sorted, unconsol, w/mod-w/mod cemented sandstone interbedded.
						1755		Silty sand, tan-brown, vf grain, w sorted, unconsol, w/mod-w/mod cemented sandstone interbedded.
						1759		Silty sand, tan-brown, vf grain, w sorted, unconsol, w/mod-w/modl cemented sandstone interbedded.
						1810		

RECOVERY WELL NO.:

RW-4

TOTAL DEPTH:

140 Feet

	LITH.	SAMPLE					DEPTH	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. DEATURES
		USCS	FROM	TO	TIME	PID		
0.035 Inch Slotted PVC Screen No. 5 Well Gravel Pack		SW			1810			Silty sand, tan-yellow/orange-brown, vf grain, w sorted, unconsol, w/mod-well cemented sandstone interbedded.
							115	
		SW			1818		120	Silty sand, tan-yellow/orange-brown, vf grain, w sorted, matrix, and mod cemented sandstone interbedded.
							125	
		SW			1827		130	Silty sand, tan-yellow/orange-brown, vf grain, w sorted, matrix, and mod cemented sandstone interbedded.
							135	
					1835		140	TOTAL DEPTH 140 FEET

APPENDIX B

Laboratory Analytical Reports

and

Chain of Custody Documentation

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue

Lubbock, Texas 79424

806•794•1296

FAX 806•794•1298

Date: Feb 24, 1999
Date Rec: 2/17/99
Project: GPM Lee Gas Plant
Proj Name: N/A
Proj Loc: N/A

ANALYTICAL RESULTS FOR
TRW
Attention Gil Van Deventer
415 West Wall Suite 1818
Midland Tx 79701

Lab Receiving # : 9902000277
Sampling Date: 2/15/99
Sample Condition: Intact and Cool
Sample Received By: VW

TA#	Field Code	MATRIX	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL- BENZENE (mg/L)	M, P, O XYLENE (mg/L)	TOTAL BTX (mg/L)
119034	MW-19	Water	<0.005	<0.005	<0.005	<0.005	<0.005
119035	MW-13	Water	<0.001	<0.001	<0.001	<0.001	<0.001
119036	MW-2	Water	<0.001	<0.001	<0.001	<0.001	<0.001
119037	Duplicate	Water	<0.001	<0.001	<0.001	<0.001	<0.001
119038	MW-12	Water	<0.001	<0.001	<0.001	<0.001	<0.001
119039	MW-21	Water	<0.001	<0.001	<0.001	<0.001	<0.001
119040	MW-11	Water	<0.001	<0.001	<0.001	<0.001	<0.001
119041	Rinsate	Water	<0.001	<0.001	<0.001	<0.001	<0.001
119042	Trip Blanks	Water	<0.001	<0.001	<0.001	<0.001	<0.001
Method Blank							
Reporting Limit							
QC							
			0.001	0.001	0.001	0.001	
			0.111	0.109	0.111	0.326	

RPD 2 2 2 1
% Extraction Accuracy 108 108 109 107
% Instrument Accuracy 111 109 111 109

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC; (mg/L)	SPIKE: (mg/L)
BTX	EPA 5030	2/17/99	EPA 8021B	2/17/99	RC	0.100 ea	0.1 ea

Director, Dr. Blair Leftwich

Date

2-24-99

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue

Lubbock, Texas 79424

806•794•1296

FAX 806•794•1298

ANALYTICAL RESULTS FOR

TRW

Attention Gil Van Deventer
415 West Wall Suite 1818
Midland

Tx 79701

Lab Receiving # : 9902000277
Sampling Date: 2/15/99
Sample Condition: Intact and Cool
Sample Received By: VW

Date: Feb 23, 1999
Date Rec: 2/17/99
Project: GPM Lee Gas Plant
Proj Name: N/A
Proj Loc: N/A

TA# Field Code

119033 MW-20

Method Blank

Reporting Limit

QC

Water

MATRIX	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL- BENZENE (mg/L)	M, P, O XYLENE (mg/L)	TOTAL BTEX (mg/L)
	<0.005	<0.005	<0.005	<0.005	<0.005
	<0.001	<0.001	<0.001	<0.001	
	0.001	0.001	0.001	0.001	
	0.093	0.092	0.094	0.277	

RPD

% Extraction Accuracy

% Instrument Accuracy

8	7	7	8
108	109	108	110
93	92	94	92

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
BTEX	EPA 5030	2/22/99	EPA 8021B	2/22/99	RC	0.100 ea	0.1 ea

Director, Dr. Blair Leftwich

Date

2-23-99



TRACE ANALYSIS, INC.

6701 Aberdeen Avenue

Lubbock, Texas 79424

806 • 794 • 1296

FAX 806 • 794 • 1298

February 26, 1999
Receiving Date: 02/17/99
Sample Type: Air
Charge Code No: LEE GWR-20-300
Project Location: NA
COC# 13298

ANALYTICAL RESULTS FOR TRW

Attention: Gil Van Deventer
415 W. Wall, Suite 1818
Midland, TX 79701

Prep Date: 02/24/99
Analysis Date: 02/24/99
Sampling Date: 02/15/99
Sample Condition: Intact
Sample Received by: VW
Project: GPM - Lee Gas Plant

TA#	Field Code	TVHC (mg/m3)	BENZENE (mg/m3)	TOLUENE (mg/m3)	ETHYL- BENZENE (mg/m3)	M,P,O XYLENE (mg/m3)	TOTAL BTX (mg/m3)
-----	------------	-----------------	--------------------	--------------------	------------------------------	----------------------------	-------------------------

T119043	99021561840 VE	14,600	848	750	31	216	1,845
QC	Quality Control	109	94	94	92	268	

Reporting Limit
Method Blank

100	1	1	1	1	1
<100	<1	<1	<1	<1	<1

RPD
% Instrument Accuracy

5	2	2	0	1
109	94	94	92	89

METHODS: EPA SW 846-8021B; 8015 Modified.
CHEMIST: CS
BTX QC: 100 mg/m3 BTX.
TVHC QC: 1,000 mg/m3 TVHC.

Director, Dr. Blair Leftwich

2-26-99

Date



BDM International, Inc.
415 West Wall
Suite 1618
Midland, TX 79701
(915) 682-0008
FAX: (915) 682-0028

Chain of Custody

Date 2/15/99 Page 1 of 1

Lab Name <u>Trace Analysis Inc.</u>			Analysis Request																										
Address <u>6701 Aberdeen Ave.</u>																													
Telephone <u>(800) 378-1296</u>																													
Sample Number			Matrix	Location	Test Results																								
Sample Number			Matrix	Location	Halogenated Volatiles 601/8010	Aromatic Volatiles 602/8020	Phenols, Sub Phenols 604/8040	Pesticides/CB 608/8080	Polynuclear Aromatic Hydrocarbons 610/8310	Volatile Compounds GC/MS 624/8240	Base/Neu/Acid Compounds GC/MS 625/8270	Total Organic Carbon (TOC) 415/9060	Total Organic Halides (TOX) 9020	Petroleum Hydrocarbons 418.1	TPH/BTEX	Modified 8015	Herbicides, Pesticides	TCLP - Metals	RCRA Metals (8)	Priority Pollutant Metals (13)	CAM Metals (18) TL/C/STLC	Flash Point	Corrosivity	Reactivity	Oil & Grease	Cyanide Total/Amenable	Chemical Oxygen Demand (COD)	Number of Containers	
99 02 15 1100	Water	MW-20			✓							119033																	2
99 02 15 1205	Water	MW-19			✓							34																	2
99 02 15 1610	Water	MW-13			✓							35																	2
99 02 15 1740	Water	MW-2			✓							36																	2
99 02 15 1700	Water	Duplicate			✓							37																	2
99 02 15 1705	Water	MW-12			✓							38																	2
99 02 15 1810	Water	MW-21			✓							39																	2
99 02 15 1830	Water	MW-11			✓							40																	2
99 02 15 1920	Water	Rinsate			✓																								2
99 02 15 1840	Air	VE			✓																								2

Project Information		Sample Receipt		Relinquished By		Relinquished By		Relinquished By	
Project	GPM-Lee Gas Plant	Total No. of Containers	Chain of Custody Seals	Signature	(Time)	Signature	(Time)	Signature	(Time)
Project Director	G. Van Deventer			Gail Van Deventer	5:30p				
Charge Code No.	LEE GWR-20-300			TRW Inc.					
Shipping ID. No.	TNMD0								
Via:		Lab No.		Received By		Received By		Received By	
				1. (Signature) (Time)		2. (Signature) (Time)		3. (Signature) (Time)	
				Gail Van Deventer		Viki Winkler		Trace Analysis	
				TRW Inc.		Viki Winkler		Trace Analysis	
				Gail Van Deventer		Viki Winkler		Trace Analysis	

Special Instructions/Comments: Bill Direct to GPM (Mel Driver)

TRW043A.XLS (689)

Distribution: White, Canary-Laboratory • Pink, BDM
Buo 139 384 459 3 10 d18

277/278
13298.



TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9
4725 Ripley Avenue, Suite A

Lubbock, Texas 79424
El Paso, Texas 79922

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E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Gil Van Deventer
TRW
415 West Wall Suite 1818
Midland, TX 79701

Report Date: 9/7/99

Project Number: N/A
Project Name: GPM Lee Gas Plant
Project Location: N/A

Order ID Number: 99082112

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to TraceAnalysis, Inc. for analysis:

Sample Number	Sample Description	Matrix	Date Taken	Time Taken	Date Received
130457	MW-20	Water	8/18/99	10:10	8/21/99
130458	MW-19	Water	8/18/99	11:10	8/21/99
130459	MW-13	Water	8/18/99	12:15	8/21/99
130460	MW-12	Water	8/18/99	13:02	8/21/99
130461	MW-11	Water	8/18/99	19:55	8/21/99
130462	MW-3	Water	8/19/99	8:40	8/21/99
130463	MW-2	Water	8/19/99	9:00	8/21/99
130464	MW-7	Water	8/19/99	9:20	8/21/99
130465	MW-18	Water	8/19/99	10:30	8/21/99
130466	MW-17	Water	8/19/99	11:20	8/21/99
130467	MW-22	Water	8/19/99	12:50	8/21/99
130468	MW-21	Water	8/19/99	14:00	8/21/99
130469	MW-9	Water	8/19/99	19:50	8/21/99
130470	MW-14	Water	8/19/99	21:00	8/21/99
130471	MW-16	Water	8/20/99	9:30	8/21/99
130472	MW-10	Water	8/20/99	11:10	8/21/99
130473	Duplicate	Water	8/20/99	12:00	8/21/99
130474	Trip Blank (597 A&B)	Water	8/20/99	10:00	8/21/99
130475		Water	8/20/99	-	8/21/99

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 14 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.



Dr. Blair Leftwich, Director

Report Date: 9/7/99
N/A

Order ID Number: 99082112
GPM Lee Gas Plant

Page Number: 3 of 14
N/A

Analytical Results Report

Sample Number: 130457
Description: MW-20

Param	Flag	Result	Dilution	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch #	QC Batch #	RDL
Benzene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02575	0.001
Toluene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02575	0.001
Ethylbenzene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02575	0.001
M,P,O-Xylene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02575	0.001
Total BTEX (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02575	0.001
Surrogate		Result	Dilution	Spike Amount	% Rec.	% Rec. Limit	Analyst	Prep Batch #	QC Batch #	
TFT (mg/L)		0.095	1	0.1	95	72 - 128	RC	PB02067	QC02575	
4-BFB (mg/L)		0.078	1	0.1	78	72 - 128	RC	PB02067	QC02575	

Sample Number: 130458
Description: MW-19

Param	Flag	Result	Dilution	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch #	QC Batch #	RDL
Benzene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
Toluene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
Ethylbenzene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
M,P,O-Xylene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
Total BTEX (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001

Sample Number: 130459
Description: MW-13

Param	Flag	Result	Dilution	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch #	QC Batch #	RDL
Benzene (mg/L)		0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
Toluene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
Ethylbenzene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
M,P,O-Xylene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
Total BTEX (mg/L)		0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
Surrogate		Result	Dilution	Spike Amount	% Rec.	% Rec. Limit	Analyst	Prep Batch #	QC Batch #	
TFT (mg/L)		0.1	1	0.1	101	72 - 128	RC	PB02067	QC02576	
4-BFB (mg/L)		0.084	1	0.1	84	72 - 128	RC	PB02067	QC02576	

Sample Number: 130460
Description: MW-12

Param	Flag	Result	Dilution	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch #	QC Batch #	RDL
Benzene (mg/L)		<0.001	1	S 8021B	8/28/99	8/28/99	RC	PB02108	QC02626	0.001
Toluene (mg/L)		<0.001	1	S 8021B	8/28/99	8/28/99	RC	PB02108	QC02626	0.001
Ethylbenzene (mg/L)		<0.001	1	S 8021B	8/28/99	8/28/99	RC	PB02108	QC02626	0.001
M,P,O-Xylene (mg/L)		<0.001	1	S 8021B	8/28/99	8/28/99	RC	PB02108	QC02626	0.001
Total BTEX (mg/L)		<0.001	1	S 8021B	8/28/99	8/28/99	RC	PB02108	QC02626	0.001

Report Date: 9/7/99

Order ID Number: 99082112

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N/A

GPM Lee Gas Plant

N/A

Surrogate	Result	Dilution	Spike Amount	% Rec.	% Rec. Limit	Analyst	Prep Batch #	QC Batch #
TFT (mg/L)	0.098	1	0.1	98	72 - 128	RC	PB02108	QC02626
4-BFB (mg/L)	0.097	1	0.1	97	72 - 128	RC	PB02108	QC02626

Sample Number: 130461

Description: MW-11

Param	Flag	Result	Dilution	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch #	QC Batch #	RDL
Benzene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
Toluene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
Ethylbenzene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
M,P,O-Xylene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
Total BTEX (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001

Surrogate	Result	Dilution	Spike Amount	% Rec.	% Rec. Limit	Analyst	Prep Batch #	QC Batch #
TFT (mg/L)	0.11	1	0.1	110	72 - 128	RC	PB02067	QC02576
4-BFB (mg/L)	0.093	1	0.1	93	72 - 128	RC	PB02067	QC02576

Sample Number: 130462

Description: MW-3

Param	Flag	Result	Dilution	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch #	QC Batch #	RDL
Benzene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
Toluene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
Ethylbenzene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
M,P,O-Xylene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
Total BTEX (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001

Surrogate	Result	Dilution	Spike Amount	% Rec.	% Rec. Limit	Analyst	Prep Batch #	QC Batch #
TFT (mg/L)	0.119	1	0.1	119	72 - 128	RC	PB02067	QC02576
4-BFB (mg/L)	0.104	1	0.1	104	72 - 128	RC	PB02067	QC02576

Sample Number: 130463

Description: MW-2

Param	Flag	Result	Dilution	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch #	QC Batch #	RDL
Benzene (mg/L)		<0.005	5	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
Toluene (mg/L)		<0.005	5	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
Ethylbenzene (mg/L)		<0.005	5	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
M,P,O-Xylene (mg/L)		<0.005	5	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
Total BTEX (mg/L)		<0.005	5	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001

Surrogate	Result	Dilution	Spike Amount	% Rec.	% Rec. Limit	Analyst	Prep Batch #	QC Batch #
TFT (mg/L)	0.556	5	0.1	111	72 - 128	RC	PB02067	QC02576
4-BFB (mg/L)	0.501	5	0.1	100	72 - 128	RC	PB02067	QC02576

Sample Number: 130464

Description: MW-7

Param	Flag	Result	Dilution	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch #	QC Batch #	RDL
Benzene (mg/L)		1.5	5	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001

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N/A

GPM Lee Gas Plant

N/A

Toluene (mg/L)	0.016	5	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
Ethylbenzene (mg/L)	0.02	5	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
M,P,O-Xylene (mg/L)	0.016	5	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
Total BTEX (mg/L)	1.55	5	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001

Surrogate	Result	Dilution	Spike Amount	% Rec.	% Rec. Limit	Analyst	Prep Batch #	QC Batch #
TFT (mg/L)	0.552	5	0.1	110	72 - 128	RC	PB02067	QC02576
4-BFB (mg/L)	0.522	5	0.1	104	72 - 128	RC	PB02067	QC02576

Sample Number: 130465

Description: MW-18

Param	Flag	Result	Dilution	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch #	QC Batch #	RDL
Benzene (mg/L)		<0.005	5	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
Toluene (mg/L)		<0.005	5	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
Ethylbenzene (mg/L)		<0.005	5	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
M,P,O-Xylene (mg/L)		<0.005	5	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
Total BTEX (mg/L)		<0.005	5	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001

Surrogate	Result	Dilution	Spike Amount	% Rec.	% Rec. Limit	Analyst	Prep Batch #	QC Batch #
TFT (mg/L)	0.576	5	0.1	115	72 - 128	RC	PB02067	QC02576
4-BFB (mg/L)	0.504	5	0.1	101	72 - 128	RC	PB02067	QC02576

Sample Number: 130466

Description: MW-17

Param	Flag	Result	Dilution	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch #	QC Batch #	RDL
Benzene (mg/L)		0.028	1	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
Toluene (mg/L)		0.002	1	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
Ethylbenzene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
M,P,O-Xylene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
Total BTEX (mg/L)		0.03	1	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001

Surrogate		Result	Dilution	Spike Amount	% Rec.	% Rec. Limit	Analyst	Prep Batch #	QC Batch #
TFT (mg/L)	*	0.133	1	0.1	133	72 - 128	RC	PB02067	QC02576
4-BFB (mg/L)		0.118	1	0.1	118	72 - 128	RC	PB02067	QC02576

* TFT - TFT HIGH DUE TO SAMPLE MATRIX

Sample Number: 130467

Description: MW-22

Param	Flag	Result	Dilution	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch #	QC Batch #	RDL
Benzene (mg/L)		<0.005	5	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
Toluene (mg/L)		<0.005	5	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
Ethylbenzene (mg/L)		<0.005	5	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
M,P,O-Xylene (mg/L)		<0.005	5	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001
Total BTEX (mg/L)		<0.005	5	S 8021B	8/24/99	8/24/99	RC	PB02067	QC02576	0.001

Surrogate	Result	Dilution	Spike Amount	% Rec.	% Rec. Limit	Analyst	Prep Batch #	QC Batch #
TFT (mg/L)	0.552	5	0.1	110	72 - 128	RC	PB02067	QC02576
4-BFB (mg/L)	0.493	5	0.1	99	72 - 128	RC	PB02067	QC02576

Sample Number: 130468

Description: MW-21

Param	Flag	Result	Dilution	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch #	QC Batch #	RDL
Benzene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02066	QC02571	0.001
Toluene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02066	QC02571	0.001
Ethylbenzene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02066	QC02571	0.001
M,P,O-Xylene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02066	QC02571	0.001
Total BTEX (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02066	QC02571	0.001
Surrogate		Result	Dilution	Spike Amount	% Rec.	% Rec. Limit	Analyst	Prep Batch #	QC Batch #	
TFT (mg/L)		0.462	1	0.1	92	72 - 128	RC	PB02066	QC02571	
4-BFB (mg/L)		0.408	1	0.1	82	72 - 128	RC	PB02066	QC02571	

Sample Number: 130469

Description: MW-9

Param	Flag	Result	Dilution	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch #	QC Batch #	RDL
Benzene (mg/L)		13.6	50	S 8021B	9/2/99	8/30/99	RC	PB02180	QC02657	0.001
Toluene (mg/L)		0.25	50	S 8021B	9/2/99	8/30/99	RC	PB02180	QC02657	0.001
Ethylbenzene (mg/L)		<0.05	50	S 8021B	9/2/99	8/30/99	RC	PB02180	QC02657	0.001
M,P,O-Xylene (mg/L)		0.073	50	S 8021B	9/2/99	8/30/99	RC	PB02180	QC02657	0.001
Total BTEX (mg/L)		13.9	50	S 8021B	9/2/99	8/30/99	RC	PB02180	QC02657	0.001
Surrogate		Result	Dilution	Spike Amount	% Rec.	% Rec. Limit	Analyst	Prep Batch #	QC Batch #	
TFT (mg/L)		4.8	50	0.1	96	72 - 128	RC	PB02180	QC02657	
4-BFB (mg/L)		4.51	50	0.1	90	72 - 128	RC	PB02180	QC02657	

Sample Number: 130470

Description: MW-14

Param	Flag	Result	Dilution	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch #	QC Batch #	RDL
Benzene (mg/L)		0.024	1	S 8021B	8/24/99	8/24/99	RC	PB02066	QC02571	0.001
Toluene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02066	QC02571	0.001
Ethylbenzene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02066	QC02571	0.001
M,P,O-Xylene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02066	QC02571	0.001
Total BTEX (mg/L)		0.024	1	S 8021B	8/24/99	8/24/99	RC	PB02066	QC02571	0.001
Surrogate		Result	Dilution	Spike Amount	% Rec.	% Rec. Limit	Analyst	Prep Batch #	QC Batch #	
TFT (mg/L)		0.119	1	0.1	119	72 - 128	RC	PB02066	QC02571	
4-BFB (mg/L)		0.107	1	0.1	107	72 - 128	RC	PB02066	QC02571	

Sample Number: 130471

Description: MW-16

Param	Flag	Result	Dilution	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch #	QC Batch #	RDL
Benzene (mg/L)		0.454	5	S 8021B	9/2/99	9/2/99	RC	PB02195	QC02740	0.001
Toluene (mg/L)		0.053	5	S 8021B	9/2/99	9/2/99	RC	PB02195	QC02740	0.001
Ethylbenzene (mg/L)		<0.005	5	S 8021B	9/2/99	9/2/99	RC	PB02195	QC02740	0.001
M,P,O-Xylene (mg/L)		0.034	5	S 8021B	9/2/99	9/2/99	RC	PB02195	QC02740	0.001
Total BTEX (mg/L)		0.541	5	S 8021B	9/2/99	9/2/99	RC	PB02195	QC02740	0.001

N/A

GPM Lee Gas Plant

N/A

Surrogate	Result	Dilution	Spike Amount	% Rec.	% Rec. Limit	Analyst	Prep Batch #	QC Batch #
TFT (mg/L)	0.437	5	0.1	87	72 - 128	RC	PB02195	QC02740
4-BFB (mg/L)	0.404	5	0.1	81	72 - 128	RC	PB02195	QC02740

Sample Number: 130472

Description: MW-10

Param	Flag	Result	Dilution	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch #	QC Batch #	RDL
Benzene (mg/L)		1.01	10	S 8021B	8/26/99	8/26/99	RC	PB02092	QC02608	0.001
Toluene (mg/L)		<0.01	10	S 8021B	8/26/99	8/26/99	RC	PB02092	QC02608	0.001
Ethylbenzene (mg/L)		<0.01	10	S 8021B	8/26/99	8/26/99	RC	PB02092	QC02608	0.001
M,P,O-Xylene (mg/L)		<0.01	10	S 8021B	8/26/99	8/26/99	RC	PB02092	QC02608	0.001
Total BTEX (mg/L)		1.01	10	S 8021B	8/26/99	8/26/99	RC	PB02092	QC02608	0.001

Surrogate	Result	Dilution	Spike Amount	% Rec.	% Rec. Limit	Analyst	Prep Batch #	QC Batch #
TFT (mg/L)	0.934	10	0.1	93	72 - 128	RC	PB02092	QC02608
4-BFB (mg/L)	0.916	10	0.1	92	72 - 128	RC	PB02092	QC02608

Sample Number: 130473

Description: Duplicate

Param	Flag	Result	Dilution	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch #	QC Batch #	RDL
Benzene (mg/L)		0.427	5	S 8021B	9/2/99	9/2/99	RC	PB02195	QC02740	0.001
Toluene (mg/L)		0.048	5	S 8021B	9/2/99	9/2/99	RC	PB02195	QC02740	0.001
Ethylbenzene (mg/L)		<0.005	5	S 8021B	9/2/99	9/2/99	RC	PB02195	QC02740	0.001
M,P,O-Xylene (mg/L)		0.032	5	S 8021B	9/2/99	9/2/99	RC	PB02195	QC02740	0.001
Total BTEX (mg/L)		0.507	5	S 8021B	9/2/99	9/2/99	RC	PB02195	QC02740	0.001

Surrogate	Result	Dilution	Spike Amount	% Rec.	% Rec. Limit	Analyst	Prep Batch #	QC Batch #
TFT (mg/L)	0.489	5	0.1	98	72 - 128	RC	PB02195	QC02740
4-BFB (mg/L)	0.478	5	0.1	96	72 - 128	RC	PB02195	QC02740

Sample Number: 130474

Description: Trip Blank (597 A&B)

Param	Flag	Result	Dilution	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch #	QC Batch #	RDL
Benzene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02066	QC02571	0.001
Toluene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02066	QC02571	0.001
Ethylbenzene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02066	QC02571	0.001
M,P,O-Xylene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02066	QC02571	0.001
Total BTEX (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02066	QC02571	0.001

Surrogate	Result	Dilution	Spike Amount	% Rec.	% Rec. Limit	Analyst	Prep Batch #	QC Batch #
TFT (mg/L)	0.092	1	0.1	92	72 - 128	RC	PB02066	QC02571
4-BFB (mg/L)	0.081	1	0.1	81	72 - 128	RC	PB02066	QC02571

Sample Number: 130475

Description:

Param	Flag	Result	Dilution	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch #	QC Batch #	RDL
Benzene (mg/L)		<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02066	QC02571	0.001

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N/A GPM Lee Gas Plant N/A

Toluene (mg/L)	<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02066	QC02571	0.001
Ethylbenzene (mg/L)	<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02066	QC02571	0.001
M,P,O-Xylene (mg/L)	<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02066	QC02571	0.001
Total BTEX (mg/L)	<0.001	1	S 8021B	8/24/99	8/24/99	RC	PB02066	QC02571	0.001

Surrogate	Result	Dilution	Spike Amount	% Rec.	% Rec. Limit	Analyst	Prep Batch #	QC Batch #
TFT (mg/L)	0.094	1	0.1	94	72 - 128	RC	PB02066	QC02571
4-BFB (mg/L)	0.083	1	0.1	83	72 - 128	RC	PB02066	QC02571

Quality Control Report

Method Blanks

Param	Flag	Blank Result	Reporting Limit	Date Analyzed	Prep Batch #	QC Batch #
Benzene (mg/L)		<0.001	0.001	8/24/99	PB02066	QC02571
Toluene (mg/L)		<0.001	0.001	8/24/99	PB02066	QC02571
Ethylbenzene (mg/L)		<0.001	0.001	8/24/99	PB02066	QC02571
M,P,O-Xylene (mg/L)		<0.001	0.001	8/24/99	PB02066	QC02571
Total BTEX (mg/L)		<0.001	0.001	8/24/99	PB02066	QC02571
Benzene (mg/L)		<0.001	0.001	8/24/99	PB02067	QC02575
Toluene (mg/L)		<0.001	0.001	8/24/99	PB02067	QC02575
Ethylbenzene (mg/L)		<0.001	0.001	8/24/99	PB02067	QC02575
M,P,O-Xylene (mg/L)		<0.001	0.001	8/24/99	PB02067	QC02575
Total BTEX (mg/L)		<0.001	0.001	8/24/99	PB02067	QC02575
Benzene (mg/L)		<0.001	0.001	8/24/99	PB02067	QC02576
Toluene (mg/L)		<0.001	0.001	8/24/99	PB02067	QC02576
Ethylbenzene (mg/L)		<0.001	0.001	8/24/99	PB02067	QC02576
M,P,O-Xylene (mg/L)		<0.001	0.001	8/24/99	PB02067	QC02576
Total BTEX (mg/L)		<0.001	0.001	8/24/99	PB02067	QC02576
Benzene (mg/L)		<0.001	0.001	8/26/99	PB02092	QC02608
Toluene (mg/L)		<0.001	0.001	8/26/99	PB02092	QC02608
Ethylbenzene (mg/L)		<0.001	0.001	8/26/99	PB02092	QC02608
M,P,O-Xylene (mg/L)		<0.001	0.001	8/26/99	PB02092	QC02608
Total BTEX (mg/L)		<0.001	0.001	8/26/99	PB02092	QC02608
Benzene (mg/L)		<0.001	0.001	8/28/99	PB02108	QC02626
Toluene (mg/L)		<0.001	0.001	8/28/99	PB02108	QC02626
Ethylbenzene (mg/L)		<0.001	0.001	8/28/99	PB02108	QC02626
M,P,O-Xylene (mg/L)		<0.001	0.001	8/28/99	PB02108	QC02626
Total BTEX (mg/L)		<0.001	0.001	8/28/99	PB02108	QC02626
Benzene (mg/L)		<0.001	0.001	8/30/99	PB02180	QC02657
Toluene (mg/L)		<0.001	0.001	8/30/99	PB02180	QC02657
Ethylbenzene (mg/L)		<0.001	0.001	8/30/99	PB02180	QC02657
M,P,O-Xylene (mg/L)		<0.001	0.001	8/30/99	PB02180	QC02657
Total BTEX (mg/L)		<0.001	0.001	8/30/99	PB02180	QC02657
Benzene (mg/L)		<0.001	0.001	9/2/99	PB02195	QC02740
Toluene (mg/L)		<0.001	0.001	9/2/99	PB02195	QC02740
Ethylbenzene (mg/L)		<0.001	0.001	9/2/99	PB02195	QC02740
M,P,O-Xylene (mg/L)		<0.001	0.001	9/2/99	PB02195	QC02740
Total BTEX (mg/L)		<0.001	0.001	9/2/99	PB02195	QC02740

Quality Control Report

Lab Control Spikes and Duplicate Spike

Param	Blank Result	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit	QC Batch #
LCS MTBE (mg/L)	<0.001	1	0.1	0.101	101		80 - 120	0 - 20	QC02571
LCS Benzene (mg/L)	<0.001	1	0.1	0.088	88		80 - 120	0 - 20	QC02571
LCS Toluene (mg/L)	<0.001	1	0.1	0.087	87		80 - 120	0 - 20	QC02571
LCS Ethylbenzene (mg/L)	<0.001	1	0.1	0.085	85		80 - 120	0 - 20	QC02571
LCS M,P,O-Xylene (mg/L)	<0.001	1	0.3	0.246	82		80 - 120	0 - 20	QC02571
Standard Surrogate		Dil.	Spike Amount	Result	% Rec.		% Rec. Limit		QC Batch #
LCS TFT (mg/L)		1	0.1	0.092	92		72 - 128		QC02571
LCS 4-BFB (mg/L)		1	0.1	0.09	90		72 - 128		QC02571
LCSD MTBE (mg/L)	<0.001	1	0.1	0.102	102	1	80 - 120	0 - 20	QC02571
LCSD Benzene (mg/L)	<0.001	1	0.1	0.089	89	1	80 - 120	0 - 20	QC02571
LCSD Toluene (mg/L)	<0.001	1	0.1	0.087	87	0	80 - 120	0 - 20	QC02571
LCSD Ethylbenzene (mg/L)	<0.001	1	0.1	0.086	86	1	80 - 120	0 - 20	QC02571
LCSD M,P,O-Xylene (mg/L)	<0.001	1	0.3	0.247	82	0	80 - 120	0 - 20	QC02571
Standard Surrogate		Dil.	Spike Amount	Result	% Rec.		% Rec. Limit		QC Batch #
LCSD TFT (mg/L)		1	0.1	0.096	96		72 - 128		QC02571
LCSD 4-BFB (mg/L)		1	0.1	0.094	94		72 - 128		QC02571

Param	Blank Result	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit	QC Batch #
LCS MTBE (mg/L)	<0.001	1	0.1	0.107	107		80 - 120	0 - 20	QC02575
LCS Benzene (mg/L)	<0.001	1	0.1	0.101	101		80 - 120	0 - 20	QC02575
LCS Toluene (mg/L)	<0.001	1	0.1	0.099	99		80 - 120	0 - 20	QC02575
LCS Ethylbenzene (mg/L)	<0.001	1	0.1	0.098	98		80 - 120	0 - 20	QC02575
LCS M,P,O-Xylene (mg/L)	<0.001	1	0.3	0.284	95		80 - 120	0 - 20	QC02575
Standard Surrogate		Dil.	Spike Amount	Result	% Rec.		% Rec. Limit		QC Batch #
LCS TFT (mg/L)		1	0.1	0.103	103		72 - 128		QC02575
LCS 4-BFB (mg/L)		1	0.1	0.094	94		72 - 128		QC02575
LCSD MTBE (mg/L)	<0.001	1	0.1	0.112	112		80 - 120	0 - 20	QC02575
LCSD Benzene (mg/L)	<0.001	1	0.1	0.104	104		80 - 120	0 - 20	QC02575
LCSD Toluene (mg/L)	<0.001	1	0.1	0.103	103		80 - 120	0 - 20	QC02575
LCSD Ethylbenzene (mg/L)	<0.001	1	0.1	0.102	102		80 - 120	0 - 20	QC02575
LCSD M,P,O-Xylene (mg/L)	<0.001	1	0.3	0.298	99		80 - 120	0 - 20	QC02575
Standard Surrogate		Dil.	Spike Amount	Result	% Rec.		% Rec. Limit		QC Batch #
LCSD TFT (mg/L)		1	0.1	0.103	103		72 - 128		QC02575
LCSD 4-BFB (mg/L)		1	0.1	0.095	95		72 - 128		QC02575

N/A

GPM Lee Gas Plant

N/A

Param	Blank Result	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit	QC Batch #
LCS MTBE (mg/L)	<0.001	1	0.1	0.107	107		80 - 120	0 - 20	QC02576
LCS Benzene (mg/L)	<0.001	1	0.1	0.101	101		80 - 120	0 - 20	QC02576
LCS Toluene (mg/L)	<0.001	1	0.1	0.104	104		80 - 120	0 - 20	QC02576
LCS Ethylbenzene (mg/L)	<0.001	1	0.1	0.102	102		80 - 120	0 - 20	QC02576
LCS M,P,O-Xylene (mg/L)	<0.001	1	0.3	0.298	99		80 - 120	0 - 20	QC02576
Standard Surrogate		Dil.	Spike Amount	Result	% Rec.		% Rec. Limit		QC Batch #
LCS TFT (mg/L)		1	0.1	0.103	103		72 - 128		QC02576
LCS 4-BFB (mg/L)		1	0.1	0.094	94		72 - 128		QC02576
LCSD MTBE (mg/L)	<0.001	1	0.1	0.112	112	5	80 - 120	0 - 20	QC02576
LCSD Benzene (mg/L)	<0.001	1	0.1	0.104	104	3	80 - 120	0 - 20	QC02576
LCSD Toluene (mg/L)	<0.001	1	0.1	0.103	103	1	80 - 120	0 - 20	QC02576
LCSD Ethylbenzene (mg/L)	<0.001	1	0.1	0.102	102	0	80 - 120	0 - 20	QC02576
LCSD M,P,O-Xylene (mg/L)	<0.001	1	0.3	0.298	99	0	80 - 120	0 - 20	QC02576
Standard Surrogate		Dil.	Spike Amount	Result	% Rec.		% Rec. Limit		QC Batch #
LCSD TFT (mg/L)		1	0.1	0.103	103		72 - 128		QC02576
LCSD 4-BFB (mg/L)		1	0.1	0.095	95		72 - 128		QC02576

Param	Blank Result	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit	QC Batch #
LCS MTBE (mg/L)	<0.001	1	0.1	0.085	85		80 - 120	0 - 20	QC02608
LCS Benzene (mg/L)	<0.001	1	0.1	0.082	82		80 - 120	0 - 20	QC02608
LCS Toluene (mg/L)	<0.001	1	0.1	0.081	81		80 - 120	0 - 20	QC02608
LCS Ethylbenzene (mg/L)	<0.001	1	0.1	0.080	80		80 - 120	0 - 20	QC02608
LCS M,P,O-Xylene (mg/L)	<0.001	1	0.3	0.243	81		80 - 120	0 - 20	QC02608
Standard Surrogate		Dil.	Spike Amount	Result	% Rec.		% Rec. Limit		QC Batch #
LCS TFT (mg/L)		1	0.1	0.096	96		72 - 128		QC02608
LCS 4-BFB (mg/L)		1	0.1	0.097	97		72 - 128		QC02608
LCSD MTBE (mg/L)	<0.001	1	0.1	0.101	101	17	80 - 120	0 - 20	QC02608
LCSD Benzene (mg/L)	<0.001	1	0.1	0.096	96	16	80 - 120	0 - 20	QC02608
LCSD Toluene (mg/L)	<0.001	1	0.1	0.095	95	16	80 - 120	0 - 20	QC02608
LCSD Ethylbenzene (mg/L)	<0.001	1	0.1	0.094	94	16	80 - 120	0 - 20	QC02608
LCSD M,P,O-Xylene (mg/L)	<0.001	1	0.3	0.275	92	12	80 - 120	0 - 20	QC02608
Standard Surrogate		Dil.	Spike Amount	Result	% Rec.		% Rec. Limit		QC Batch #
LCSD TFT (mg/L)		1	0.1	0.098	98		72 - 128		QC02608
LCSD 4-BFB (mg/L)		1	0.1	0.101	101		72 - 128		QC02608

Param	Blank Result	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit	QC Batch #
LCS MTBE (mg/L)	<0.001	1	0.1	0.092	92		80 - 120	0 - 20	QC02626
LCS Benzene (mg/L)	<0.001	1	0.1	0.088	88		80 - 120	0 - 20	QC02626

N/A		GPM Lee Gas Plant						N/A	
LCS	Toluene (mg/L)	<0.001	1	0.1	0.088	88	80 - 120	0 - 20	QC02626
LCS	Ethylbenzene (mg/L)	<0.001	1	0.1	0.088	88	80 - 120	0 - 20	QC02626
LCS	M,P,O-Xylene (mg/L)	<0.001	1	0.3	0.262	87	80 - 120	0 - 20	QC02626
Standard	Surrogate		Dil.	Spike Amount	Result	% Rec.	% Rec. Limit		QC Batch #
LCS	TFT (mg/L)		1	0.1	0.102	102	72 - 128		QC02626
LCS	4-BFB (mg/L)		1	0.1	0.119	119	72 - 128		QC02626
LCSD	MTBE (mg/L)	<0.001	1	0.1	0.096	96	4 80 - 120	0 - 20	QC02626
LCSD	Benzene (mg/L)	<0.001	1	0.1	0.091	91	3 80 - 120	0 - 20	QC02626
LCSD	Toluene (mg/L)	<0.001	1	0.1	0.091	91	3 80 - 120	0 - 20	QC02626
LCSD	Ethylbenzene (mg/L)	<0.001	1	0.1	0.091	91	3 80 - 120	0 - 20	QC02626
LCSD	M,P,O-Xylene (mg/L)	<0.001	1	0.3	0.272	91	4 80 - 120	0 - 20	QC02626
Standard	Surrogate		Dil.	Spike Amount	Result	% Rec.	% Rec. Limit		QC Batch #
LCSD	TFT (mg/L)		1	0.1	0.105	105	72 - 128		QC02626
LCSD	4-BFB (mg/L)		1	0.1	0.121	121	72 - 128		QC02626

Param		Blank Result	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit	QC Batch #
LCS	MTBE (mg/L)	<0.001	1	0.1	0.092	92		80 - 120	0 - 20	QC02657
LCS	Benzene (mg/L)	<0.001	1	0.1	0.087	87		80 - 120	0 - 20	QC02657
LCS	Toluene (mg/L)	<0.001	1	0.1	0.086	86		80 - 120	0 - 20	QC02657
LCS	Ethylbenzene (mg/L)	<0.001	1	0.1	0.085	85		80 - 120	0 - 20	QC02657
LCS	M,P,O-Xylene (mg/L)	<0.001	1	0.3	0.245	82		80 - 120	0 - 20	QC02657
Standard	Surrogate		Dil.	Spike Amount	Result	% Rec.		% Rec. Limit		QC Batch #
LCS	TFT (mg/L)		1	0.1	0.105	105		72 - 128		QC02657
LCS	4-BFB (mg/L)		1	0.1	0.101	101		72 - 128		QC02657
LCSD	MTBE (mg/L)	<0.001	1	0.1	0.098	98	6	80 - 120	0 - 20	QC02657
LCSD	Benzene (mg/L)	<0.001	1	0.1	0.092	92	6	80 - 120	0 - 20	QC02657
LCSD	Toluene (mg/L)	<0.001	1	0.1	0.09	90	5	80 - 120	0 - 20	QC02657
LCSD	Ethylbenzene (mg/L)	<0.001	1	0.1	0.089	89	5	80 - 120	0 - 20	QC02657
LCSD	M,P,O-Xylene (mg/L)	<0.001	1	0.3	0.258	86	5	80 - 120	0 - 20	QC02657
Standard	Surrogate		Dil.	Spike Amount	Result	% Rec.		% Rec. Limit		QC Batch #
LCSD	TFT (mg/L)		1	0.1	0.107	107		72 - 128		QC02657
LCSD	4-BFB (mg/L)		1	0.1	0.103	103		72 - 128		QC02657

Param		Blank Result	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit	QC Batch #
LCS	MTBE (mg/L)	<0.001	1	0.1	0.103	103		80 - 120	0 - 20	QC02740
LCS	Benzene (mg/L)	<0.001	1	0.1	0.091	91		80 - 120	0 - 20	QC02740
LCS	Toluene (mg/L)	<0.001	1	0.1	0.089	89		80 - 120	0 - 20	QC02740
LCS	Ethylbenzene (mg/L)	<0.001	1	0.1	0.089	89		80 - 120	0 - 20	QC02740
LCS	M,P,O-Xylene (mg/L)	<0.001	1	0.3	0.258	86		80 - 120	0 - 20	QC02740

N/A

GPM Lee Gas Plant

N/A

Standard	Surrogate		Dil.	Spike Amount	Result	% Rec.	% Rec. Limit	QC Batch #
LCS	TFT (mg/L)		1	0.1	0.093	93	72 - 128	QC02740
LCS	4-BFB (mg/L)		1	0.1	0.09	90	72 - 128	QC02740
LCSD	MTBE (mg/L)	<0.001	1	0.1	0.103	103	0 80 - 120	0 - 20 QC02740
LCSD	Benzene (mg/L)	<0.001	1	0.1	0.088	88	3 80 - 120	0 - 20 QC02740
LCSD	Toluene (mg/L)	<0.001	1	0.1	0.086	86	3 80 - 120	0 - 20 QC02740
LCSD	Ethylbenzene (mg/L)	<0.001	1	0.1	0.087	87	2 80 - 120	0 - 20 QC02740
LCSD	M,P,O-Xylene (mg/L)	<0.001	1	0.3	0.25	83	3 80 - 120	0 - 20 QC02740
Standard	Surrogate		Dil.	Spike Amount	Result	% Rec.	% Rec. Limit	QC Batch #
LCSD	TFT (mg/L)		1	0.1	0.092	92	72 - 128	QC02740
LCSD	4-BFB (mg/L)		1	0.1	0.09	90	72 - 128	QC02740

Quality Control Report

Continuing Calibration Verification Standard

Standard	Param	Flag	CCVs TRUE Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed	QC Batch #
ICV	Benzene (mg/L)		0.1	0.09	90	80 - 120	8/24/99	QC02571
ICV	Toluene (mg/L)		0.1	0.089	89	80 - 120	8/24/99	QC02571
ICV	Ethylbenzene (mg/L)		0.1	0.087	87	80 - 120	8/24/99	QC02571
ICV	M,P,O-Xylene (mg/L)		0.3	0.254	85	80 - 120	8/24/99	QC02571
CCV (1	Benzene (mg/L)		0.1	0.097	97	80 - 120	8/24/99	QC02571
CCV (1	Toluene (mg/L)		0.1	0.096	96	80 - 120	8/24/99	QC02571
CCV (1	Ethylbenzene (mg/L)		0.1	0.094	94	80 - 120	8/24/99	QC02571
CCV (1	M,P,O-Xylene (mg/L)		0.3	0.275	92	80 - 120	8/24/99	QC02571

Standard	Param	Flag	CCVs TRUE Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed	QC Batch #
ICV	Benzene (mg/L)		0.1	0.109	109	80 - 120	8/24/99	QC02575
ICV	Toluene (mg/L)		0.1	0.107	107	80 - 120	8/24/99	QC02575
ICV	Ethylbenzene (mg/L)		0.1	0.106	106	80 - 120	8/24/99	QC02575
ICV	M,P,O-Xylene (mg/L)		0.3	0.31	103	80 - 120	8/24/99	QC02575
CCV (1	Benzene (mg/L)		0.1	0.115	115	80 - 120	8/24/99	QC02575
CCV (1	Toluene (mg/L)		0.1	0.114	114	80 - 120	8/24/99	QC02575
CCV (1	Ethylbenzene (mg/L)		0.1	0.112	112	80 - 120	8/24/99	QC02575
CCV (1	M,P,O-Xylene (mg/L)		0.3	0.327	109	80 - 120	8/24/99	QC02575

Standard	Param	Flag	CCVs TRUE Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed	QC Batch #
ICV	Benzene (mg/L)		0.1	0.109	109	80 - 120	8/24/99	QC02576
ICV	Toluene (mg/L)		0.1	0.107	107	80 - 120	8/24/99	QC02576
ICV	Ethylbenzene (mg/L)		0.1	0.106	106	80 - 120	8/24/99	QC02576
ICV	M,P,O-Xylene (mg/L)		0.3	0.310	103	80 - 120	8/24/99	QC02576
CCV (1	Benzene (mg/L)		0.1	0.109	109	80 - 120	8/24/99	QC02576
CCV (1	Toluene (mg/L)		0.1	0.108	108	80 - 120	8/24/99	QC02576
CCV (1	Ethylbenzene (mg/L)		0.1	0.107	107	80 - 120	8/24/99	QC02576
CCV (1	M,P,O-Xylene (mg/L)		0.3	0.31	103	80 - 120	8/24/99	QC02576

Standard	Param	Flag	CCVs TRUE Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed	QC Batch #
ICV	Benzene (mg/L)		0.1	0.103	103	80 - 120	8/26/99	QC02608
ICV	Toluene (mg/L)		0.1	0.102	102	80 - 120	8/26/99	QC02608
ICV	Ethylbenzene (mg/L)		0.1	0.101	101	80 - 120	8/26/99	QC02608
ICV	M,P,O-Xylene (mg/L)		0.3	0.297	99	80 - 120	8/26/99	QC02608
CCV (1	Benzene (mg/L)		0.1	0.101	101	80 - 120	8/26/99	QC02608

Quality Control Report

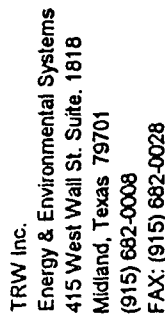
Continuing Calibration Verification Standard

Standard	Param	Flag	CCVs TRUE Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed	QC Batch #
CCV (1	Toluene (mg/L)		0.1	0.099	99	80 - 120	8/26/99	QC02608
CCV (1	Ethylbenzene (mg/L)		0.1	0.098	98	80 - 120	8/26/99	QC02608
CCV (1	M,P,O-Xylene (mg/L)		0.3	0.289	96	80 - 120	8/26/99	QC02608

Standard	Param	Flag	CCVs TRUE Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed	QC Batch #
ICV	Benzene (mg/L)		0.1	0.086	86	80 - 120	8/28/99	QC02626
ICV	Toluene (mg/L)		0.1	0.086	86	80 - 120	8/28/99	QC02626
ICV	Ethylbenzene (mg/L)		0.1	0.085	85	80 - 120	8/28/99	QC02626
ICV	M,P,O-Xylene (mg/L)		0.3	0.254	85	80 - 120	8/28/99	QC02626
CCV (1	Benzene (mg/L)		0.1	0.098	98	80 - 120	8/28/99	QC02626
CCV (1	Toluene (mg/L)		0.1	0.097	97	80 - 120	8/28/99	QC02626
CCV (1	Ethylbenzene (mg/L)		0.1	0.099	99	80 - 120	8/28/99	QC02626
CCV (1	M,P,O-Xylene (mg/L)		0.3	0.294	98	80 - 120	8/28/99	QC02626

Standard	Param	Flag	CCVs TRUE Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed	QC Batch #
ICV	Benzene (mg/L)		0.1	0.059	59	80 - 120	8/30/99	QC02657
ICV	Toluene (mg/L)		0.1	0.058	58	80 - 120	8/30/99	QC02657
ICV	Ethylbenzene (mg/L)		0.1	0.057	57	80 - 120	8/30/99	QC02657
ICV	M,P,O-Xylene (mg/L)		0.3	0.163	54	80 - 120	8/30/99	QC02657
CCV (1	Benzene (mg/L)		0.1	0.082	82	80 - 120	8/30/99	QC02657
CCV (1	Toluene (mg/L)		0.1	0.081	81	80 - 120	8/30/99	QC02657
CCV (1	Ethylbenzene (mg/L)		0.1	0.08	80	80 - 120	8/30/99	QC02657
CCV (1	M,P,O-Xylene (mg/L)		0.3	0.229	76	80 - 120	8/30/99	QC02657

Standard	Param	Flag	CCVs TRUE Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed	QC Batch #
ICV	Benzene (mg/L)		0.1	0.091	91	80 - 120	9/2/99	QC02740
ICV	Toluene (mg/L)		0.1	0.09	90	80 - 120	9/2/99	QC02740
ICV	Ethylbenzene (mg/L)		0.1	0.09	90	80 - 120	9/2/99	QC02740
ICV	M,P,O-Xylene (mg/L)		0.3	0.26	87	80 - 120	9/2/99	QC02740
CCV (1	Benzene (mg/L)		0.1	0.091	91	80 - 120	9/2/99	QC02740
CCV (1	Toluene (mg/L)		0.1	0.089	89	80 - 120	9/2/99	QC02740
CCV (1	Ethylbenzene (mg/L)		0.1	0.089	89	80 - 120	9/2/99	QC02740
CCV (1	M,P,O-Xylene (mg/L)		0.3	0.257	86	80 - 120	9/2/99	QC02740



No. 13442

Chain of Custody

Date 6.20.99 Page 2 of 2

Samplels (SIGNATURES)

Sample Identification	Matrix	Date
Exp 101	John Ferguson	

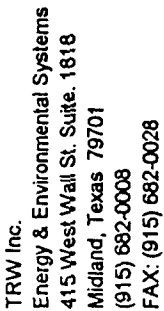
Sample Identification	Matrix	Date	Time
MW-22	Water	8-19-99	1250
MW-21	Water	8-19-99	1400
MW-9	Water	8-19-99	1950
MW-14	Water	8-19-99	2100
MW-16	Water	8-20-99	0930
MW-10	Water	8-20-99	1110
Duplicate	Water	8-20-99	1200
Rinsate	Water	8-20-99	1000
Trip Blank (597A&B)			

Analysis Request

[illegible]

Project Information		Sample Receipt		Relinquished By:	(1)	Relinquished By:	(2)	Relinquished By:	(3)
Project Name:	GPM Gas Corp	Total Containers:		<i>[Signature]</i>	3:30pm				
Project Location:	Lee Gas Plant	COC Seals:		<i>[Signature]</i>	8/1 Van Deventer-B2049				
Project Manager:	Gail Van Deventer	Rec'd Good Cond/Cold:		<i>[Signature]</i>	TRW Inc.				
Cost Center No.:	LEE GWR-20-300	Conforms to Records:		<i>[Signature]</i>					
Shipping ID No.:		Lab No.:		Received By:	(1)	Received By:	(2)	Received By:	(3)
P O No.:				<i>[Signature]</i>	12:22				
Special Instructions/Comments:				<i>[Signature]</i>	8/2/89				
Invoice directly to GPM (McDriver)				<i>[Signature]</i>					
Carrier: TMM 50 # 932 228 2731				<i>[Signature]</i>					
Time: 6:00				<i>[Signature]</i>					

Distribution: White, Canary-Laboratory / Pink-TRW



No. 13441

Date 8-20-99 Page 7 of 2

Lab Name: <u>Trace Analysis Inc.</u>			
Address: <u>10701 Aberdeen Ave Ste 9</u> <u>Libbville, TX 79424</u>			
Telephone: <u>806/744-1266</u>			
Samplers (SIGNATURES)			
<u>Ed DeLent</u>		<u>John Ferguson</u>	
Sample Identification	Matrix	Date	Time
MW-20	Water	8-18-99	1010
MW-19	Water	8-18-99	1110
MW-13	Water	8-18-99	1215
MW-12	Water	8-18-99	1320
MW-11	Water	8-18-99	1955
MW-3	Water	8-19-99	0840
MW-2	Water	8-19-99	0900
MW-7	Water	8-19-99	0920
MW-10	Water	8-19-99	1030
MW-17	Water	8-19-99	1120
Project Information		Sample Receipt	
Project Name: <u>GPM Gas Corp</u>		Total Containers:	
Project Location: <u>Lee Gas Plant</u>		COC Seals:	
Project Manager: <u>Gil Van Deventer</u>		Rec'd Good Cond/Cold:	
Cost Center No.: <u>LEE GWR-20-300</u>		Conforms to Records:	
Shipping ID No.:		Lab No.:	
P O No.:			
Special Instructions/Comments: <u>Invoice GPM directly (McI Division)</u> <u>Carrier TMM # 402718 2731</u> <u>Temp: 5°</u>			

Distribution: White, Canary-Laboratory / Pink-TRW

2/51

1998 Annual Groundwater Monitoring and Sampling Report
GPM – Lee Gas Plant
Lea County, New Mexico

NOVEMBER 16, 1998

Prepared For:

GPM Gas Corporation
4044 Penbrook
Odessa, Texas 79762



Prepared By:

TRW

Energy & Environmental Systems
415 West Wall, Suite 1818
Midland, Texas 79701

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ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

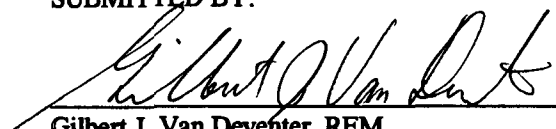
1998 Annual Groundwater Monitoring and Sampling Report
GPM – Lee Gas Plant
Lea County, New Mexico

Prepared by:

TRW Inc.
Energy & Environmental Systems
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FAX (915) 682-0028

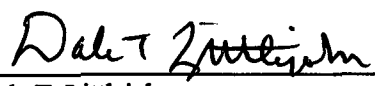
SUBMITTED BY:

DATE:



Gilbert J. Van Deventer, REM
Project Manager

11/24/98



Dale T. Littlejohn
Quality Assurance Officer

11/30/98

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1.0 Executive Summary

BDM International, Inc., a wholly owned subsidiary of TRW Inc. (TRW), was retained by GPM Gas Corporation (GPM) to perform the sampling and monitoring operations at the Lee Gas Plant. This 1998 annual report summarizes the two sampling events performed by TRW at the GPM Lee Gas Plant on January 19, 1998 and August 5, 1998.

Based on the sampling and monitoring data to date, the following conclusions relevant to groundwater conditions and remediation system performance at the Lee Gas Plant are evident:

- Benzene, toluene, ethylbenzene, and xylene (BTEX) concentrations in downgradient wells MW-11, MW-12, MW-13, MW-19 and MW-20 have been below New Mexico Water Quality Control Commission (WQCC) standards, and in most cases below laboratory detection limits, for the last 4 years.
- BTEX concentrations in crossgradient wells MW-2, MW-17 and MW-18 remain below the laboratory detection limit of 0.001 mg/L.
- BTEX concentrations in crossgradient wells MW-3 and MW-14 have decreased from levels above the WQCC standards to near or below the laboratory detection limit of 0.001 mg/L.
- Benzene concentrations in monitoring wells MW-9 and MW-10, located within the areal extent of the dissolved-phase hydrocarbon plume, and upgradient well MW-16, remain above WQCC standards.
- Benzene concentrations in recovery wells MW-6 and MW-7 remain above WQCC standards.
- BTEX concentrations in monitoring well MW-21 have returned to levels below the laboratory detection limit of 0.001 mg/L due to the resumption of air sparging operations.
- BTEX concentrations in monitoring well MW-22, which is screened below the vertical extent of the hydrocarbon plume, remain below WQCC standards.
- Monitoring wells MW-1 and MW-4 could not be sampled due to dry well conditions.
- Monitoring wells MW-5, MW-8, and MW-15 were not be sampled due to the presence of 0.55 feet, 2.68 feet, and 3.98 feet of free product, respectively.
- A total of 129,268 gallons of groundwater was recovered by the three recovery wells during the period of record (January 1, 1998 through October 29, 1998).
- The hydraulic gradient is approximately 0.004 feet/foot and the direction of groundwater flow is to the southwest based on the gauging data obtained on August 5, 1998. This is consistent with previous gauging data.
- The depth to the water table across the site varies from approximately 101 to 106 feet below ground surface. The average water table elevations across the site have decreased by an average of about 1 foot per year since March 28, 1988.

The following recommendations are proposed for the remediation system and monitoring operations at the Lee Gas Plant.

- Continue groundwater recovery operations since the present system has been effective in limiting the downgradient migration of the dissolved-phase hydrocarbon plume.
- For groundwater recovery operations to be a continued successful remedial option, installation of two or three new recovery wells are necessary because of declining water levels which corresponds to reduced groundwater recovery rates in the present system.
- Continue free product recovery from monitoring well MW-5 and MW-15 using the Xitech product recovery system.
- Continue hand bailing free product from monitoring well MW-8.
- Continue the sampling and monitoring program on a semi-annual basis. The next sampling event is scheduled during the first quarter of 1999.

2.0 Chronology of Events

April 1988	The New Mexico Environmental Improvement Division (NMEID) issued a Compliance Order/Schedule to Phillips 66 Natural Gas Company to install four monitoring wells and sample for groundwater quality to comply with Resource Conservation and Recovery Act (RCRA) monitoring requirements.
June 6, 1988	Four monitoring wells (MW-1, MW-2, MW-3 and MW-4) were installed by Geoscience Consultants Ltd. (GCL) between April 21, 1988 and April 29, 1988. The existing four monitoring wells were plugged and abandoned. Groundwater samples were collected on May 13, 1988.
September 23, 1988	GCL conducted a limited soil vapor survey at Lee Gas Plant. Two potential hydrocarbon sources were identified: the former evaporation pond located east of the main plant, and the small, former evaporation pond located north of the main plant.
January 1990	New Mexico Oil Conservation Division (OCD) takes jurisdiction for groundwater conditions at Lee Gas Plant. GCL submitted a work plan to the OCD for further investigation and implementation of remediation of free product.
May 30, 1990	GCL completed a subsurface investigation to define the limits of the free-phase hydrocarbon plume and to begin recovery of the floating product. The investigation included the installation and sampling of four monitoring wells (MW-5, MW-6, MW-7 and MW-8) and one recovery well (RW-1).
October 9, 1990	GCL completed Phase II of a subsurface investigation to further delineate the dissolved hydrocarbon plume. The investigation included the installation and sampling of four monitoring wells (MW-9, MW-10, MW-11 and MW-12).
March 11, 1991	GCL completed Phase III of a subsurface investigation to delineate the leading edge of the dissolved-phase hydrocarbon plume. The investigation included the installation and sampling of two monitoring wells (MW-13 and MW-14) and the conversion of two existing monitoring wells (MW-7 and MW-8) into recovery wells.
March 18, 1991	The OCD approved the Discharge Plan (GW-2) for Lee Gas Plant.
May 1991	GCL converted MW-10 into a recovery well per the OCD's April 2, 1991 request.
September 5, 1991	GCL completed Phase IV of a subsurface investigation that included the sampling of all on site monitoring wells (MW-1 through MW-14) and two water supply wells (WS-1 and WS-2). Two of the recovery wells (RW-1 and MW-4) and one monitoring well (MW-6) were not sampled due to the presence of free product. Prior sampling events were limited to collecting samples from just those wells installed in the current phase of work along with selected wells from previous phases to correlate analytical results.

1992	GCL conducted quarterly sampling activities on January 23, 1992, April 28, 1992, July 30, 1992 and October 21, 1992.
February 24, 1992	GCL completed the Final Phase of a subsurface investigation to complete delineation of the dissolved-phase hydrocarbon plume. The investigation included the installation of six monitoring wells (MW-15, MW-16, MW-17, MW-18, MW-19 and MW-20). Quarterly sampling of the on site monitoring wells was also conducted.
1993	GCL conducted quarterly sampling activities on January 20, 1993, April 15, 1993, July 20, 1993 and October 26, 1993.
April 7, 1993	GCL prepared the "Discharge Plan GW-2 Modification and Remedial Strategy" for Lee Gas Plant.
April 26, 1993	The OCD approved the "Discharge Plan GW-2 Modification and Remedial Strategy" for Lee Gas Plant.
July 1993	GCL completed installation of monitoring wells MW-21, MW-22 and MW-23 between July 19, 1993 and July 27, 1993.
August 3, 1993	GCL completed installation of soil vapor extraction system on recovery well RW-1.
November 15, 1993	GCL completed installation of air sparging injection unit in monitoring well MW-23.
1994	GCL conducted quarterly sampling activities on January 6, 1994, May 3, 1994, July 26, 1994 and October 12, 1994.
March 1994	GCL performed a successful cleanout (well restoration) of recovery well MW-7 during the week of March 21, 1994. However, attempts to restore MW-8 were unsuccessful due to well damage.
1995	BDM International, Inc. (formerly GCL) conducted quarterly sampling activities on March 16, 1995, June 24, 1995, August 10, 1995 and October 10, 1995.
1996	BDM International, Inc. (BDM) conducted quarterly sampling activities on January 16, 1996, April 25, 1996, August 27, 1996 and November 20, 1996.
January 15, 1996	Removed packer from injection well MW-23 and discontinued injection activities.
1997	BDM conducted quarterly sampling activities on January 21, 1997 and April 17, 1997.
June 18, 1997	Mr. Bill Olson (verbal communication) of the OCD approved a request by GPM to change the sampling frequency from a quarterly to semi-annual frequency.
August 12, 1997	BDM conducted annual sampling activities on August 12, 1997.

January 19, 1998 TRW conducted semi-annual sampling activities.

April 1, 1998 TRW replaced the submersible pumps in MW-6 and MW-7 with new pumps. The pump in MW-10 was not replaced due to damaged well conditions.

April 2, 1998 TRW installed a passive skimmer in MW-15.

April 9, 1998 TRW completed installation of Xitech product recovery system at MW-5.

July 10, 1998 TRW completed installation of air sparge system (air compressor) at MW-23.

September 17, 1998 TRW replaced the submersible pump in RW-1 with a new pump.

August 5, 1998 TRW conducted annual sampling activities.

3.0 Procedures

Each monitoring well at the Lee Gas Plant was gauged for depth to groundwater using a Heron H.01L oil/water interface probe or comparable model. Depth to groundwater in the recovery wells (RW-1, MW-6, and MW-7) were not gauged due access limitations caused by the presence of downhole pumping equipment.

Immediately prior to collecting groundwater samples, the monitoring wells were purged using a Grundfos Redi-Flo2 submersible pump with the exception of MW-2 and MW-3 which were purged using a decontaminated hand bailer. Purging operations were completed after groundwater parameters (pH, conductivity, dissolved oxygen and temperature) stabilized with the exception of MW-2 and MW-3, which were bailed dry. Conductivity and pH readings were measured after every 5 gallons of purging using a Hydac Model 910 meter. Dissolved oxygen (DO) and temperature readings were measured using a YSI Model 51B or comparable DO meter. A total of 745 gallons of well development water was purged from the monitoring wells during the 1998 sampling year.

Groundwater samples were obtained using a new, decontaminated, disposable bailer for each well after purging, with the exception of three recovery wells (MW-6, MW-7 and MW-10) which were obtained directly from a hydrant adjacent to each pumping well.

Each groundwater sample was transferred into two air-tight, septum-sealed, 40-ml glass volatile organic analysis (VOA) sample vials with zero head space and preserved with HCl for analysis of BTEX using EPA Method 8021B. Chain-of-custody (COC) forms documenting sample identification numbers, collection times, and delivery times to the laboratory were completed for each set of samples. One duplicate sample and one rinsate sample was collected during each sampling event. The water samples were placed into an ice-filled cooler immediately after collection and shipped next day delivery to Trace Analysis Inc. in Lubbock, Texas for laboratory analysis.

A summary of the monitoring wells sampled, sampling frequency, sampling dates, purge method, sampling method and purge volumes for the 1998 calendar year is presented in Table 1.

Table 1

Well Sampling Frequency and Methods

Well No.	Well Type/Condition	Sampling Frequency	1998 Sample Date	Purge Method	Sampling Method	Purge Volume
MW-1	Monitoring	Not sampled due to dry well conditions	NS	NS	NS	0 gallons
MW-2	Monitoring	Semi-annual event	1/20/98	Hand Bailer	Disposable bailer	2.5 gallons*
		Annual event	8/5/98	Hand Bailer	Disposable bailer	1 gallon
MW-3	Monitoring	Annual event	8/5/98	Hand Bailer	Disposable bailer	2.5 gallons
MW-4	Monitoring	Not sampled due to dry well conditions	NS	NS	NS	0 gallons
MW-5	Monitoring	Not sampled due to PSH presence	NS	NS	NS	0 gallons
MW-6	Recovery	Annual event	8/5/98	Pump	Pump	>100 gallons
MW-7	Recovery	Annual event	8/5/98	Pump	Pump	>100 gallons
MW-8	Damaged	Not sampled due to PSH presence	NS	NS	NS	0 gallons
MW-9	Monitoring	Annual event	8/6/98	Pump	Disposable bailer	45 gallons
MW-10	Damaged	Annual event	8/6/98	Pump	Disposable bailer	2 gallons
MW-11	Monitoring	Semi-annual event	1/19/98	Pump	Disposable bailer	45 gallons
		Annual event	8/5/98	Pump	Disposable bailer	30 gallons
MW-12	Monitoring	Semi-annual event	1/20/98	Pump	Disposable bailer	45 gallons
		Annual event	8/5/98	Pump	Disposable bailer	30 gallons
MW-13	Monitoring	Semi-annual event	1/20/98	Pump	Disposable bailer	45 gallons
		Annual event	8/5/98	Pump	Disposable bailer	45 gallons
MW-14	Monitoring	Annual event	8/6/98	Pump	Disposable bailer	37 gallons
MW-15	Monitoring	Not sampled due to PSH presence	NS	NS	NS	0 gallons
MW-16	Monitoring	Annual event	8/6/98	Pump	Disposable bailer	40 gallons
MW-17	Monitoring	Annual event	8/6/98	Pump	Disposable bailer	40 gallons
MW-18	Monitoring	Annual event	8/5/98	Pump	Disposable bailer	35 gallons
MW-19	Monitoring	Semi-annual event	1/20/98	Pump	Disposable bailer	45 gallons
		Annual event	8/5/98	Pump	Disposable bailer	40 gallons
MW-20	Monitoring	Semi-annual event	1/20/98	Pump	Disposable bailer	25 gallons
		Annual event	8/5/98	Pump	Disposable bailer	40 gallons
MW-21	Monitoring	Semi-annual event	1/20/98	Hand Bailer	Disposable bailer	20 gallons
		Annual event	8/6/98	Pump	Disposable bailer	40 gallons
MW-22	Monitoring	Annual event	8/6/98	Pump	Disposable bailer	45 gallons
MW-23	Injection	Not sampled due to use as air sparge well.	NS	NS	NS	45 gallons
RW-1	Recovery	Not sampled due to PSH presence	NS	NS	NS	0 gallons

NS indicates well was not sampled.

* Monitoring wells MW-2 and MW-3 bailed dry.

4.0 Groundwater Elevations, Hydraulic Gradient and Flow Direction

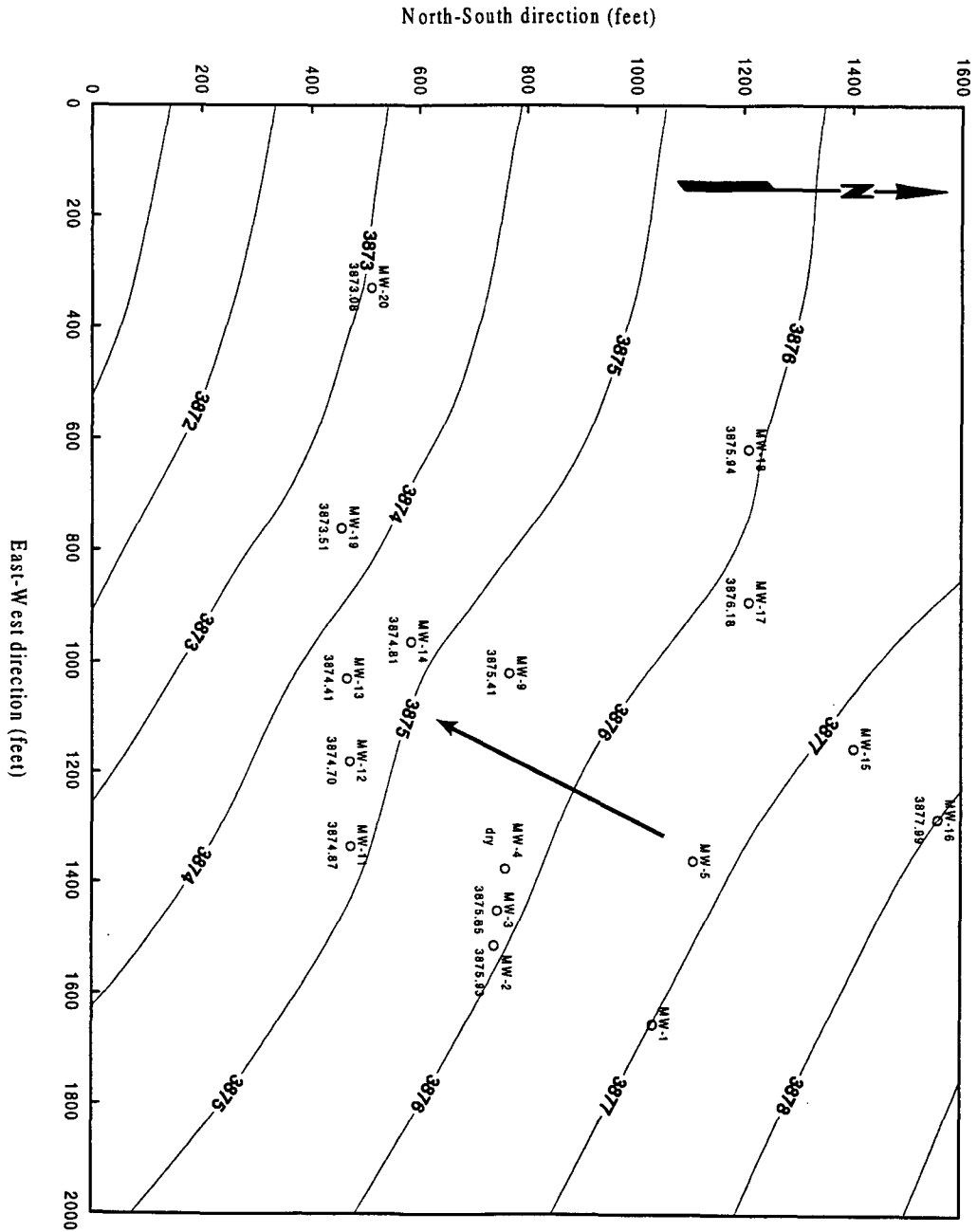
Based on the most recent gauging data collected by TRW on August 5, 1998, the groundwater conditions at the Lee Gas Plant are characterized below.

- The depth to the water table across the site varies from approximately 101 to 106 feet below ground surface
- The hydraulic gradient is approximately 0.004 feet/foot
- The direction of groundwater flow is to the southwest

Groundwater elevation maps depicting the water table elevation and direction of groundwater flow using the gauging data obtained during the two 1998 sampling events are presented in Figure 1a (January 19, 1998) and Figure 1b (August 5, 1998). Groundwater elevations and depth to water measurements for 1998 are summarized in Table 2.

The direction of groundwater flow and hydraulic gradient have remained consistent for the past ten years. However, the average water table elevations across the site have decreased by an average of about 1 foot per year since March 28, 1988. Figure 2a is a graphical presentation that depicts the change in average water table elevation versus time. Figures 2b and 2c depict the changing water table elevations for individual monitoring wells.

Due to the declining water table elevations over the past ten years, some of the older monitoring wells do not extend into (MW-1 and MW-4), or barely extend into (MW-2, MW-3, MW-5, and MW-8), the current water table. Since it is expected that the water table elevation will decrease more in the future, the availability of these wells as monitoring points will diminish.



Measurements Obtained on 01/19/98

Contour Interval = 1.00 feet

Hydraulic Gradient = 0.004 ft/ft (SW)

S:\PROJECTS\3023\LEEGW\Jan98.SRF



SITE: GPM - LEE PLANT

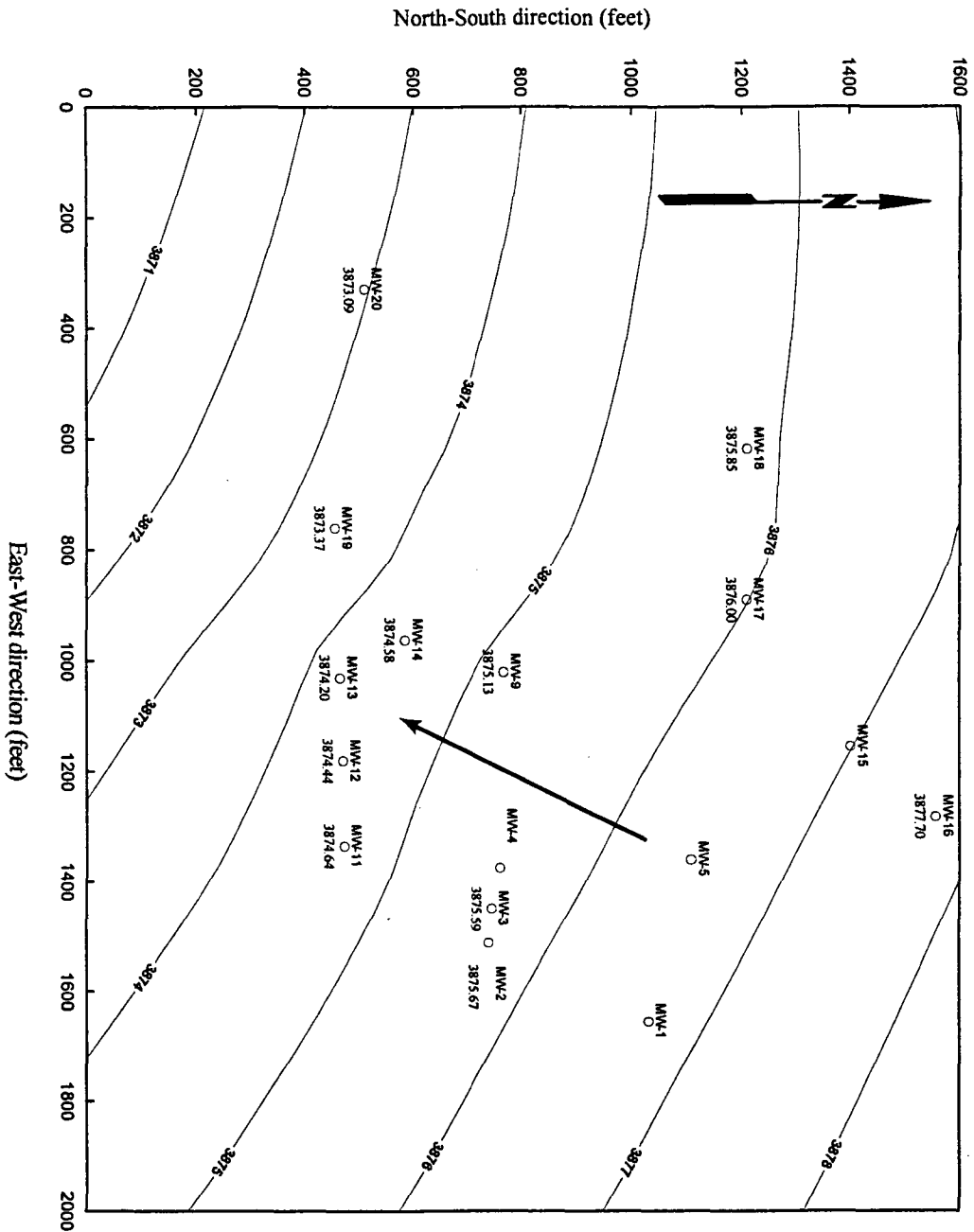
DATE: 1/19/98 REV. NO. 1

AUTHOR: GJV DRN BY: JH

CKD BY: DTL SCALE: 1" = 300'

FIGURE 1a

WATER TABLE
ELEVATION MAP



Measurements Obtained on 08/03/98

Contour Interval = 1.00 feet

Hydraulic Gradient = 0.004 ft/ft (SW)

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SITE: GPM - LEE PLANT

DATE: 8/3/98 REV. NO. 1

AUTHOR: GJV DRN BY: JH

CKD BY: DTL SCALE: 1" = 300'

FIGURE 1b
WATER TABLE
ELEVATION MAP

Table 1
1998 Groundwater Elevations
GPM - Lee Plant

Monitoring Well	Date Gauged	Relative Top of Casing Elevation (feet)*	Depth to Groundwater Below Top of Casing (feet)	Relative Groundwater Elevation (feet)**	Phase-Separated Hydrocarbon Thickness (feet)
MW-1	1/19/98	3979.25	Dry	Dry	0.00
	8/5/98	3979.25	Dry	Dry	0.00
MW-2	1/19/98	3980.50	104.57	3875.93	0.00
	8/5/98	3980.50	104.83	3875.67	0.00
MW-3	1/19/98	3980.27	104.42	3875.85	0.00
	8/5/98	3980.27	104.68	3875.59	0.00
MW-4	1/19/98	3980.16	Dry	Dry	0.00
	8/5/98	3980.16	Dry	Dry	0.00
MW-5	1/19/98	3979.82	106.02	3877.66	6.66
	8/5/98	3979.82	103.62	3876.68	0.55
MW-6	3/31/98	3981.79	107.72	3876.02	2.24
MW-7	3/31/98	3978.45	104.56	3873.89	0.00
MW-8	1/19/98	3979.96	104.37	3876.15	0.64
	8/5/98	3979.96	>106.35	< 3875.94	2.68
MW-9	1/19/98	3980.17	104.76	3875.41	0.00
	8/5/98	3980.17	105.04	3875.13	0.00
MW-10	8/5/98	3979.66	104.79	3874.87	0.00
MW-11	1/19/98	3978.50	103.63	3874.87	0.00
	8/5/98	3978.50	103.86	3874.64	0.00
MW-12	1/19/98	3978.82	104.12	3874.70	0.00
	8/5/98	3978.82	104.38	3874.44	0.00
MW-13	1/19/98	3980.52	106.11	3874.41	0.00
	8/5/98	3980.52	106.32	3874.20	0.00
MW-14	1/19/98	3982.23	107.42	3874.81	0.00
	8/5/98	3982.23	107.65	3874.58	0.00
MW-15	1/19/98	3981.70	104.50	3877.29	0.10
	8/5/98	3981.70	107.65	3877.51	3.98
MW-16	1/19/98	3980.80	102.81	3877.99	0.00
	8/5/98	3980.80	103.10	3877.70	0.00
MW-17	1/19/98	3981.80	105.62	3876.18	0.00
	8/5/98	3981.80	105.80	3876.00	0.00
MW-18	1/19/98	3983.10	107.16	3875.94	0.00
	8/5/98	3983.10	107.25	3875.85	0.00
MW-19	1/19/98	3980.80	107.29	3873.51	0.00
	8/5/98	3980.80	107.43	3873.37	0.00
MW-20	1/19/98	3983.30	110.22	3873.08	0.00
	8/5/98	3983.30	110.21	3873.09	0.00

Figure 2a

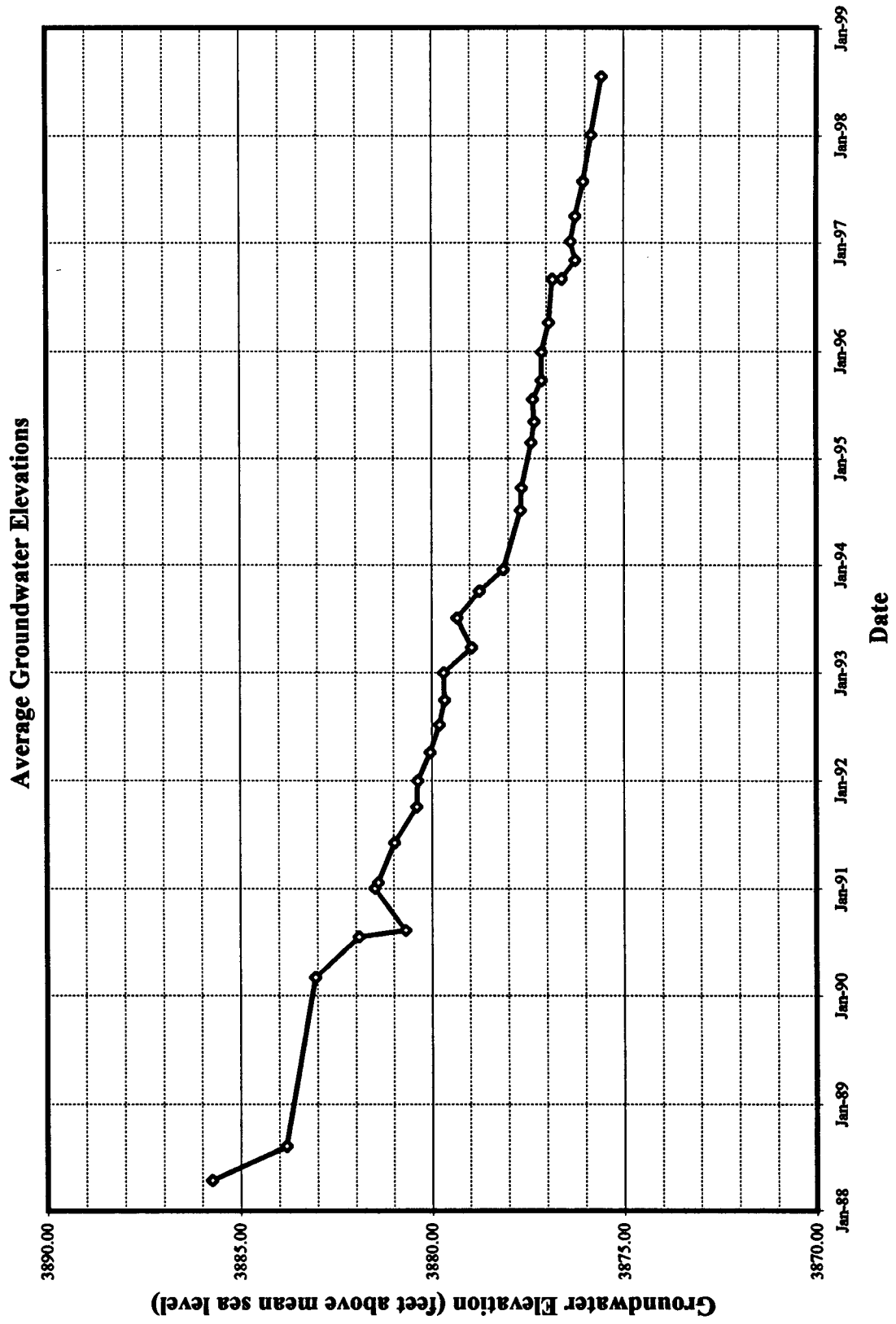


Figure 2b

Water Table Elevations for MW-1 through MW-12
(excluding recovery wells MW-6, MW-7 and MW-10)

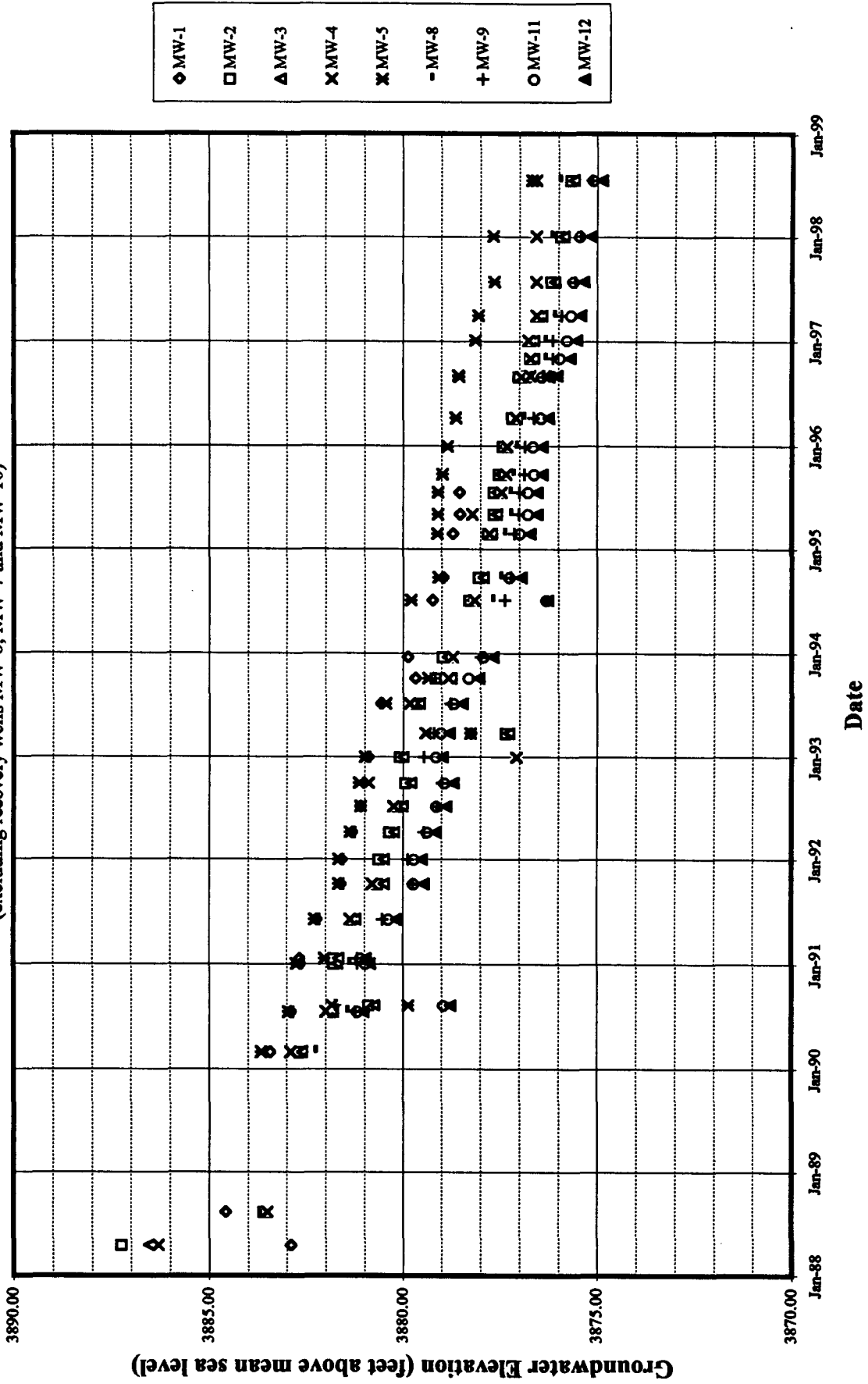
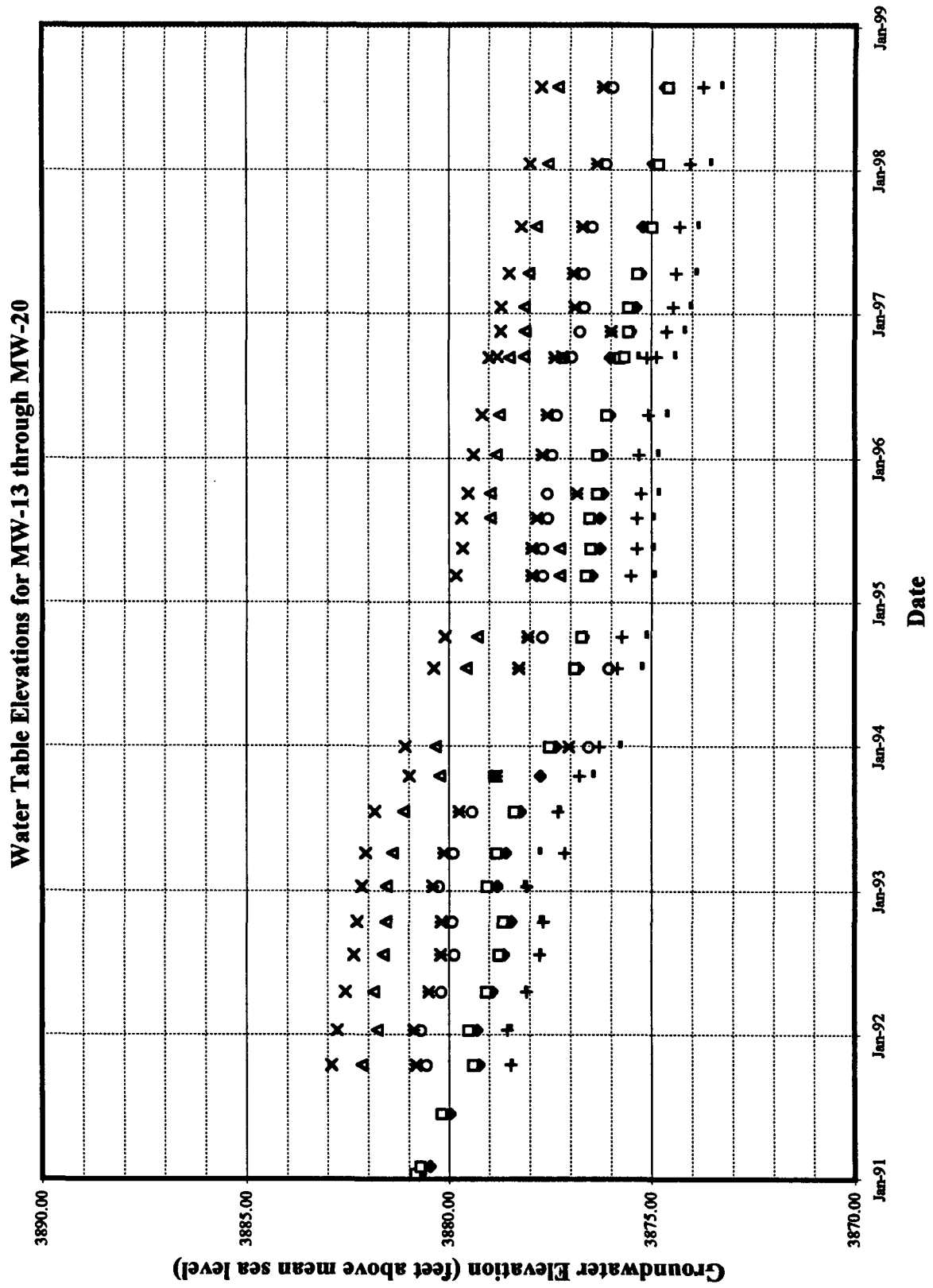


Figure 2 c



5.0 Distribution of Hydrocarbons in Groundwater

A historical listing of BTEX concentrations obtained from the on site monitoring wells are summarized in Table 2. A BTEX concentration map depicting the most recent BTEX concentrations (August 5, 1998) is presented in Figure 3. Hydrocarbon concentration versus time graphs for the central area wells (MW-2, MW-3, MW-7, MW-8, MW-9, MW-10, MW-14, MW-21, MW-22, MW-23, WS-1, and WS-2), north area wells (MW-5, MW-6, MW-15, MW-16, MW-17, and MW-18), and downgradient south area wells (MW-11, MW-12, MW-13, MW-19, and MW-20) are depicted in Figures 4a, 4b, and 4c, respectively.

Based on the most recent analytical data for samples collected by TRW on August 5, 1998, the distribution of hydrocarbons at the Lee Gas Plant is described below.

- BTEX concentrations in downgradient wells MW-11, MW-12, MW-13, MW-19 and MW-20 have been below WQCC standards, and in most cases below laboratory detection limits, for the last four years.
- BTEX concentrations in crossgradient wells MW-2, MW-17 and MW-18 remain below the laboratory detection limit of 0.001 mg/L.
- BTEX concentrations in crossgradient wells MW-3 and MW-14 have decreased from levels above the WQCC standards to near or below the laboratory detection limit of 0.001 mg/L.
- Benzene concentrations in monitoring wells MW-9 and MW-10, located within the areal extent of the dissolved-phase hydrocarbon plume, and upgradient well MW-16, remain above WQCC standards.
- Benzene concentrations in recovery wells MW-6 and MW-7 remain above WQCC standards.
- BTEX concentrations in monitoring well MW-21 have returned to levels below the laboratory detection limit of 0.001 mg/L due to the resumption of air sparging operations.
- BTEX concentrations in monitoring well MW-22, which is screened below the vertical extent of the hydrocarbon plume, remain below WQCC standards.
- Monitoring wells MW-1 and MW-4 could not be sampled due to dry well conditions.
- Monitoring wells MW-5, MW-8, and MW-15 were not be sampled due to the presence of 0.55 feet, 2.68 feet, and 3.98 feet of free product, respectively.

Table 3
BTEX Analytical Results In Groundwater
GPM - Lee Plant

Monitoring Well	Date Sampled	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Xylenes (mg/l)
MW-1	Mar-90	0.004	<0.001	<0.001	<0.001
	3/28/90	0.002	<0.001	<0.001	<0.001
	6/27/91	<0.002	<0.002	<0.002	<0.003
MW-2	Mar-90	<0.001	<0.001	<0.001	<0.001
	3/28/90	0.002	<0.001	<0.001	<0.001
	6/27/90	<0.002	<0.002	<0.002	<0.003
	7/30/92	<0.001	<0.001	<0.001	<0.001
	7/21/93	<0.002	<0.002	<0.002	<0.006
	1/6/94	<0.001	<0.001	<0.001	<0.003
	7/26/94	<0.001	<0.001	<0.001	<0.003
	1/16/96	<0.001	<0.001	<0.001	<0.001
	8/13/97	<0.001	<0.001	<0.001	<0.001
	1/20/98	<0.001	<0.001	<0.001	<0.001
	8/5/98	<0.001	<0.001	<0.001	<0.001
MW-3	Mar-90	0.069	0.002	0.001	0.001
	3/28/90	<0.001	0.002	<0.001	<0.001
	6/27/90	0.043	0.006	0.002	<0.003
	8/13/97	1.990	0.078	0.042	0.061
	8/5/98	0.002	<0.001	0.007	<0.001
MW-4	Never analyzed due to presence of phase-separated hydrocarbons or dry well conditions.				
MW-5	3/27/90	<0.001	0.098	<0.001	0.043
	6/27/91	5.00	0.570	0.015	0.088
	7/30/92	10.0	1.40	0.059	0.070
	7/21/93	22.0	7.87	0.570	1.27
	7/1/94	66.4	17.1	0.630	<1.5
MW-6	4/3/90	<0.001	<0.001	<0.001	<0.001
	2/13/91	72	3.0	35	42
	3/1/95	18.8	17.0	1.76	3.10
	8/13/97	11.6	4.1	0.49	0.82
	8/5/98	13.7	5.96	<0.500	0.991
MW-7	4/3/90	6.1	0.36	3.9	0.26
	6/27/91	3.2	1.4	0.023	0.13
	7/30/92	0.001	<0.001	<0.001	<0.001
	7/21/93	0.040	0.57	<0.001	1.27
	7/25/94	0.003	0.002	0.001	0.005
	8/9/95	0.083	0.001	0.002	<0.003
	8/27/96	1.14	<0.010	<0.010	<0.010
	8/13/97	1.39	<0.025	<0.025	<0.025
	8/5/98	1.63	<0.010	<0.010	<0.010
MW-8	4/6/90	18	0.83	7.1	0.29
	6/27/91	21	1.3	0.012	0.42
	7/30/92	13	0.38	0.37	0.18

Table 3
BTEX Analytical Results In Groundwater
GPM - Lee Plant

Monitoring Well	Date Sampled	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Xylenes (mg/l)
MW-9	8/11/90	0.006	0.001	0.001	0.002
	1/23/91	0.007	0.001	0.005	0.002
	6/27/91	0.16	0.056	0.003	0.004
	10/17/91	0.002	0.003	0.002	<0.001
	1/23/92	<0.001	0.003	0.005	<0.001
	4/28/92	<0.001	0.001	<0.001	<0.001
	7/30/92	0.31	0.004	0.010	0.003
	10/21/92	3.0	0.28	0.11	0.12
	1/20/93	5.9	0.004	0.022	0.011
	4/15/93	2.2	0.011	0.020	0.040
	7/21/93	0.673	0.314	0.029	0.069
	7/25/94	0.495	<0.01	<0.01	<0.03
	8/9/95	5.86	<0.025	<0.025	<0.075
	8/27/96	0.327	<0.001	<0.001	<0.001
	8/12/97	0.138	<0.001	<0.001	<0.001
	8/6/98	0.892	<0.010	<0.010	<0.010
MW-10	8/10/90	1.3	0.050	0.034	0.016
	1/23/91	0.98	0.015	0.016	<0.005
	6/27/91	9.7	0.42	0.084	0.039
	7/21/93	0.004	<0.002	<0.002	NS
	7/25/94	4.16	0.21	0.23	0.86
	8/9/95	3.66	0.033	<0.025	<0.075
	8/27/96	2.98	0.060	<0.025	<0.025
	8/12/97	4.71	<0.050	<0.050	<0.050
	8/6/98	1.50	0.011	0.013	0.008
MW-11	8/10/90	0.001	0.002	0.003	0.006
	6/26/91	<0.002	<0.002	<0.002	<0.003
	10/17/91	0.002	0.002	<0.001	<0.001
	1/23/92	<0.001	<0.001	<0.001	<0.001
	4/28/92	0.002	<0.001	<0.001	<0.001
	7/30/92	0.031	0.007	0.002	0.001
	10/21/92	0.078	0.130	0.022	0.051
	1/20/93	0.001	<0.001	<0.001	0.001
	4/15/93	0.001	<0.001	<0.001	0.001
	7/20/93	0.016	0.031	<0.002	0.012
	10/26/93	<0.002	<0.002	<0.002	<0.006
	1/6/94	0.004	0.006	<0.001	0.004
	5/3/94	<0.001	<0.001	0.001	0.004
	7/26/94	0.002	0.001	<0.001	<0.003
	10/12/94	<0.001	0.002	<0.001	<0.003
	3/16/95	<0.001	0.002	<0.001	0.003
	6/24/95	<0.001	0.001	<0.001	<0.003
	8/10/95	<0.001	<0.001	<0.001	<0.003
	10/10/95	<0.001	<0.001	<0.001	<0.001
	1/16/96	<0.001	<0.001	<0.001	<0.001
	4/25/96	<0.001	<0.001	<0.001	<0.001
	8/27/96	<0.001	<0.001	<0.001	<0.001
	11/20/96	<0.001	<0.001	<0.001	<0.001
	1/21/97	<0.001	<0.001	<0.001	<0.001
	4/17/97	<0.001	<0.001	<0.001	<0.001
	8/12/97	<0.001	<0.001	<0.001	<0.001
	1/19/98	<0.001	<0.001	<0.001	<0.001
	8/5/98	<0.001	<0.001	<0.001	<0.001

Table 3
BTEX Analytical Results In Groundwater
GPM - Lee Plant

Monitoring Well	Date Sampled	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Xylenes (mg/l)
MW-12	8/10/90	0.001	0.001	0.001	0.003
	1/23/91	0.12	0.001	0.004	0.001
	6/26/91	<0.002	0.002	<0.002	<0.003
	10/17/91	0.004	0.003	<0.001	<0.001
	1/23/92	<0.001	<0.001	<0.001	<0.001
	4/28/92	<0.001	<0.001	<0.001	<0.001
	7/30/92	0.018	0.004	0.001	0.001
	10/21/92	0.064	0.130	0.024	0.056
	1/20/93	0.067	0.001	<0.001	<0.001
	4/15/93	0.030	<0.001	<0.001	<0.001
	7/20/93	0.011	0.029	<0.002	0.012
	10/26/93	<0.002	<0.002	<0.002	<0.006
	1/6/94	0.003	0.004	<0.001	<0.003
	5/3/94	<0.001	0.002	0.001	0.004
	7/26/94	0.004	<0.001	<0.001	<0.003
	10/12/94	<0.001	<0.001	<0.001	<0.003
	3/16/95	<0.001	0.003	<0.001	0.004
	6/24/95	<0.001	<0.001	<0.001	<0.003
	8/10/95	<0.001	<0.001	<0.001	<0.003
	10/10/95	<0.001	<0.001	<0.001	<0.001
	1/16/96	<0.001	<0.001	<0.001	<0.001
	4/25/96	<0.001	<0.001	<0.001	<0.001
	8/27/96	<0.001	<0.001	<0.001	<0.001
	11/20/96	<0.001	<0.001	<0.001	<0.001
	1/21/97	<0.001	<0.001	<0.001	<0.001
	4/17/97	<0.001	<0.001	<0.001	<0.001
	8/12/97	<0.001	<0.001	<0.001	<0.001
	1/20/98	<0.001	<0.001	<0.001	<0.001
	8/5/98	<0.001	<0.001	<0.001	<0.001
MW-13	1/27/91	0.016	0.003	0.019	0.005
	6/26/91	0.002	<0.002	<0.002	<0.003
	10/17/91	0.001	0.001	<0.001	<0.001
	1/23/92	<0.001	<0.001	<0.001	<0.001
	7/30/92	<0.001	<0.001	<0.001	<0.001
	10/21/92	0.084	0.150	0.026	0.062
	1/20/93	0.028	<0.001	<0.001	<0.001
	4/15/93	0.013	<0.001	<0.001	<0.001
	7/20/93	0.015	0.034	<0.002	0.013
	10/26/93	0.029	0.030	<0.002	0.010
	1/6/94	0.002	0.003	<0.001	<0.003
	5/3/94	<0.001	<0.001	<0.001	<0.003
	7/26/94	0.007	0.001	<0.001	<0.003
	10/12/94	<0.001	<0.001	<0.001	<0.001
	3/16/95	<0.001	0.003	<0.001	<0.003
	6/24/95	<0.001	<0.001	<0.001	0.003
	8/10/95	<0.001	<0.001	<0.001	<0.003
	10/10/95	<0.001	<0.001	<0.001	<0.001
	4/25/96	<0.001	<0.001	<0.001	<0.001
	8/27/96	<0.001	<0.001	<0.001	<0.001
	11/20/96	<0.001	<0.001	<0.001	<0.001
	1/21/97	<0.001	<0.001	<0.001	<0.001
	4/17/97	<0.001	<0.001	<0.001	<0.001
	8/12/97	<0.001	<0.001	<0.001	<0.001
	1/20/98	<0.001	<0.001	<0.001	<0.001
	8/5/98	<0.001	<0.001	<0.001	<0.001

Table 3
BTEX Analytical Results In Groundwater
GPM - Lee Plant

Monitoring Well	Date Sampled	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Xylenes (mg/l)
MW-14	1/27/91	<0.001	<0.001	<0.001	<0.001
	6/27/91	<0.002	<0.002	<0.002	<0.003
	10/21/92	0.043	0.099	0.019	0.045
	1/20/93	0.019	<0.001	<0.001	0.001
	4/15/93	0.013	0.003	0.003	0.006
	4/25/96	2.22	<0.010	0.049	<0.010
	4/17/97	3.79	<0.025	0.050	<0.025
	8/13/97	3.42	<0.050	<0.050	<0.050
	8/6/98	0.002	<0.001	<0.001	<0.001
MW-15	10/29/91	4.2	0.45	0.10	0.10
	3/16/95	6.24	0.981	0.087	0.214
MW-16	10/18/91	0.004	0.002	<0.001	<0.001
	7/30/92	0.42	0.077	0.008	0.008
	7/20/93	1.19	0.157	0.030	0.048
	7/26/94	3.82	1.66	0.120	<0.300
	8/10/95	3.53	0.540	0.137	0.378
	8/27/96	0.724	0.166	0.035	0.021
	8/13/97	0.891	0.216	0.042	0.081
	8/6/98	1.950	0.304	0.046	0.129
MW-17	10/27/91	0.008	0.002	<0.001	<0.001
	3/16/95	0.062	0.020	0.004	0.010
	1/16/96	<0.001	<0.001	<0.001	<0.001
	8/13/97	0.002	<0.001	<0.001	<0.001
	8/6/98	<0.001	<0.001	<0.001	<0.001
MW-18	10/28/91	<0.001	0.001	<0.001	<0.001
	7/30/92	0.023	0.006	0.002	0.001
	7/20/93	0.011	0.029	<0.002	0.012
	1/6/94	<0.001	0.002	<0.001	<0.003
	7/26/94	0.057	0.008	0.002	<0.003
	3/16/95	<0.001	0.002	<0.001	<0.003
	8/10/95	<0.001	<0.001	<0.001	<0.003
	1/16/96	<0.001	<0.001	<0.001	<0.001
	8/27/96	<0.001	<0.001	<0.001	<0.001
	1/21/97	<0.001	<0.001	<0.001	<0.001
	8/13/97	<0.001	<0.001	<0.001	<0.001
	8/5/98	<0.001	<0.001	<0.001	<0.001
MW-19	10/25/91	<0.001	0.001	<0.001	<0.001
	7/30/92	0.014	0.004	0.002	0.001
	7/20/93	0.015	0.036	<0.002	0.014
	10/26/93	0.011	0.012	<0.002	<0.006
	1/6/94	0.003	0.003	<0.001	<0.003
	5/3/94	<0.001	<0.001	<0.001	<0.003
	7/26/94	0.005	<0.001	<0.001	<0.003
	10/12/94	<0.001	<0.001	<0.001	<0.003
	3/16/95	0.079	0.028	0.005	0.011
	5/24/95	0.003	0.004	0.002	0.003
	8/10/95	<0.001	<0.001	<0.001	<0.003
	10/10/95	<0.001	<0.001	<0.001	<0.001
	1/16/96	<0.001	<0.001	<0.001	<0.001
	4/25/96	<0.001	<0.001	<0.001	<0.001
	8/27/96	<0.001	<0.001	<0.001	<0.001
	11/20/96	<0.001	<0.001	<0.001	<0.001
	1/21/97	<0.001	<0.001	<0.001	<0.001
	4/17/97	<0.001	<0.001	<0.001	<0.001
	8/12/97	<0.001	<0.001	<0.001	<0.001
	1/20/98	<0.001	<0.001	<0.001	<0.001
	8/5/98	<0.001	<0.001	<0.001	<0.001

Table 3
BTEX Analytical Results In Groundwater
GPM - Lee Plant

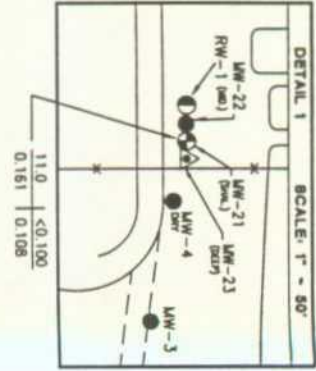
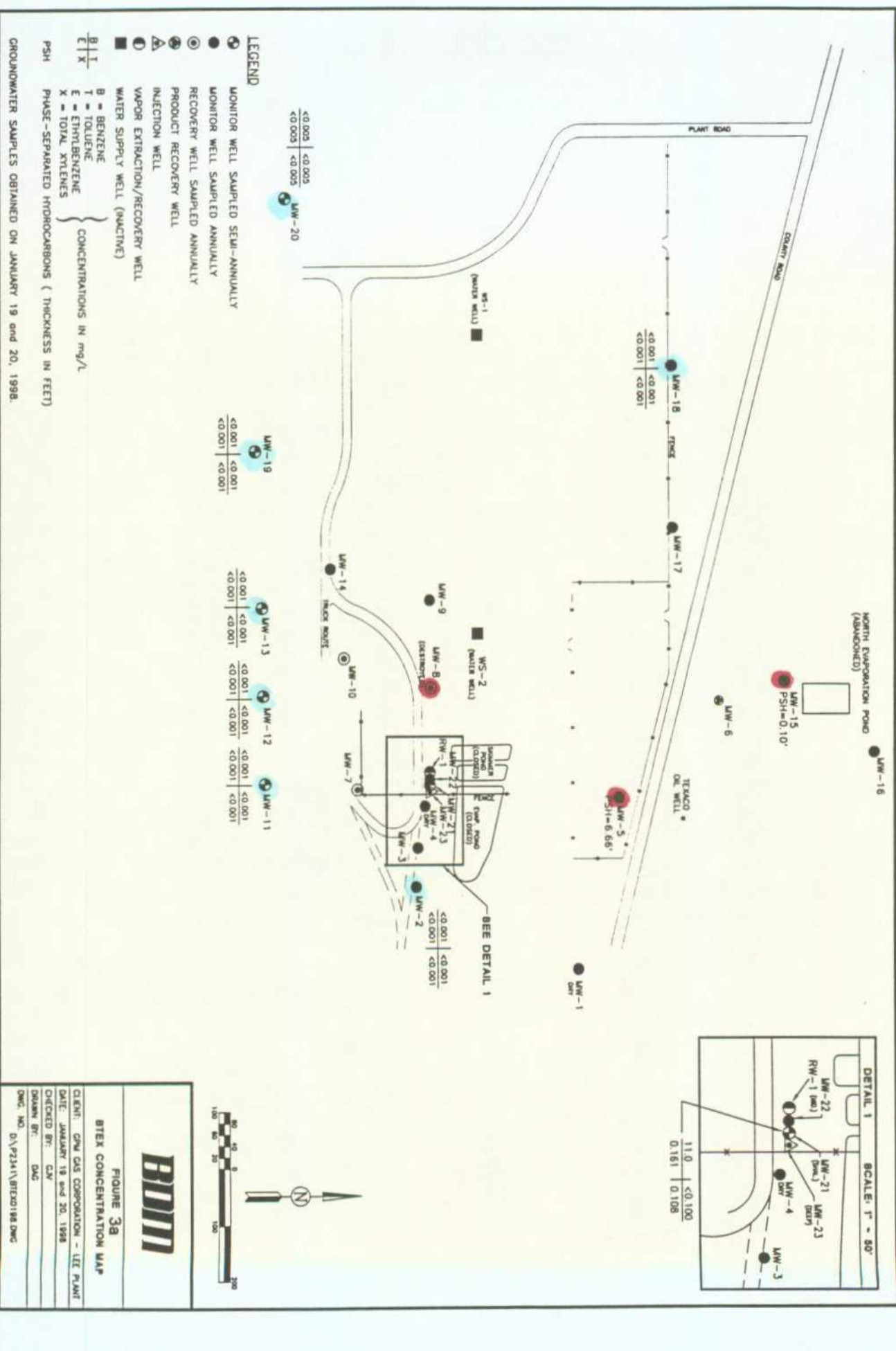
Monitoring Well	Date Sampled	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Xylenes (mg/l)
MW-20	10/29/91	0.080	0.041	0.003	0.003
	1/23/92	<0.001	<0.001	<0.001	<0.001
	7/30/92	0.22	0.076	0.006	0.006
	1/20/93	<0.001	<0.001	<0.001	<0.001
	4/15/93	0.001	<0.001	<0.001	0.002
	7/20/93	0.217	0.102	0.011	0.034
	10/26/93	0.018	0.014	<0.002	<0.006
	1/6/94	0.004	0.005	0.003	0.010
	5/3/94	<0.001	<0.001	<0.001	<0.003
	7/26/94	<0.001	<0.001	<0.001	<0.003
	10/12/94	<0.001	<0.001	<0.001	<0.003
	3/16/95	0.001	0.006	<0.001	0.006
	6/24/95	<0.001	<0.001	<0.001	0.003
	8/10/95	<0.001	<0.001	<0.001	<0.003
	10/10/95	<0.001	<0.001	<0.001	<0.001
	1/16/96	<0.001	<0.001	<0.001	<0.001
	4/25/96	<0.001	<0.001	<0.001	<0.001
	8/27/96	<0.001	<0.001	<0.001	<0.001
	11/20/96	<0.001	<0.001	<0.001	<0.001
	1/21/97	<0.001	<0.001	<0.001	<0.001
	4/17/97	<0.001	<0.001	<0.001	<0.001
	8/12/97	<0.001	<0.001	<0.001	<0.001
	1/20/98	<0.005	<0.005	<0.005	<0.005
	8/5/98	<0.001	<0.001	<0.001	<0.001
MW-21	7/20/93	37	5	<2	<6
	4/23/94	0.007	<0.001	<0.001	<0.003
	5/4/94	0.517	0.052	<0.001	<0.003
	7/26/94	0.078	0.051	<0.001	0.011
	3/16/95	0.042	<0.001	<0.001	<0.003
	10/10/95	0.092	<0.001	<0.001	<0.001
	4/25/96	0.001	<0.001	<0.001	<0.001
	11/20/96	0.010	<0.001	<0.001	<0.001
	4/17/97	3.51	<0.025	<0.025	<0.025
	8/13/97	33	0.31	0.73	0.90
MW-22	1/20/98	11.0	<0.100	<0.100	<0.100
	8/6/98	<0.001	<0.001	<0.001	<0.001
	7/20/93	0.170	0.065	0.036	0.048
	4/23/94	2.52	0.26	<0.10	<0.30
	5/4/94	0.007	0.002	<0.001	0.007
	7/26/94	0.005	0.001	<0.001	<0.003
	3/16/95	<0.001	<0.001	<0.001	<0.003
	10/10/95	<0.001	<0.001	<0.001	<0.001
	4/25/96	<0.001	<0.001	<0.001	<0.001
	11/20/96	<0.001	<0.001	<0.001	<0.001
MW-23	8/13/97	0.002	0.001	<0.001	<0.001
	8/6/98	<0.001	0.006	<0.001	<0.001
	7/20/93	0.190	0.130	0.010	0.046
	8/13/97	<0.001	<0.001	<0.001	<0.001

Table 3
BTEX Analytical Results In Groundwater
GPM - Lee Plant

Monitoring Well	Date Sampled	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Xylenes (mg/l)
WS-1	Mar-90	0.015	0.004	0.002	0.004
	8/10/90	0.010	0.001	0.001	0.001
	6/27/91	0.007	<0.002	<0.002	<0.003
	1/23/92	0.110	0.020	0.020	0.010
	7/30/92	0.015	0.003	0.003	0.002
	4/15/93	0.007	0.003	0.002	0.002
	7/26/94	0.020	<0.001	0.002	<0.003
WS-2	Mar-90	0.007	<0.001	0.001	<0.001
	6/27/91	0.280	0.027	0.002	0.003
	1/23/92	0.010	<0.001	<0.001	<0.001
	7/30/92	0.46	0.011	0.005	0.002
	4/15/93	1.6	<0.001	0.019	0.014
RW-1	4/4/90	2.6	0.32	0.58	0.19
WQCC Standards (mg/l)		0.010	0.75	0.75	0.62

Samples analyzed for BTEX using EPA Method 602/8021B.

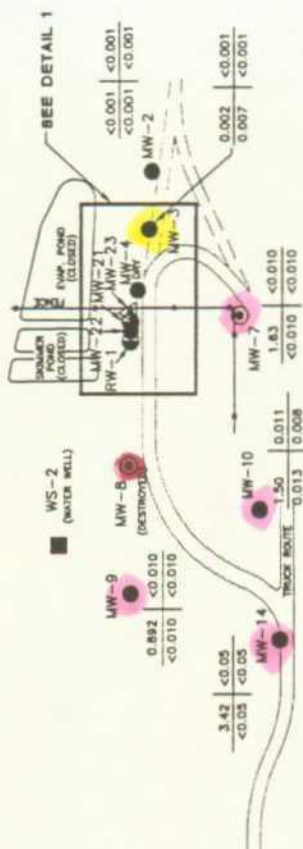
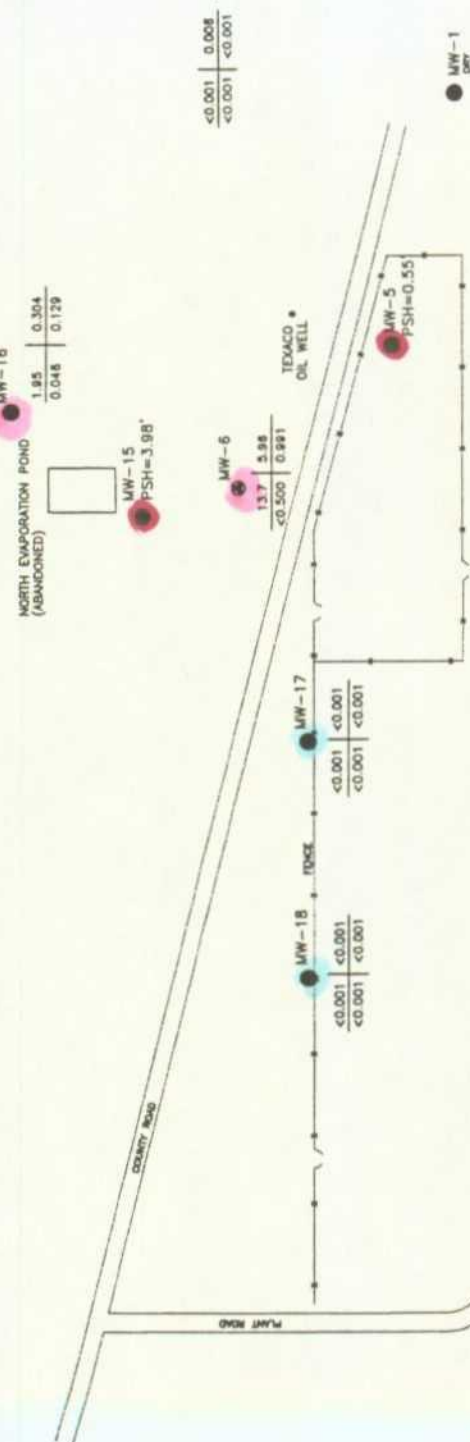
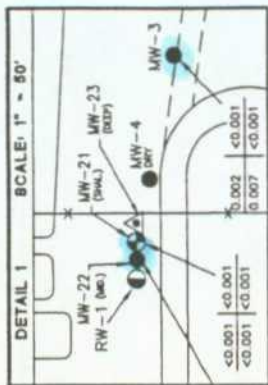
New Mexico Water Quality Control Commission (WQCC) standards are listed as specified in Section 3-103.



BDM

FIGURE 3a
BTEX CONCENTRATION MAP

CLIENT: CPM GAS CORPORATION - ILE PLANT
DATE: JANUARY 19 AND 20, 1998
CHECKED BY: CLV
DRAWN BY: DAC
DWG. NO. D:\P21\1\BTEX0198.DWG



LEGEND

- MONITOR WELL SAMPLED SEMI-ANNUALLY
- MONITOR WELL SAMPLED ANNUALLY
- RECOVERY WELL SAMPLED ANNUALLY
- PRODUCT RECOVERY WELL
- INJECTION WELL
- VAPOR EXTRACTION/RECOVERY WELL
- WATER SUPPLY WELL (INACTIVE)

B = BENZENE
T = TOLUENE
E = ETHYLBENZENE
X = TOTAL XYLENES

CONCENTRATIONS IN mg/L

PSH = PHASE-SEPARATED HYDROCARBONS (THICKNESS IN FEET)

MW-19
<0.001 <0.001 <0.001 <0.001

MW-13
<0.001 <0.001 <0.001 <0.001

MW-10
0.011 0.008
0.013 0.008

MW-14
3.42 <0.05
<0.05 <0.05

MW-9
0.892 <0.010
<0.010 <0.010

MW-8
<0.010 <0.010

MW-7
1.83 <0.010
<0.010 <0.010

MW-2
<0.001 <0.001
<0.001 <0.001

MW-1
0.008
<0.001 <0.001

MW-5
PSH=0.55
<0.001 <0.001

MW-15
PSH=3.98
<0.001 <0.001

MW-16
1.85 0.304
0.048 0.129



FIGURE 3b

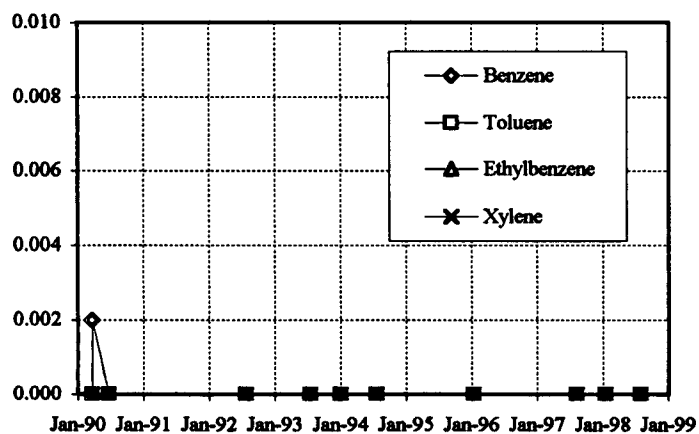
BTEX CONCENTRATION MAP

CLIENT: GPM GAS CORPORATION - LEE PLANT
DATE: AUGUST 5-6, 1998
CHECKED BY: GAV
DRAWN BY: DAG
DWG. NO. 0:\P23411\3023-002\BTEX0898.DWG

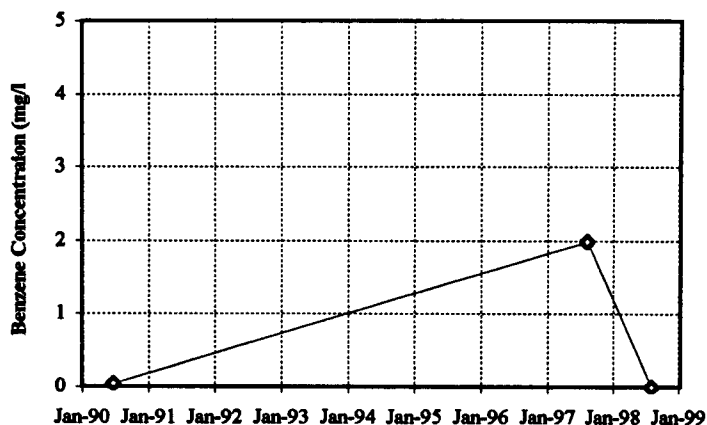
GROUNDWATER SAMPLES OBTAINED ON AUGUST 5-6, 1998

Figure 4a
Hydrocarbon Concentrations Versus Time
(Central Area Wells)

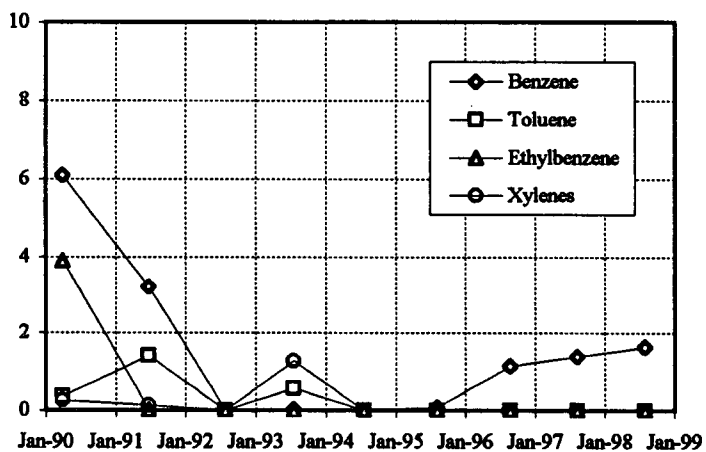
MW-2



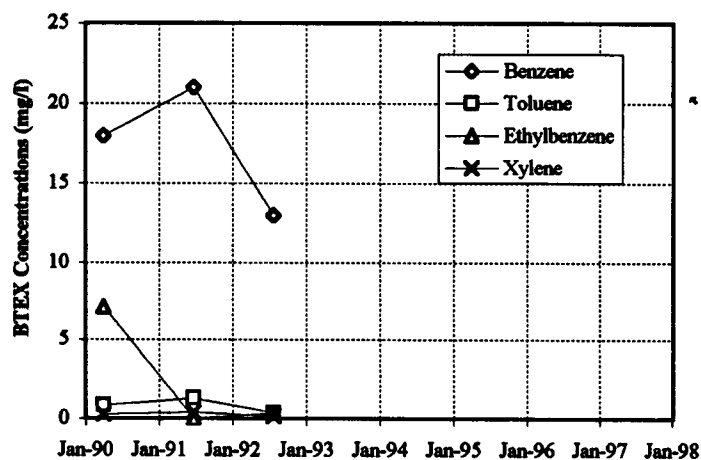
MW-3



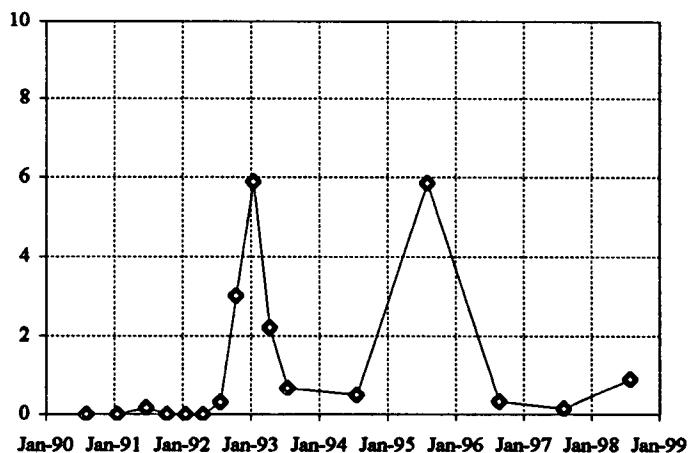
MW-7



MW-8



MW-9



MW-10

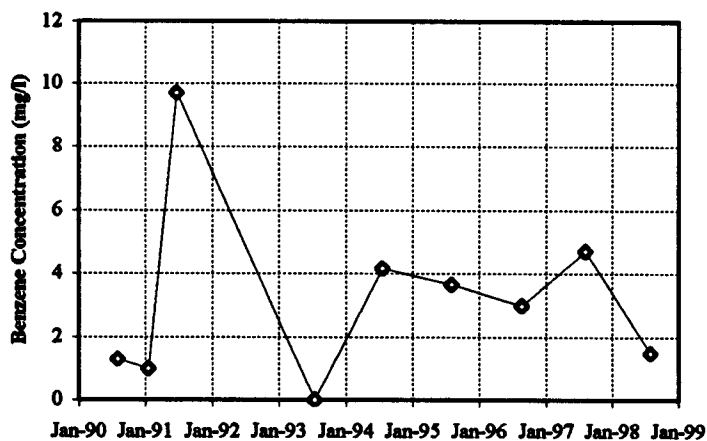


Figure 4a
Hydrocarbon Concentrations Versus Time

(Central Area Wells)

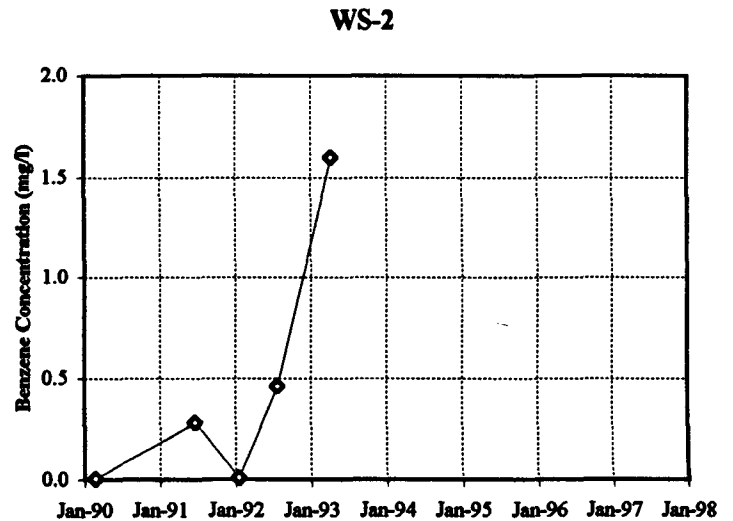
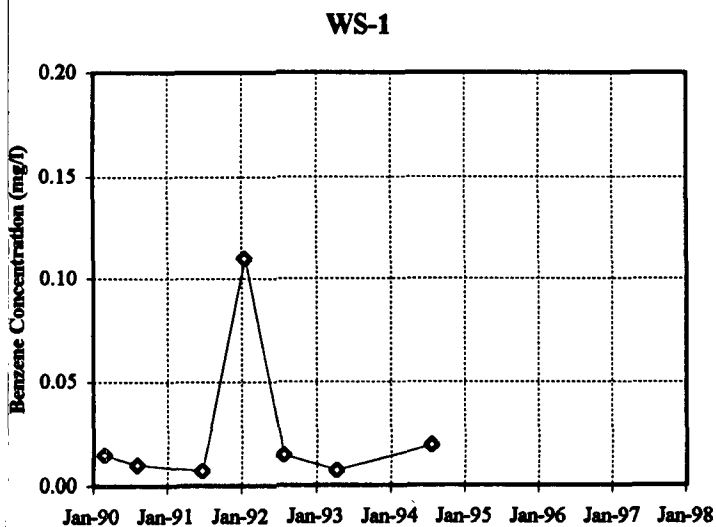
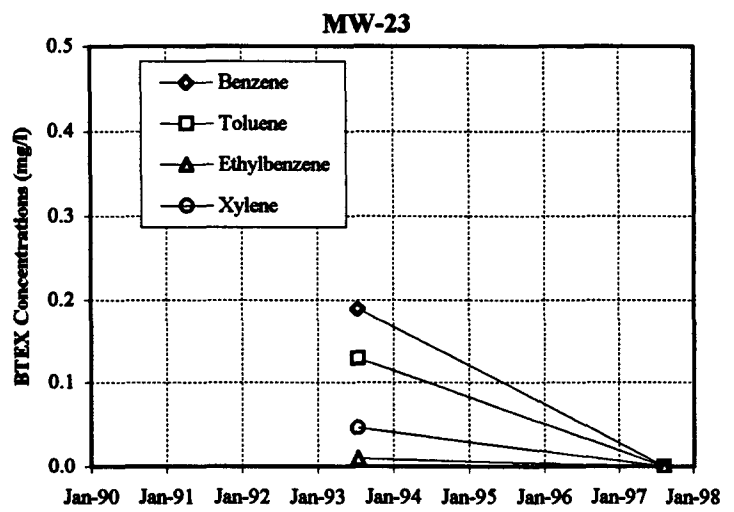
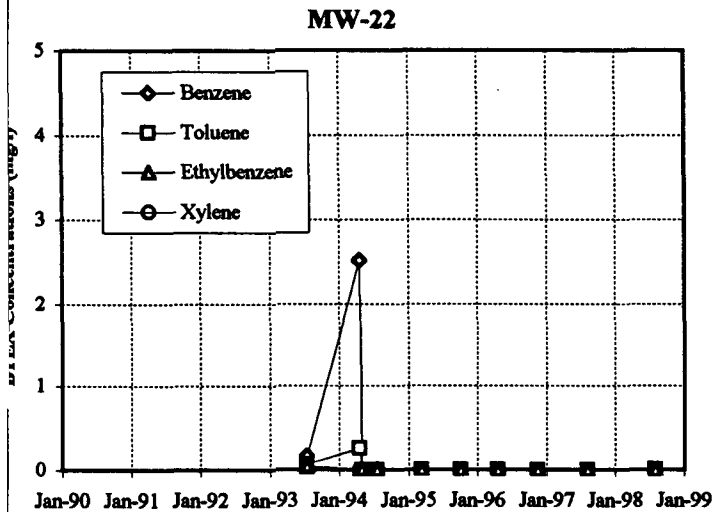
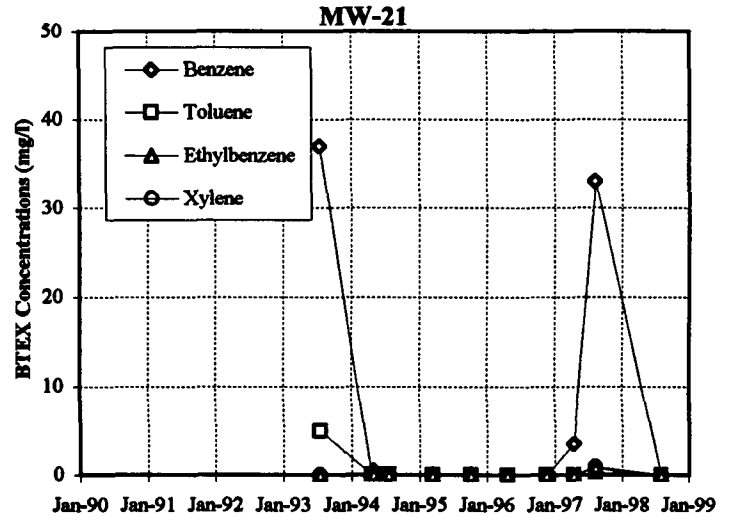
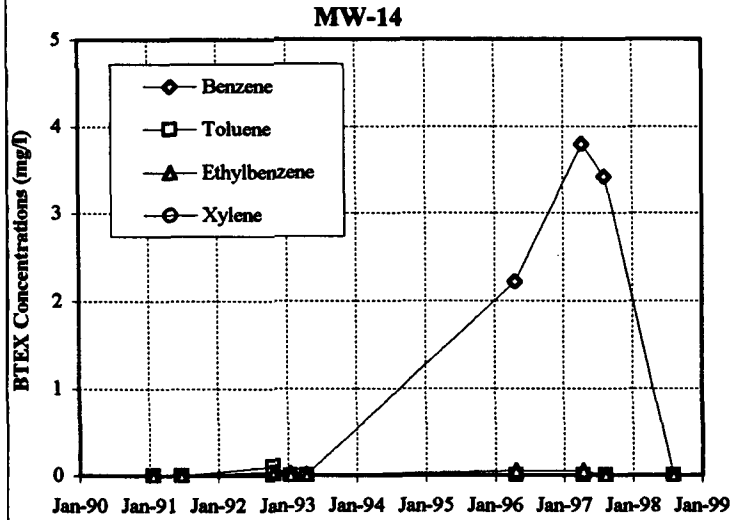


Figure 4b
Hydrocarbon Concentrations Versus Time
(North Area Wells)

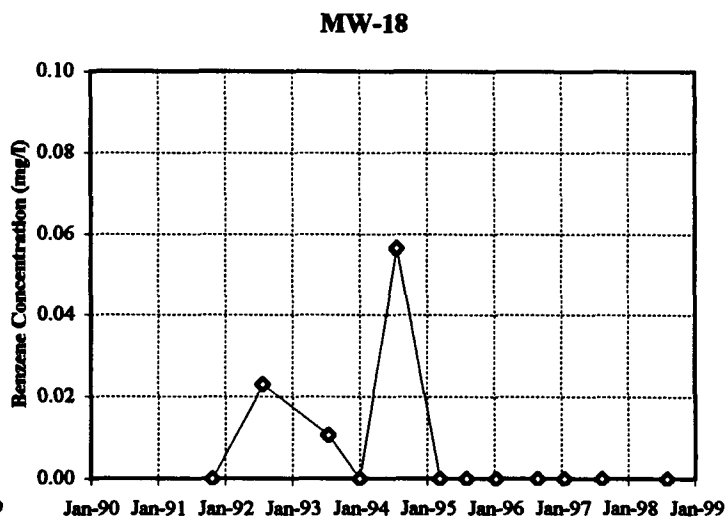
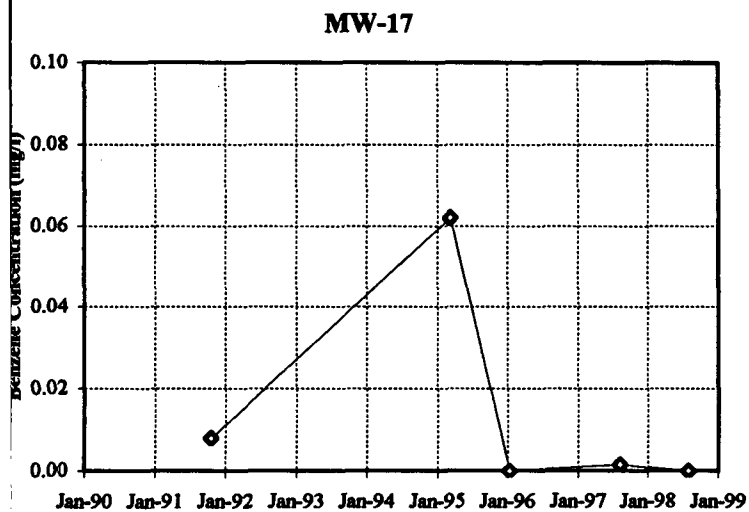
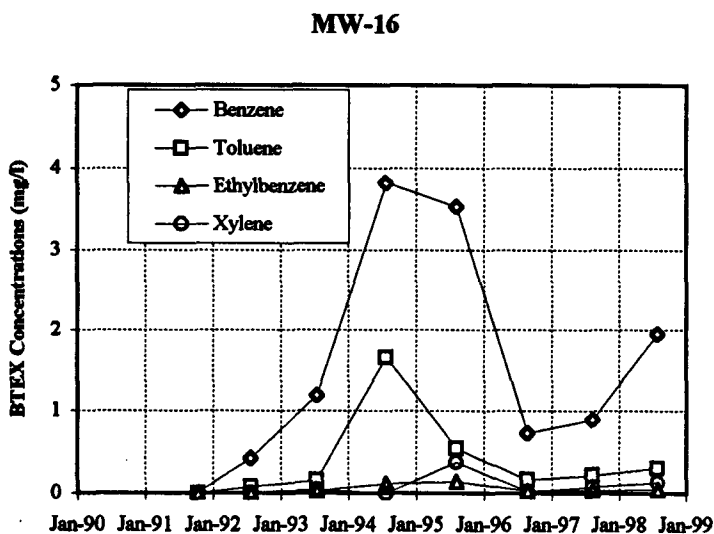
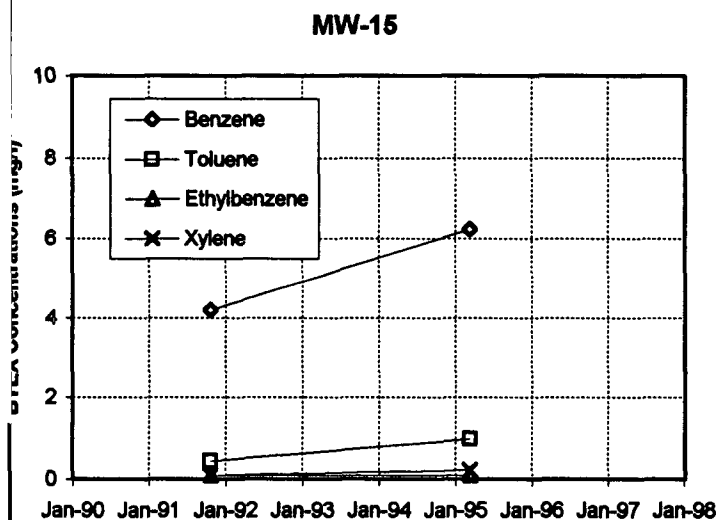
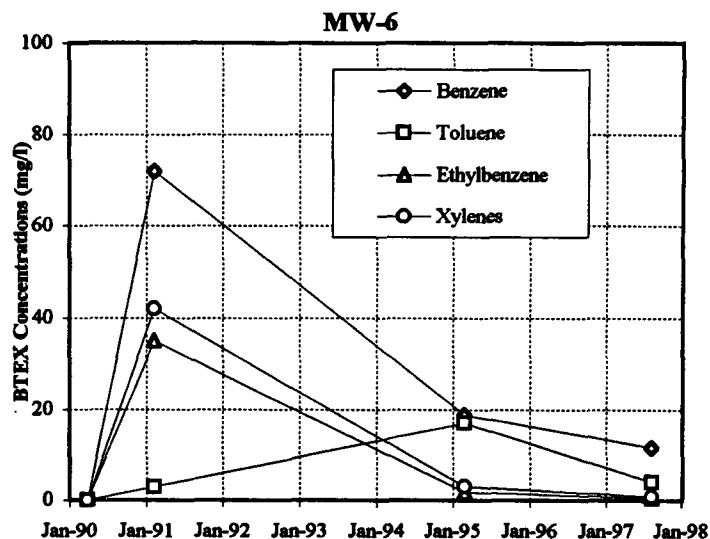
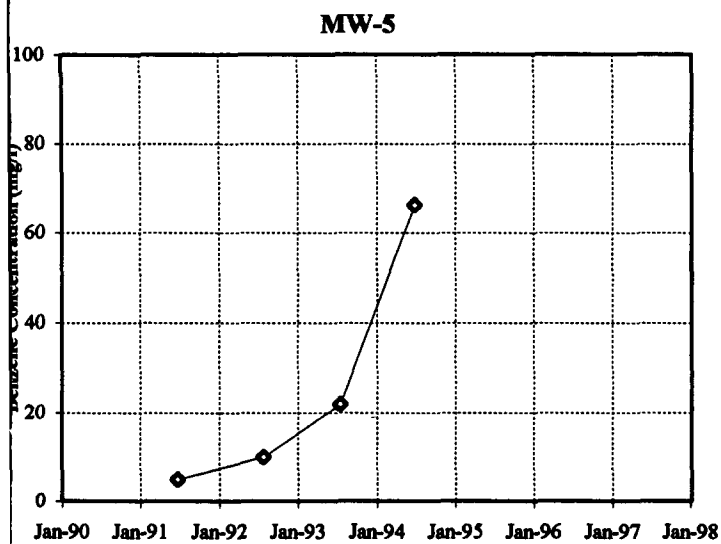
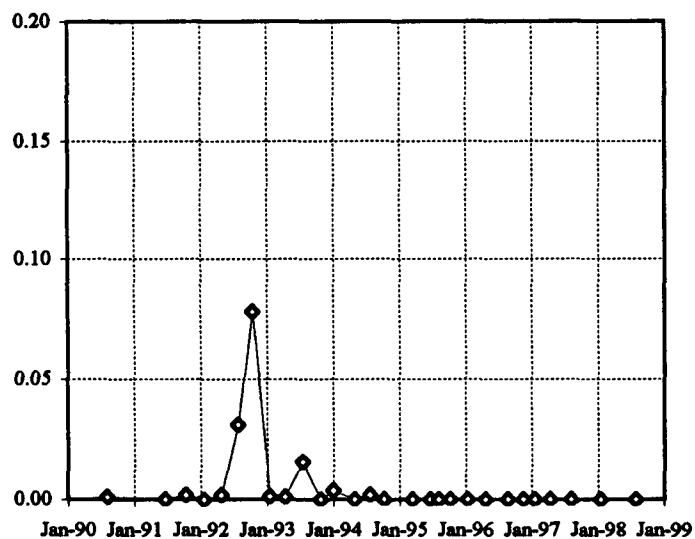
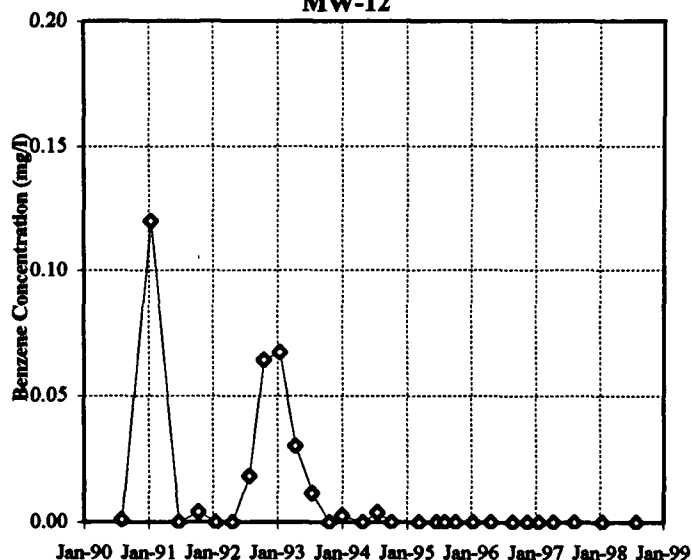


Figure 4c
Hydrocarbon Concentrations Versus Time
(Downgradient - South Area Wells)

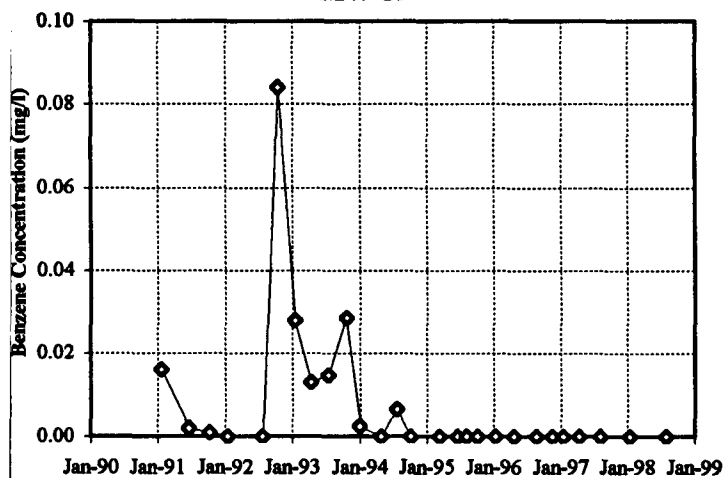
MW-11



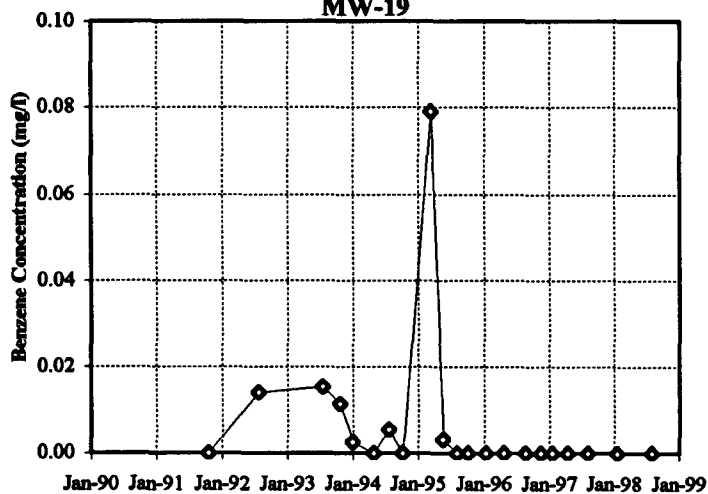
MW-12



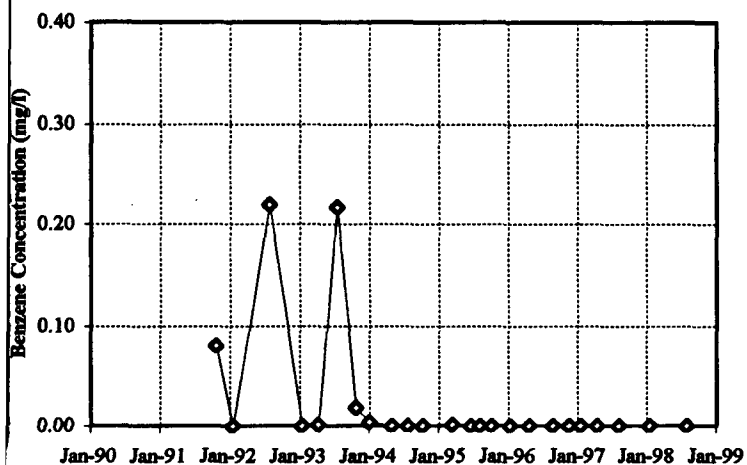
MW-13



MW-19



MW-20



6.0 Remediation System Performance

The remediation system at the Lee Gas Plant consists of three groundwater recovery wells (RW-1, MW-6, and MW-7), one soil vapor extraction well (RW-1), and one air sparge well (MW-23). The submersible pumps in MW-6 and MW-7 were replaced with new pumps on April 1, 1998. The pump in RW-1 was replaced on September 17, 1998. A total of 129,268 gallons of groundwater was recovered by the three recovery wells during the period of record (January 1, 1997 through September 30, 1997). The estimated total fluid extraction volumes from the remediation system recovery wells for 1998 are summarized in Table 3. A graphical representation of monthly groundwater recovery volumes for 1997 and 1998 is depicted in Figure 5. The approximately 75 percent reduction in groundwater recovery volumes in 1998 (129,268 gallons) as compared to 1997 (525,210 gallons) is due to the following factors:

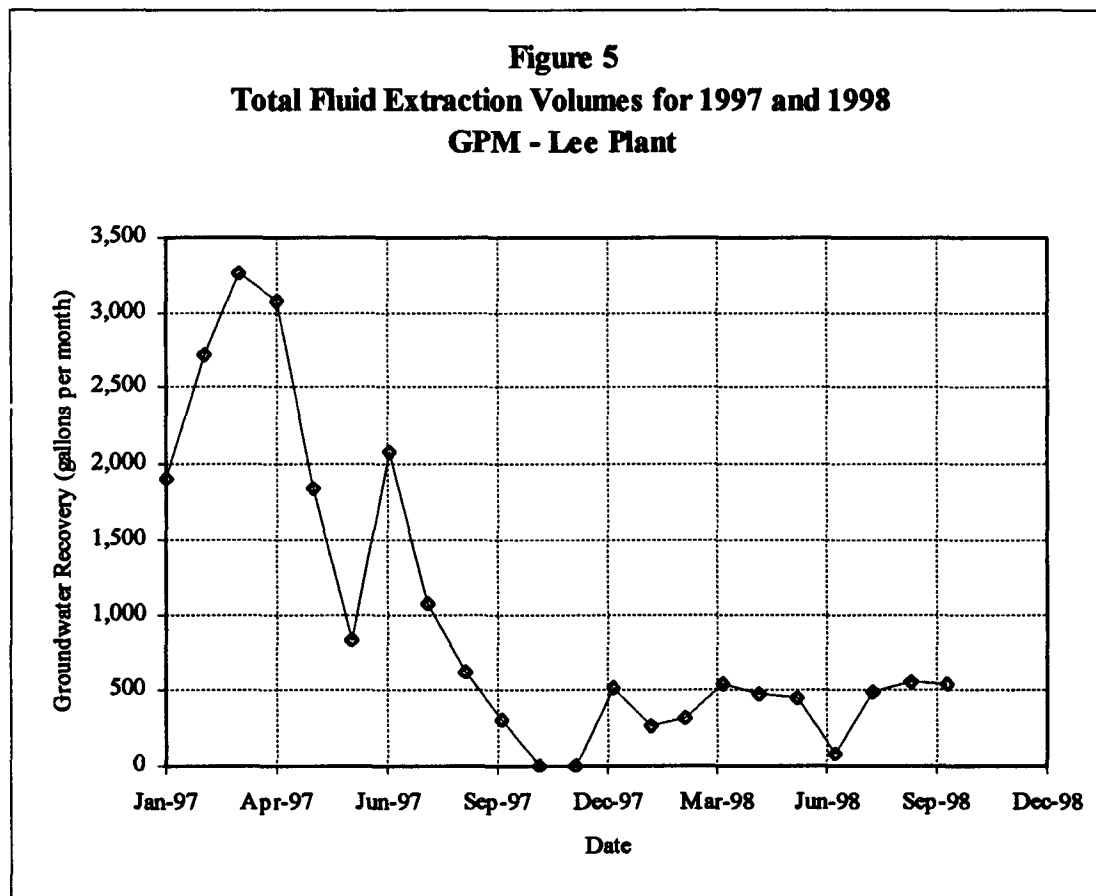
- After 4 years of continuous duty, the submersible pumps wore out and required replacement.
- There is significantly less available drawdown and correspondingly less yield for groundwater extraction because of the declining water table (approximately 1 foot per year).

Due to increasing levels of free product (condensate) occurring in MW-5, a Xitech product recovery system was installed on April 9, 1998. Product thicknesses have been reduced from 6.66 feet on January 19, 1998 to 0.55 feet on August 5, 1998. Product recovery volumes cannot be measured because the product in the recovery tank quickly evaporates before measurements can be obtained. Increasing levels of product were also observed in monitoring wells MW-8 and MW-15, therefore a combination of hand bailing and passive bailer methods have been used since April 2, 1998, to remove the free product from these wells. After the product thickness in MW-5 has been reduced to a level of approximately 0.1 feet or less, the Xitech product recovery system will be moved from MW-5 to MW-15. Since the total depth of MW-8 limits the use of the Xitech system, free product must be hand bailed from this well.

In January 1995, it was determined that the remediation system was operating efficiently and BTEX concentrations were sufficiently reduced such that the injection well could be turned off. Therefore, when the oxygenated-water injection line was removed on January 16, 1995 to repair the disfunctioning packer, the injection well was taken out of service. Since BTEX concentrations returned to levels above the WQCC standards in MW-21 during 1997, the injection well was returned to service. Air sparging is now accomplished by means of a Gast® Piston air compressor (Model 8H - 2 hp) which was installed on July 10, 1998. BTEX concentrations in MW-21 returned to levels below the laboratory detection limit of 0.001 mg/L within one month of resuming air sparging operations.

The groundwater recovery, air sparging, and vapor extraction systems have been effective in limiting the downgradient migration of the dissolved-phase hydrocarbon plume. Also, the groundwater recovery system, Xitech product recovery system, passive skimmer, and hand bailing techniques have been effective in recovering free product (condensate), although the amount of free product recovery is unknown since it cannot be measured.

Table 4 Total Fluids Extraction Volumes for 1998 GPM - Lee Gas Plant				
Month-Year	Monthly Groundwater Recovery Volumes (gallons)			
	RW-1	MW-6	MW-7	MW-10
Jan-98	8,294	0	7,628	0
Feb-98	5,415	0	2,023	0
Mar-98	9,975	0	0	86
Apr-98	851	11,345	3,984	0
May-98	2,311	12,100	0	0
Jun-98	1,435	12,211	0	0
Jul-98	43	0	2,605	0
Aug-98	26	11,685	3,575	0
Sep-98	4,544	7,808	4,371	0
Oct-98	7,348	6,016	3,675	0
Total volume recovered for period of record (1/1/98 through 10/29/98)				129,268
Readings obtained by GPM using a Great Plains Industry Electronic Digital Meter Groundwater recovery volumes may be greater than above estimates due to occasional malfunction of digital meters.				



7.0 Conclusions

Conclusions relevant to groundwater conditions and the remediation performance at the Lee Gas Plant are presented below.

- BTEX concentrations in downgradient wells MW-11, MW-12, MW-13, MW-19 and MW-20 have been below WQCC standards, and in most cases below laboratory detection limits, for the last 4 years.
- BTEX concentrations in crossgradient wells MW-2, MW-17 and MW-18 remain below the laboratory detection limit of 0.001 mg/L.
- BTEX concentrations in crossgradient wells MW-3 and MW-14 have decreased from levels above the WQCC standards to near or below the laboratory detection limit of 0.001 mg/L.
- Benzene concentrations in monitoring wells MW-9 and MW-10, located within the areal extent of the dissolved-phase hydrocarbon plume, and upgradient well MW-16, remain above WQCC standards.
- Benzene concentrations in recovery wells MW-6 and MW-7 remain above WQCC standards.
- BTEX concentrations in monitoring well MW-21 have returned to levels below the laboratory detection limit of 0.001 mg/L due to the resumption of air sparging operations.
- BTEX concentrations in monitoring well MW-22, which is screened below the vertical extent of the hydrocarbon plume, remain below WQCC standards.
- Monitoring wells MW-1 and MW-4 could not be sampled due to dry well conditions.
- Monitoring wells MW-5, MW-8, and MW-15 were not be sampled due to the presence of 0.55 feet, 2.68 feet, and 3.98 feet of free product, respectively.
- A total of 129,268 gallons of groundwater was recovered by the three recovery wells during the period of record (January 1, 1998 through October 29, 1998).
- Approximately 0.55 feet, 2.68 feet, and 3.98 feet of free product was measured in monitoring wells MW-5, MW-8, and MW-15, respectively.
- The hydraulic gradient is approximately 0.004 feet/foot and the direction of groundwater flow is to the southwest based on the gauging data obtained on August 5, 1998. This is consistent with previous gauging data.
- The depth to the water table across the site varies from approximately 101 to 106 feet below ground surface. The average water table elevations across the site have decreased by an average of about 1 foot per year since March 28, 1988.

8.0 Recommendations

The following recommendations are proposed for the remediation system and monitoring operations at the Lee Gas Plant.

- Continue groundwater recovery operations since the present system has been effective in limiting the downgradient migration of the dissolved-phase hydrocarbon plume.
- For groundwater recovery operations to be a continued successful remedial option, installation of two or three new recovery wells are necessary because of declining water levels which corresponds to reduced groundwater recovery rates in the present system.
- Continue free product recovery from monitoring well MW-5 and MW-15 using the Xitech product recovery system.
- Continue hand bailing free product from monitoring well MW-8.
- Continue the sampling and monitoring program on a semi-annual basis. The next sampling event is scheduled during the first quarter of 1999.

APPENDIX A

Laboratory Analytical Reports

and

Chain of Custody Documentation

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue

Lubbock, Texas 79424

806•794•1296

FAX 806•794•1298

ANALYTICAL RESULTS FOR

BDM International

Attention Gil VanDeVenter

415 W. Wall, Suite 1818

Midland

TX 79701

Date: Aug 18, 1998

Date Rec: 8/8/98

Project: LEE GWR-20-300

Proj Name: GPM-Lee Plant

Proj Loc: N/A

Lab Receiving # : 9808000155

Sampling Date: 8/5/98

Sample Condition: Intact and Cool

Sample Received By: JT

TA# Field Code

MATRIX

BENZENE
(mg/L)

TOLUENE
(mg/L)

ETHYL-
BENZENE
(mg/L)

M, P, O
XYLENE
(mg/L)

TOTAL
BTX
(mg/L)

104469 98 08 05 1030 MW-20
104470 98 08 05 1210 MW-19
104471 98 08 05 1350 MW-13
104472 98 08 05 1445 MW-12
104473 98 08 05 1555 MW-2
104474 98 08 05 1600 MW-11
104475 98 08 05 1650 MW-3

<0.001 <0.001 <0.001 <0.001 <0.001
<0.001 <0.001 <0.001 <0.001 <0.001
<0.001 <0.001 <0.001 <0.001 <0.001
<0.001 <0.001 <0.001 <0.001 <0.001
<0.001 <0.001 <0.001 <0.001 <0.001
<0.001 <0.001 <0.001 <0.001 <0.001
0.002 <0.001 <0.001 <0.001 <0.001
<0.001 <0.001 <0.001 <0.001 <0.001
0.001 0.001 0.001 0.001 0.001
0.095 0.092 0.093 0.287

Method Blank

Reporting Limit

QC

RPD

% Extraction Accuracy

% Instrument Accuracy

0 0 1 0
103 100 100 107
95 92 93 96

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
BTEX	EPA 5030	8/11/98	EPA 8021B	8/11/98	JG	0.100 ea	0.1 ea

Director, Dr. Blair Leftwich

Date

8-18-98

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue

Lubbock, Texas 79424

806•794•1296

FAX 806•794•1298

ANALYTICAL RESULTS FOR

BDM International
Attention Gil VanDeVenter
415 W. Wall, Suite 1818
Midland

Lab Receiving # : 9808000155
Sampling Date: 8/5/98 - 8/6/98
Sample Condition: Intact and Cool
Sample Received By: JT

Date: Aug 18, 1998

Date Rec: 8/8/98

Project: LEE GWR-20-300

Proj Name: GPM-Lee Plant

Proj Loc: N/A

TX 79701

TA# Field Code

104477 98 08 05 1800 MW-7
104482 98 08 06 1355 MW-9

Method Blank

Reporting Limit

QC

MATRIX	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL- BENZENE (mg/L)	M,P,O XYLENE (mg/L)	TOTAL BTX (mg/L)
Water	1.63	<0.010	<0.010	<0.010	1.63
Water	0.892	<0.010	<0.010	<0.010	0.892
	<0.001	<0.001	<0.001	<0.001	
	0.001	0.001	0.001	0.001	
	0.100	0.097	0.099	0.308	

RPD

% Extraction Accuracy

% Instrument Accuracy

0	0	0	0
107	104	106	113
100	97	99	103

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
BTX	EPA 5030	8/12/98	EPA 8021B	8/12/98	JG	0.100 ea	0.1 ea

Director, Dr. Blair Leftwich

Date

8-12-98

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue

Lubbock, Texas 79424

806•794•1296

FAX 806•794•1298

Date: Aug 18, 1998

Date Rec: 8/8/98

Project: LEE GWR-20-300

Proj Name: GPM-Lee Plant

Proj Loc: N/A

ANALYTICAL RESULTS FOR

BDM International

Attention Gil VanDeventer

415 W. Wall, Suite 1818

Midland

TX 79701

Lab Receiving # : 9808000155

Sampling Date: 8/5/98 - 8/6/98

Sample Condition: Intact and Cool

Sample Received By: JT

TA# Field Code

104476 98 08 05 1810 MW-18
104478 98 08 05 1745 MW-6
104479 98 08 06 0830 MW-17
104480 98 08 06 1050 MW-22
104481 98 08 06 1330 MW-21
104483 98 08 06 1200 Duplicate
104484 98 08 06 1500 MW-14

Method Blank

Reporting Limit

QC

MATRIX	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL- BENZENE (mg/L)	M, P, O XYLENE (mg/L)	TOTAL BTX (mg/L)
Water	<0.001	<0.001	<0.001	<0.001	<0.001
Water	13.7	5.96	<0.500	0.991	20.7
Water	<0.001	<0.001	<0.001	<0.001	<0.001
Water	<0.001	0.006	<0.001	<0.001	0.006
Water	<0.001	<0.001	<0.001	<0.001	<0.001
Water	0.003	<0.001	<0.001	<0.001	0.003
Water	0.002	<0.001	<0.001	<0.001	0.002
Method Blank	<0.001	<0.001	<0.001	<0.001	
Reporting Limit	0.001	0.001	0.001	0.001	
QC	0.095	0.092	0.093	0.287	

RPD

% Extraction Accuracy

% Instrument Accuracy

0 0 1 0
103 100 100 107
95 92 93 96

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
BTX	EPA 5030	8/11/98	EPA 8021B	8/11/98	JG	0.100 ea	0.1 ea

Director, Dr. Blair Leftwich

Date

8-18-98

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue

Lubbock, Texas 79424

806•794•1296

FAX 806•794•1298

ANALYTICAL RESULTS FOR

BDM International
Attention Gil VanDeventer
415 W. Wall, Suite 1818
Midland TX 79701

Lab Receiving # : 9808000155
Sampling Date: 8/6/98
Sample Condition: Intact and Cool
Sample Received By: JT

Date: Aug 18, 1998
Date Rec: 8/8/98
Project: LEE GWR-20-300
Proj Name: GPM-Lee Plant
Proj Loc: N/A

TA#	Field Code	MATRIX	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL- BENZENE (mg/L)	M, P, O XYLENE (mg/L)	TOTAL BTX (mg/L)
104485	98 08 06 1745 MW-16	Water	1.95	0.304	0.046	0.129	2.43
Method Blank							
			<0.001	<0.001	<0.001	<0.001	
Reporting Limit							
			0.001	0.001	0.001	0.001	
QC							
			0.096	0.092	0.094	0.289	

RPD	1	1	1	1
% Extraction Accuracy	106	104	106	113
% Instrument Accuracy	96	92	94	96

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
BTEX	EPA 5030	8/13/98	EPA 8021B	8/13/98	JG	0.100 ea	0.1 ea

8-18-98

Director, Dr. Blair Leftwich

Date

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue

Lubbock, Texas 79424

806•794•1296

FAX 806•794•1298

ANALYTICAL RESULTS FOR

BDM International

Attention Gil VanDeVenter

415 W. Wall, Suite 1818

Midland

Date: Aug 18, 1998

Date Rec: 8/8/98

Project: LEE GWR-20-300

Proj Name: GPM-Lee Plant

Proj Loc: N/A

Lab Receiving #: 9808000155

Sampling Date: 8/6/98

Sample Condition: Intact and Cool

Sample Received By: JT

TX 79701

TA# Field Code

MATRIX

BENZENE
(mg/L)

TOLUENE
(mg/L)

ETHYL-
BENZENE
(mg/L)

M, P, O
XYLENE
(mg/L)

TOTAL
BTEX
(mg/L)

104486 98 08 06 1930 MW-10

Water

1.50

0.011

0.013

0.008

1.53

104487 98 08 06 1800 Rinsate

Water

<0.001

<0.001

<0.001

<0.001

<0.001

104488 Trip Blank

Water

<0.001

<0.001

<0.001

<0.001

<0.001

Method Blank

<0.001

<0.001

<0.001

<0.001

<0.001

Reporting Limit

0.001

0.001

0.001

0.001

0.001

QC

0.093

0.089

0.091

0.279

RPD

% Extraction Accuracy

% Instrument Accuracy

7

6

6

6

100

97

97

103

93

89

91

93

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
BTEX	EPA 5030	8/11/98	EPA 8021B	8/11/98	JG	0.100 ea	0.1 ea

Director, Dr. Blair Leftwich

Date

8-18-98



BDM International, Inc.
415 West Wall
Suite 1818
Midland, TX 79701
(915) 682-0008
FAX: (915) 682-0028

104479 from MW 7 → MW 13
per Gil U.P.
8-18-78

13238

Chain of Custody

Date 8-6-98 Page 2 of 2

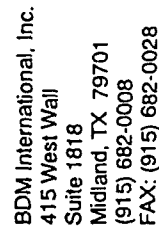
Lab Name		Address		Telephone		Samplers (SIGNATURES)		Analysis Request																	
Sample Number	Matrix	Location	Volatiles 601/6010	Aromatic Volatiles 602/6020	Phenols 604/6040	Pesticides/CB 608/6080	Polynuclear Aromatic Hydrocarbons 610/6100	GC/MS 624/6240	Base/Neu/Acid Compounds GC/MS 625/6250	Total Organic Carbon (TOC) 415/9060	Total Organic Halides (TOX) 9020	Petroleum Hydrocarbons 418.1 TPH/BTEX Modified 8015	TC/P. Vol., Semi-Vol. Herbicides, Pesticides	TC/P. Metals	RCRA Metals (9)	Priority Pollutant Metals (13)	CAM Metals (18) TLC/STLC	Flash Point	Corrosivity	Reactivity	Oil & Grease	Cyanide Total/Amenable	Chemical Oxygen Demand (COD)	Number of Containers	
98 08 06 0830	Water	MW-17	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
98 08 06 1050	Water	MW-22	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
98 08 06 1330	Water	MW-21	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
98 08 06 1355	Water	MW-9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
98 08 06 1200	Water	Duplicate	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
98 08 06 1500	Water	MW-14	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
98 08 06 1745	Water	MW-16	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
98 08 06 1930	Water	MW-10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
98 08 06 1900	Water	Rinsate 16	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
98 08 06 1900	Water	Trip Blank	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2

Project Information		Sample Receipt	
Project	GPM-Lee Plant	Total No. of Containers	Chain of Custody Seals
Project Director	G. Van Deventer	Chain of Custody Seals	Rec'd Good Condition/Cold
Charge Code No.	LEE6NR-20-300	Conforms to Record	Lab No.
Shipping ID. No.			
Via: <i>[Signature]</i>		Lab No. <i>[Signature]</i>	
Special Instructions/Comments: 13:11 GPM direct (Mal Driver)			

Relinquished By		Relinquished By	
Signature	(Time)	Signature	(Time)
(Printed Name)	(Date)	(Printed Name)	(Date)
<i>[Signature]</i>	6:30pm	<i>[Signature]</i>	6:15pm
G. Van Deventer	8/7/98	HELEN SHELTON	8/7/98
TRW (BOM)		TRACE ANALYSIS	

Received By		Received By	
Signature	(Time)	Signature	(Time)
(Printed Name)	(Date)	(Printed Name)	(Date)
<i>[Signature]</i>	6:15pm	<i>[Signature]</i>	8/8/98
HELEN SHELTON	8/7/98	JAMES TAYLOR	8/8/98
TRACE ANALYSIS		TRACE ANALYSIS	

Distribution: White, Canary-Laboratory • Pink, BDM



Chain of Custody

Date 8/5/98 Page 1 of 2

Lab Name Trace Analysis Inc.
Address 6701 Aberdeen
Lubbock TX 79424
Telephone 806/794-1246

Samplers (SIGNATURE\$)

Samplers (SIGNATURES)	Sample Number	Matrix	Location
<i>W. J. ...</i>			

[illegible]

Project Information		Sample Receipt		Relinquished By		Relinquished By	
		Total No. of Containers		Signature	(Time)	Signature	(Time)
Project GEM- Lee Plant				<i>G. Van Deventer</i>	6:30 PM	<i>Helen Shelton</i>	6:30 PM
Project Director G. Van Deventer				<i>G. Van Deventer</i>	8/7/98	<i>HELEN SHELTON</i>	
Charge Code No. LEE GWA-20-				<i>TRW (BDM)</i>		<i>TRACE ANALYSIS</i>	
Shipping ID. No. 300							
Via: <i>Greyhound</i>		Lab No.		Received By		Received By (Laboratory)	
Special Instructions/Comments: <i>Send in voice for GEM- (Mel Driver)</i>				Signature	(Time)	Signature	(Time)
				<i>HELEN SHELTON</i>	8/7/98	<i>JAMES TAYLOR</i>	8/8/98
				<i>TRACE ANALYSIS</i>		<i>TRACE ANALYSIS</i>	

Distribution: White, Canary-Laboratory • Pink, BDM

40.



BDM International, Inc.
415 West Wall
Suite 1818
Midland, TX 79701
(915) 682-0008
FAX: (915) 682-0028

131116

Chain of Custody

Date 1-21-98 Page 1 Of 1

Lab Name <u>Trace Analysis</u>		Address <u>670 Aberdeen</u>		Telephone <u>Lubbock, TX 79424</u>		Sample Number		Matrix	Location
Samplers (SIGNATURES) <u>John Ferguson</u>									
Halogenated Volatiles 601/8010									
Aromatic Hydrocarbons 608/8080									
Pesticides/PCB 604/8040									
Phenols, Sub Phenols 608/8020 <u>BTX</u>									
Polynuclear Aromatic Hydrocarbons 610/8310									
Volatiles Compounds GC/MS 624/8240									
Base/Neu/Acid Compounds GC/MS 625/8270									
Total Organic Carbon (TOC) 415/9060									
Total Organic Halides (TOX) 9020									
Petroleum Hydrocarbons 418 1									
TPH/BTEX Modified 8015									
Herbicides, Vol., Semi-Vol. TCLP - Metals									
TCRA Metals (9)									
Priority Pollutant Metals (13)									
CAM Metals (18) TLC/STLC									
Flash Point									
Corrosivity									
Reactivity									
Oil & Grease									
Cyanide Total/Amenable									
Chemical Oxygen Demand (COD)									
Number of Containers									

Project Information		Sample Receipt		Relinquished By		Relinquished By		Relinquished By	
Project	GPB-Lee Plant	Total No. of Containers	Chain of Custody Seals	Signature	(Time)	Signature	(Time)	Signature	(Time)
Project Director	<u>G. Var Deerden</u>								
Charge Code No.	<u>LEEGLR-20-300</u>								
Shipping ID, No.									
Lab No.				Received By		Received By		Received By	
				Signature		Signature		Signature	
				(Date)		(Date)		(Date)	
				(Company)		(Company)		(Company)	
Via:				Received By		Received By		Received By	
				Signature		Signature		Signature	
				(Date)		(Date)		(Date)	
				(Company)		(Company)		(Company)	
Special Instructions/Comments: <u>Direct bill to GPM (Mel Dine)</u>									
<u>6PM Proj. No. LEEGLR-20-300</u>									

Distribution: White, Canary-Laboratory • Pink, BDM

Buo 901 837. 7882

(498) 2000 ARX NC XLS

TRACE ANALYSIS, INC.

8701 Aberdeen Avenue, Suite 9
4725 Ripley Avenue, Suite A

Lubbock, Texas 79424 800•378•1296
El Paso, Texas 79922 888•588•3443
E-Mail: lab@traceanalysis.com

806•794•1296 806•794•1298
915•585•3443 FAX 915•585•4944

ANALYTICAL RESULTS FOR BDM INTERNATIONAL, INC.

Attention: Gil VanDeventer
415 West Wall, Suite 1818
Midland, TX 79701

Prep Date: 01/23/98
Analysis Date: 01/23/98
Sampling Date: 01/19-20/98
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: GPM

January 27, 1998
Receiving Date: 01/23/98
Sample Type: Water
Charge Code: LEEGWR-20-300
Project Location: GPM-Lee Plant

TA#	FIELD CODE	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL- BENZENE (mg/L)	M,P,O XYLENE (mg/L)	TOTAL BTEX (mg/L)
T89705	9801191610 MW-11	<0.001	<0.001	<0.001	<0.001	<0.001
T89706	9801200930 MW-12	<0.001	<0.001	<0.001	<0.001	<0.001
T89707	9801201045 MW-13	<0.001	<0.001	<0.001	<0.001	<0.001
T89708	9801201133 MW-19	<0.001	<0.001	<0.001	<0.001	<0.001
T89709	9801201229 MW-20	<0.005	<0.005	<0.005	<0.005	<0.005
T89710	9801201335 MW-21	11.0	<0.100	0.161	0.108	11.3
T89711	9801201350 MW-21D	8.29	<0.100	<0.100	<0.100	8.29
T89712	9801201400 MW-2	<0.001	<0.001	<0.001	<0.001	<0.001
T89713	9801201425 Rinsate	<0.001	<0.001	<0.001	<0.001	<0.001
T89714	Trip Blank	<0.001	<0.001	<0.001	<0.001	<0.001
QC	Quality Control	0.098	0.098	0.095	0.098	0.098
REPORTING LIMIT		0.001	0.001	0.001	0.001	0.001
RPD		4	5	4	3	
% Extraction Accuracy		98	97	94	97	
% Instrument Accuracy		98	98	95	98	

METHODS: EPA SW 846-8021B, 5030.
CHEMIST: JG
BTEX SPIKE AND QC: 0.100 mg/L BTEX.

Director, Dr. Blair Leftwich

Date

1-27-98

**1997 Annual Groundwater Monitoring and Sampling Report
GPM - Lee Gas Plant
Lea County, New Mexico**

NOVEMBER 20, 1997

RECEIVED

DEC 15 1997

Environmental Bureau
Oil Conservation Division

Prepared For:

**GPM Gas Corporation
4044 Penbrook
Odessa, Texas 79762**



Prepared By:

BDM

**BDM International, Inc.
415 West Wall, Suite 1818
Midland, Texas 79701**

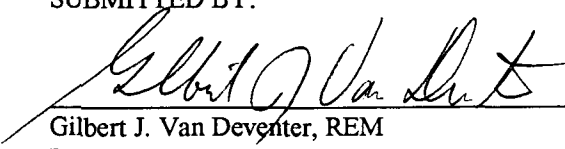
1997 Annual Groundwater Monitoring and Sampling Report
GPM - Lee Gas Plant
Lea County, New Mexico

Prepared by:

BDM International, Inc.
415 West Wall Street, Suite 1818
Midland, Texas 79701
(915) 682-0008
FAX (915) 682-0028

SUBMITTED BY:

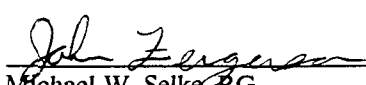
DATE:


Gilbert J. Van Deventer, REM
Project Manager

11-20-97

REVIEWED BY:

DATE:

for 
Michael W. Selke, RG
Senior Program Director

11-20-97

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APPENDICES

Appendix A	Laboratory Analytical Reports and Chain-of-Custody Documentation
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1.0 Executive Summary

BDM International, Inc. (BDM) was retained by GPM Gas Corporation (GPM) to perform the sampling and monitoring operations at the Lee Gas Plant. This 1997 annual report summarizes the three sampling events performed by BDM at the GPM Lee Gas Plant on January 21, 1997, April 17, 1997 and August 12, 1997. On June 18, 1997, Mr. Bill Olson (verbal communication) approved a request by GPM to change the sampling frequency from a quarterly to semi-annual frequency.

Based on the sampling and monitoring data to date, the following conclusions relevant to groundwater conditions and remediation system performance at the Lee Gas Plant are evident:

- BTEX concentrations in monitoring wells MW-2, MW-11, MW-12, MW-13, MW-17, MW-18, MW-19 and MW-20 remain below WQCC standards. This indicates that the groundwater recovery system has been effective in limiting the lateral and downgradient migration of the dissolved-phase hydrocarbon plume.
- Benzene concentrations in monitoring wells located within the dissolved-phase hydrocarbon plume (MW-3, MW-6, MW-7, MW-9, MW-10, MW-14, and MW-16) remain above WQCC standards.
- Benzene and xylene concentrations in former injection well MW-21 have increased back to levels above the WQCC standards.
- A total of 525,210 gallons of groundwater was recovered by the four recovery wells during the period of record (January 1, 1997 through September 30, 1997).
- Approximately 4.16 feet and 0.10 feet of free product was measured in monitoring wells MW-5 and MW-15, respectively.
- The depth to the water table across the site varies from approximately 100 to 105 feet below ground surface. The average water table elevations across the site have decreased by an average of about 1 foot per year since March 28, 1988.
- The hydraulic gradient is approximately 0.004 feet/foot and the direction of groundwater flow is to the southwest based on the gauging data obtained on August 12, 1997. This is consistent with previous gauging data.

The following recommendations are proposed for the remediation system and monitoring operations at the Lee Gas Plant.

- Continue groundwater recovery operations since the present system has been effective in limiting the downgradient migration of the dissolved-phase hydrocarbon plume.
- Continue hand bailing free product from monitoring wells MW-5 and MW-15.
- Continue the sampling and monitoring program on a semi-annual basis. The next sampling event is scheduled during the first quarter of 1998.

2.0 Chronology of Events

April 1988	New Mexico Environmental Improvement Division (NMEID) issues Compliance Order/Schedule to Phillips 66 Natural Gas Company to install four monitoring wells and sample for groundwater quality to continue Resource Conservation and Recovery Act (RCRA) monitoring requirements.
June 6, 1988	Four monitoring wells (MW-1, MW-2, MW-3 and MW-4) were installed by Geoscience Consultants Ltd (GCL) between April 21, 1988 and April 29, 1988. The existing four monitoring wells were plugged and abandoned. Groundwater samples were collected on May 13, 1988.
September 23, 1988	GCL conducted a limited soil vapor survey at Lee Gas Plant. Two potential hydrocarbon sources were identified: the former evaporation pond located east of the main plant, and the small, former evaporation pond located north of the main plant.
January 1990	New Mexico Oil Conservation Division (OCD) takes jurisdiction for groundwater conditions at Lee Gas Plant. GCL submitted a work plan to the OCD for further investigation and implementation of remediation of free product.
May 30, 1990	GCL completed a subsurface investigation to define the limits of the free-phase hydrocarbon plume and to begin recovery of the floating product. The investigation included the installation and sampling of four monitoring wells (MW-5, MW-6, MW-7 and MW-8) and one recovery well (RW-1).
October 9, 1990	GCL completed Phase II of a subsurface investigation to further delineate the dissolved hydrocarbon plume. The investigation included the installation and sampling of four monitoring wells (MW-9, MW-10, MW-11 and MW-12).
March 11, 1991	GCL completed Phase III of a subsurface investigation to delineate the leading edge of the dissolved-phase hydrocarbon plume. The investigation included the installation and sampling of two monitoring wells (MW-13 and MW-14) and the conversion of two existing monitoring wells (MW-7 and MW-8) into recovery wells.
March 18, 1991	The OCD approved the Discharge Plan (GW-2) for Lee Gas Plant.
May 1991	GCL converted MW-10 into a recovery well per the OCD's April 2, 1991 request.
September 5, 1991	GCL completed Phase IV of a subsurface investigation which included the sampling of all on site monitoring wells (MW-1 through MW-14) and two water supply wells (WS-1 and WS-2). Two of the recovery wells (RW-1 and MW-4) and one monitoring well (MW-6) were not sampled due to the presence of free product. Prior sampling events were limited to collecting samples from just those wells installed in the current phase of work along with selected wells from previous phases to correlate analytical results.

1992	GCL conducted quarterly sampling activities on January 23, 1992, April 28, 1992, July 30, 1992 and October 21, 1992.
February 24, 1992	GCL completed the Final Phase of a subsurface investigation to complete delineation of the dissolved-phase hydrocarbon plume. The investigation included the installation of six monitoring wells (MW-15, MW-16, MW-17, MW-18, MW-19 and MW-20). Quarterly sampling of the on site monitoring wells was also conducted.
1993	GCL conducted quarterly sampling activities on January 20, 1993, April 15, 1993, July 20, 1993 and October 26, 1993.
April 7, 1993	GCL prepared the "Discharge Plan GW-2 Modification and Remedial Strategy" for Lee Gas Plant.
April 26, 1993	The OCD approved the "Discharge Plan GW-2 Modification and Remedial Strategy" for Lee Gas Plant.
July 1993	GCL completed installation of monitoring wells MW-21, MW-22 and MW-23 between July 19, 1993 and July 27, 1993.
August 3, 1993	GCL completed installation of soil vapor extraction system on recovery well RW-1.
November 15, 1993	GCL completed installation of air sparging injection unit in monitoring well MW-23.
1994	GCL conducted quarterly sampling activities on January 6, 1994, May 3, 1994, July 26, 1994 and October 12, 1994.
March 1994	GCL performed a successful cleanout (well restoration) of recovery well MW-7 during the week of March 21, 1994. However, attempts to restore MW-8 were unsuccessful and this well had to be abandoned.
1995	BDM International, Inc. (formerly GCL) conducted quarterly sampling activities on March 16, 1995, June 24, 1995, August 10, 1995 and October 10, 1995.
1996	BDM International, Inc. (BDM) conducted quarterly sampling activities on January 16, 1996, April 25, 1996, August 27, 1996 and November 20, 1996.
January 15, 1996	Removed packer from injection well MW-23 and discontinued injection activities.
1997	BDM conducted quarterly sampling activities on January 21, 1997 and April 17, 1997.
June 18, 1997	Mr. Bill Olson (verbal communication) of the OCD approved a request by GPM to change the sampling frequency from a quarterly to semi-annual frequency.
August 12, 1997	BDM conducted annual sampling activities on August 12, 1997.

3.0 Procedures

Each monitoring well at the Lee Gas Plant was gauged for depth to groundwater using a Keck Model KIR-96 oil/water interface probe. Depth to groundwater in the recovery wells (RW-1, MW-6, MW-7 and MW-10) were not gauged due access limitations caused by the presence of downhole pumping equipment.

Immediately prior to collecting groundwater samples, the monitoring wells were purged using a Grundfos Redi-Flo2 submersible pump with the exception of MW-2 and MW-3 which were purged using a decontaminated hand bailer. Purging operations were completed after groundwater parameters (pH, conductivity, dissolved oxygen and temperature) stabilized with the exception of MW-2 and MW-3 which were bailed dry. Conductivity and pH readings were measured after every 5 gallons of purging using a Hydac Model 910 meter. Dissolved oxygen (DO) and temperature readings were measured using a YSI Model 51B DO meter. A total of 1226 gallons of well development water was purged from the monitoring wells during the 1997 sampling year.

Groundwater samples were obtained using a new, decontaminated, disposable bailer for each well after purging, with the exception of three recovery wells (MW-6, MW-7 and MW-10) which were obtained directly from a hydrant adjacent to each pumping well.

Each groundwater sample was transferred into three air-tight, septum-sealed, 40-ml glass volatile organic analysis (VOA) sample vials with zero head space and preserved with HCl for analysis of total benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA Method 8020. Chain-of-custody (COC) forms documenting sample identification numbers, collection times, and delivery times to the laboratory were completed for each set of samples. One duplicate sample and one rinsate sample was collected during each sampling event. The water samples were placed into an ice-filled cooler immediately after collection and shipped next day delivery to Incheape Testing Services in Richardson, Texas for laboratory analysis.

A summary of the monitoring wells sampled, sampling frequency, sampling dates, purge method, sampling method and purge volumes for the 1997 calendar year is presented in Table 1.

Table 1
Well Sampling Frequency and Methods

Well No.	Well Type/Condition	Sampling Frequency	1997 Sample Date	Purge Method	Sampling Method	Purge Volume
MW-1	Monitoring	Not sampled due to dry well conditions	NS	NS	NS	0 gallons
MW-2	Monitoring	Semi-annually	1/21/97	Hand Bailing	Disposable bailer	2 gallons*
			8/12/97	Hand Bailing	Disposable bailer	1.5 gallons
MW-3	Monitoring	Annually	8/12/97	Hand Bailing	Disposable bailer	0.5 gallons
MW-4	Monitoring	Not sampled due to dry well conditions	NS	NS	NS	0 gallons
MW-5	Monitoring	Not sampled due to PSH presence	NS	NS	NS	5 gallons
MW-6	Recovery	Annually	8/12/97	Pump	Pump	>100 gallons
MW-7	Recovery	Annually	8/12/97	Pump	Pump	>100 gallons
MW-8	Destroyed	Not sampled due to destroyed well conditions	NS	NS	NS	0 gallons
MW-9	Monitoring	Annually	8/12/97	Pump	Disposable bailer	50 gallons
MW-10	Recovery	Annually	8/12/97	Pump	Pump	2 gallons
MW-11	Monitoring	Quarterly	1/21/97	Pump	Disposable bailer	50 gallons
		Quarterly	4/17/97	Pump	Disposable bailer	50 gallons
		Semi-annually	8/12/97	Pump	Disposable bailer	50 gallons
MW-12	Monitoring	Quarterly	1/21/97	Pump	Disposable bailer	50 gallons
		Quarterly	4/17/97	Pump	Disposable bailer	55 gallons
		Semi-annually	8/12/97	Pump	Disposable bailer	40 gallons
MW-13	Monitoring	Quarterly	1/21/97	Pump	Disposable bailer	50 gallons
		Quarterly	4/17/97	Pump	Disposable bailer	40 gallons
		Semi-annually	8/12/97	Pump	Disposable bailer	40 gallons
MW-14	Monitoring	Annually	4/17/97	Pump	Disposable bailer	50 gallons
		Annually	8/12/97	Pump	Disposable bailer	50 gallons
MW-15	Monitoring	Not sampled due to PSH presence	8/12/97	NS	NS	0 gallons
MW-16	Monitoring	Annually	8/12/97	Pump	Disposable bailer	50 gallons
MW-17	Monitoring	Annually	8/12/97	Pump	Disposable bailer	50 gallons
MW-18	Monitoring	Semi-annually	1/21/97	Pump	Disposable bailer	50 gallons
		Annually	8/12/97	Pump	Disposable bailer	50 gallons
MW-19	Monitoring	Quarterly	1/21/97	Pump	Disposable bailer	50 gallons
		Quarterly	4/17/97	Pump	Disposable bailer	55 gallons
		Semi-annually	8/12/97	Pump	Disposable bailer	50 gallons
MW-20	Monitoring	Quarterly	1/21/97	Pump	Disposable bailer	50 gallons
		Quarterly	4/17/97	Pump	Disposable bailer	50 gallons
		Semi-annually	8/12/97	Pump	Disposable bailer	50 gallons
MW-21	Monitoring	Semi-annually	4/17/97	Hand Bailing	Disposable bailer	7 gallons
		Annually	8/12/97	Pump	Disposable bailer	45 gallons
MW-22	Monitoring	Annually	8/12/97	Pump	Disposable bailer	45 gallons
MW-23	Injection	Annually	8/12/97	Pump	Disposable bailer	45 gallons
RW-1	Recovery	Not sampled due to PSH presence	NS	NS	NS	0 gallons

NS indicates well was not sampled.

* Monitoring wells MW-2 and MW-3 bailed dry.

4.0 Groundwater Elevations, Hydraulic Gradient and Flow Direction

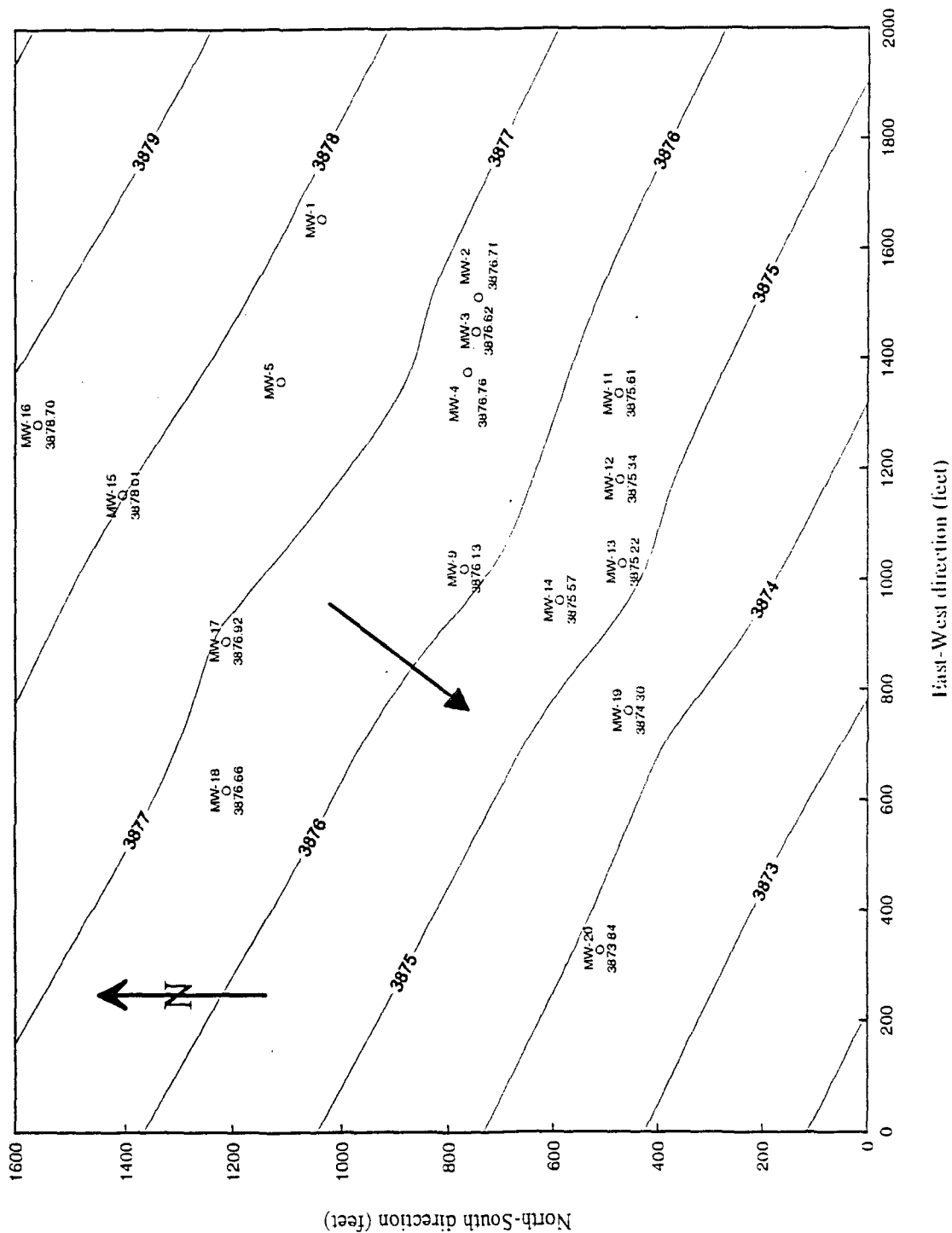
Based on the most recent gauging data collected by BDM on August 12, 1997, the groundwater conditions at the Lee Gas Plant are characterized below.

- The depth to the water table across the site varies from approximately 100 to 105 feet below ground surface
- The hydraulic gradient is approximately 0.004 feet/foot
- The direction of groundwater flow is to the southwest

Groundwater elevation maps depicting the water table elevation and direction of groundwater flow using the gauging data obtained during the three 1997 sampling events are presented in Figure 1a (January 21, 1997), Figure 1b (April 17, 1997) and Figure 1c (August 12, 1997). Historical groundwater elevations and depth to water measurements are summarized in Table 1 below.

The direction of groundwater flow and hydraulic gradient have remained consistent for the past ten years. However, the average water table elevations across the site have decreased by an average of about 1 foot per year since March 28, 1988. Figure 2a is a graphical presentation that depicts the change in average water table elevation versus time. Figures 2b and 2c depict the changing water table elevations for individual monitoring wells.

Due to the declining water table elevations over the past ten years, some of the older monitoring wells do not extend into (MW-1 and MW-4), or barely extend into (MW-2, MW-3 and MW-5), the current water table. Since it is expected that the water table elevation will decrease more in the future, the availability of these wells as monitoring points will be limited.

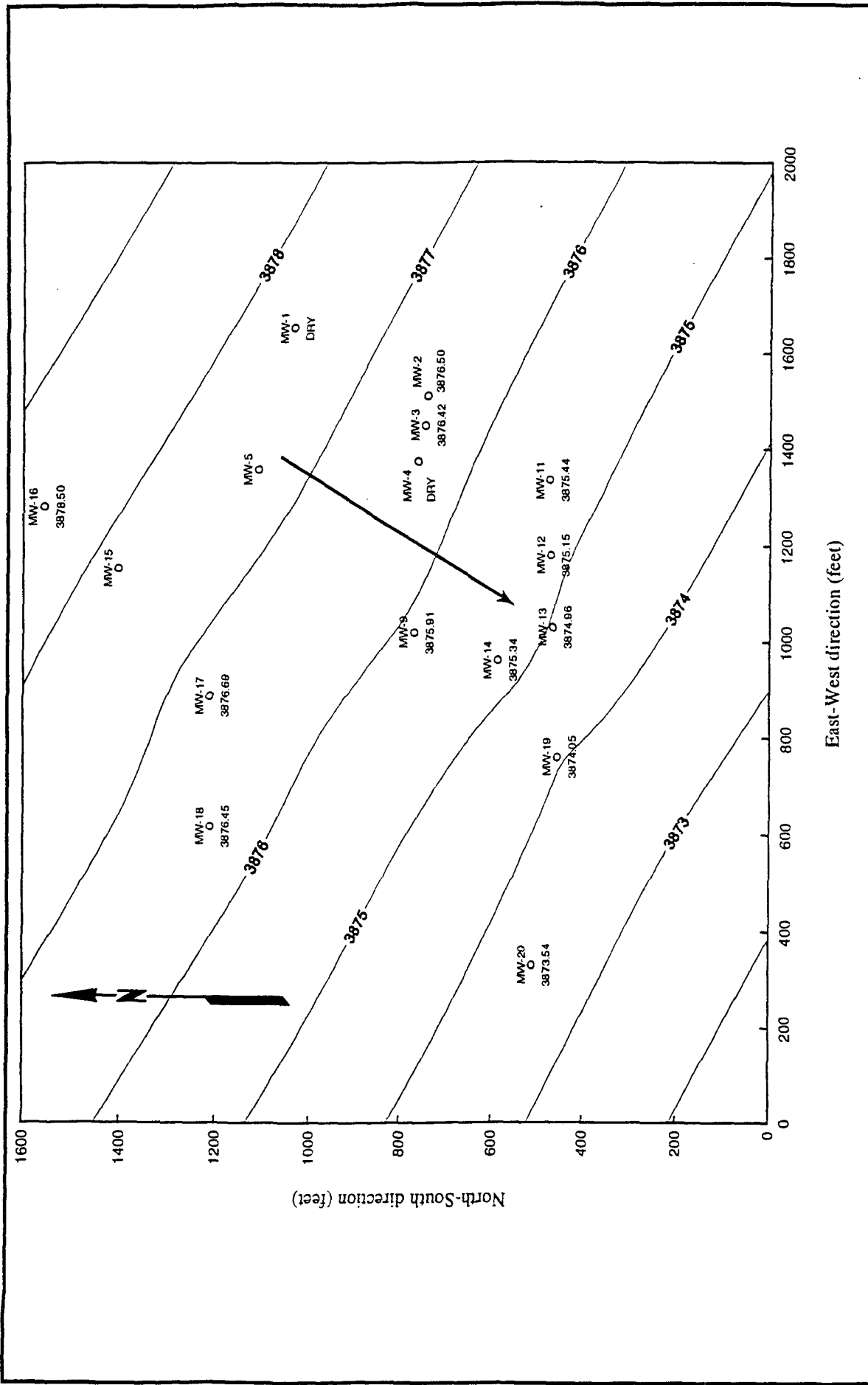


Measurements Obtained on 1/21/97
 Contour Interval = 1.00 feet
 Hydraulic Gradient = 0.0037 ft/ft (SW)



SITE:	GPM - LEE PLANT		
DATE:	1/21/97	REV. NO.	1
AUTHOR:	GJV	DRN BY:	JH
CK'D BY:	DTL	SCALE:	1" = 300'

FIGURE 1a
WATER TABLE
ELEVATION MAP



Measurements Obtained on 4/17/97
 Contour Interval = 1.00 feet
 Hydraulic Gradient = 0.004 ft/ft (SW)



SITE:	GPM - LEE PLANT
DATE:	4/17/97
REV. NO.:	1
AUTHOR:	JMF
DRN BY:	JH
CK'D BY:	GVJ
SCALE:	1" = 300'

FIGURE 1b
WATER TABLE
ELEVATION MAP

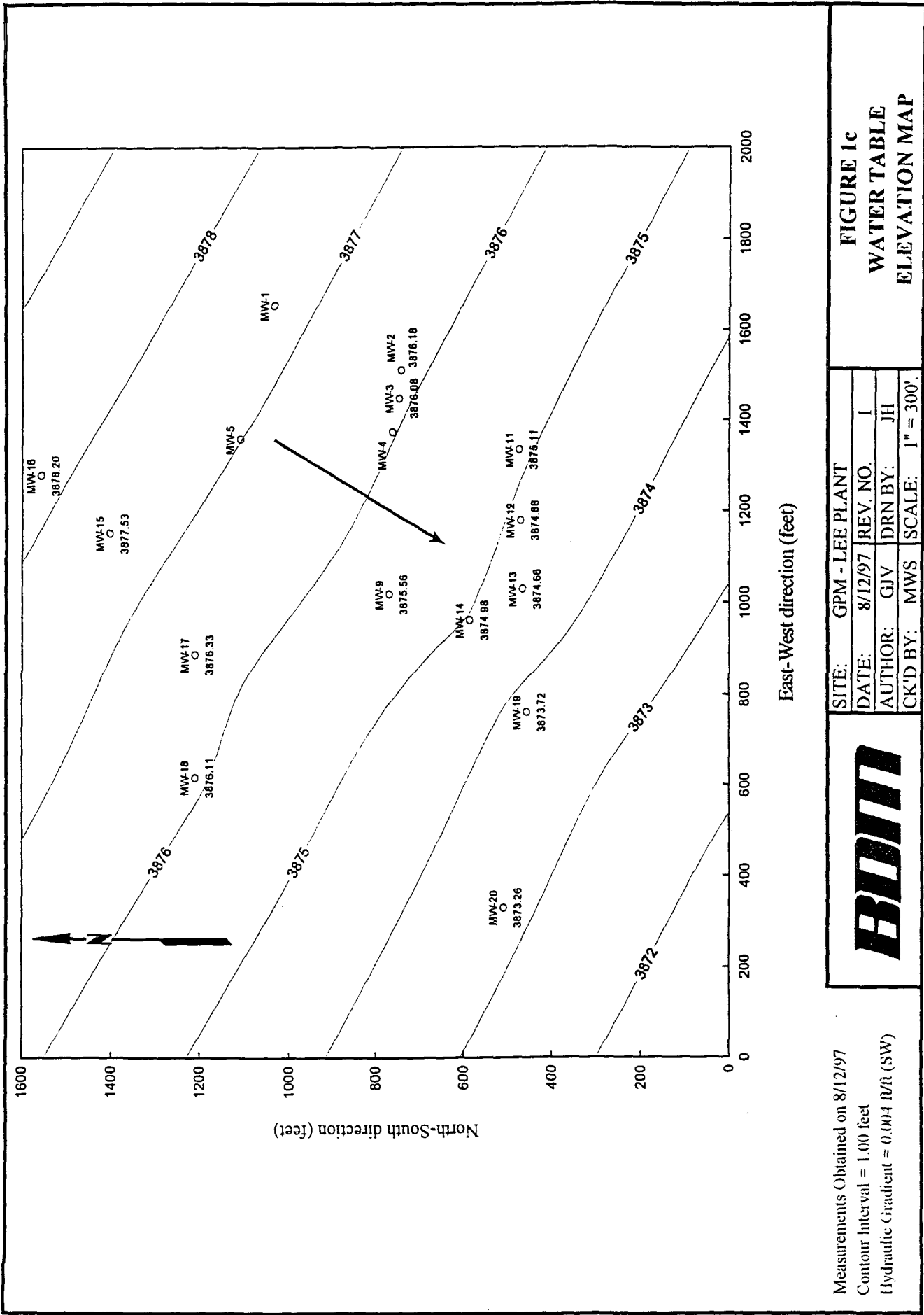
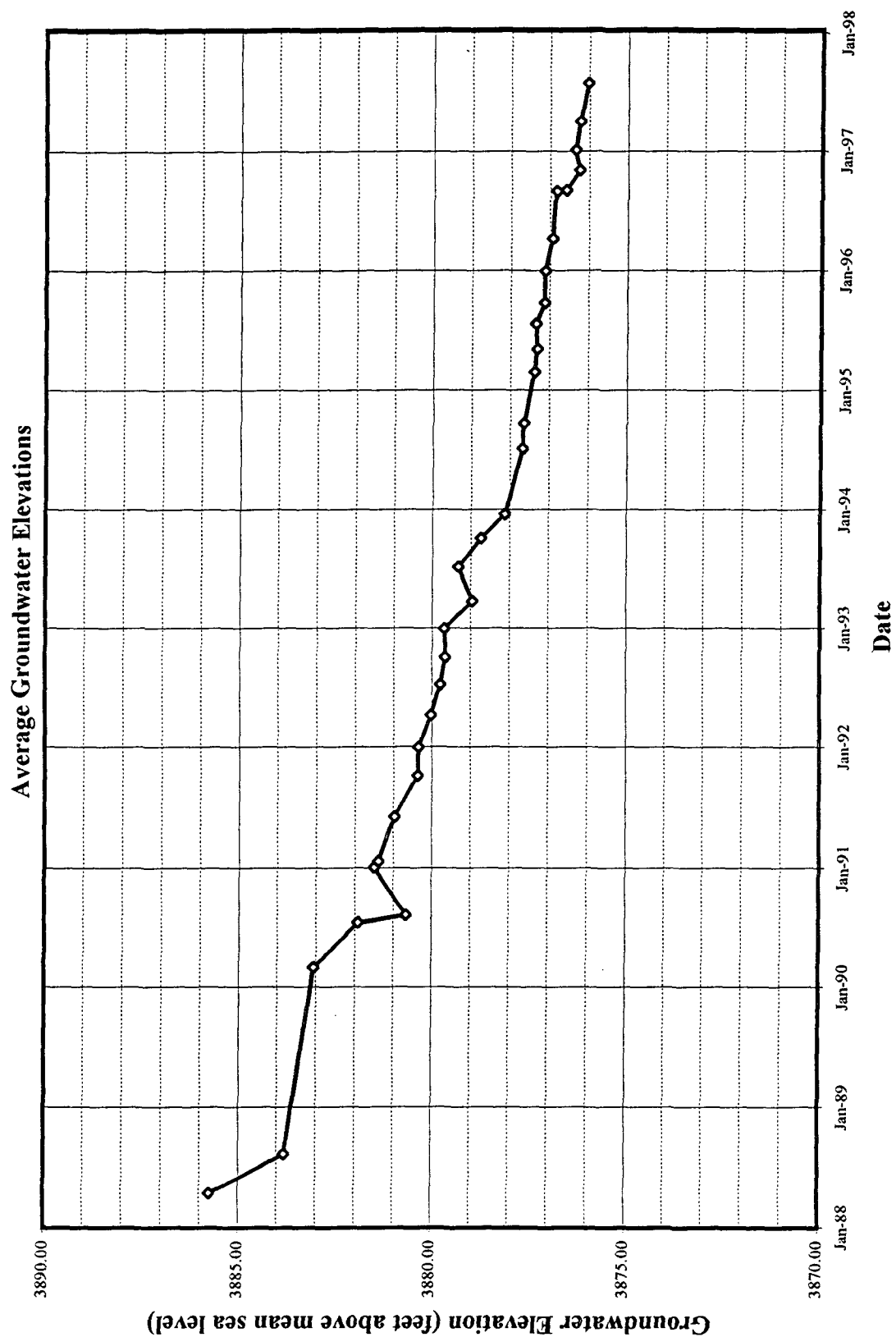
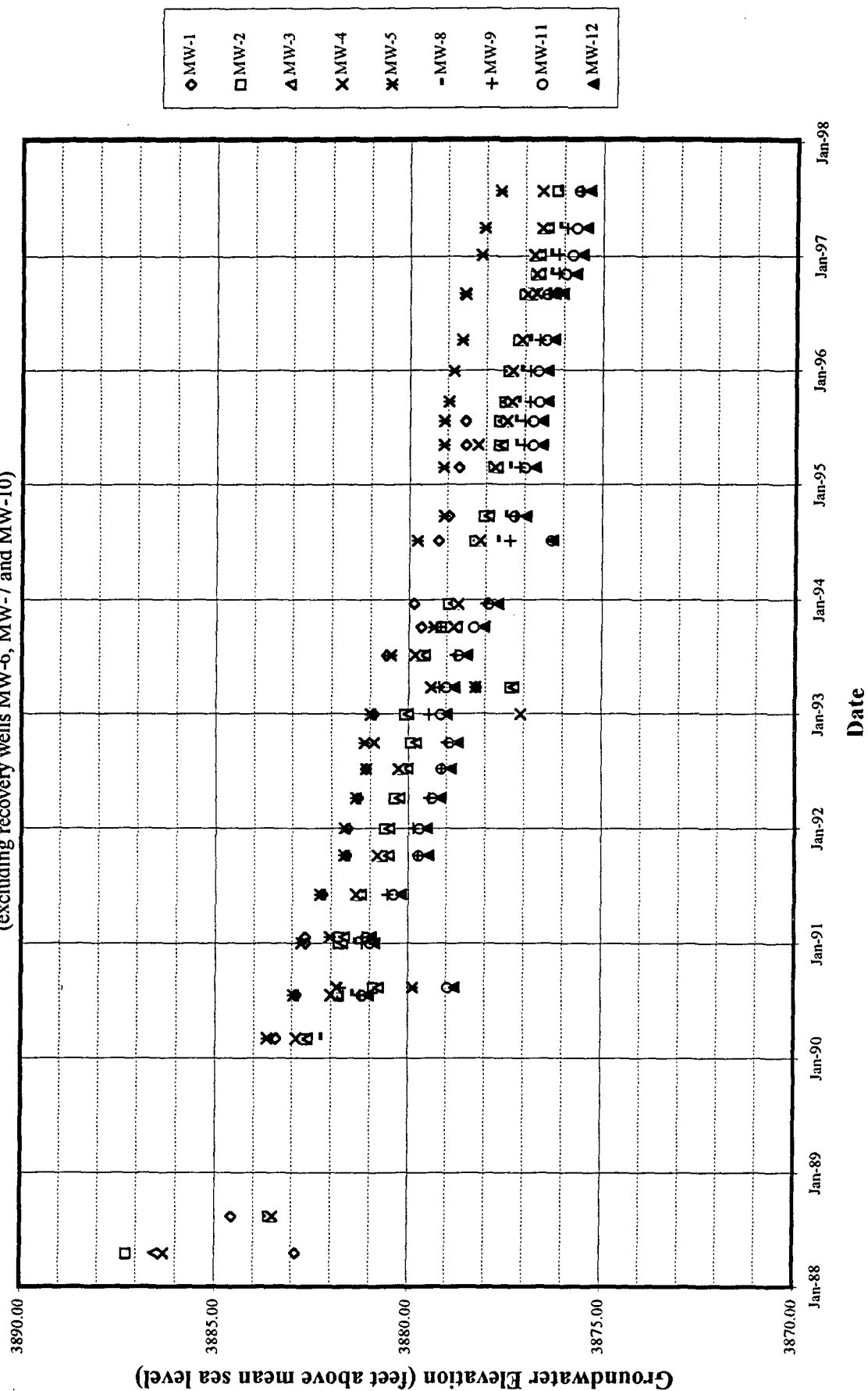


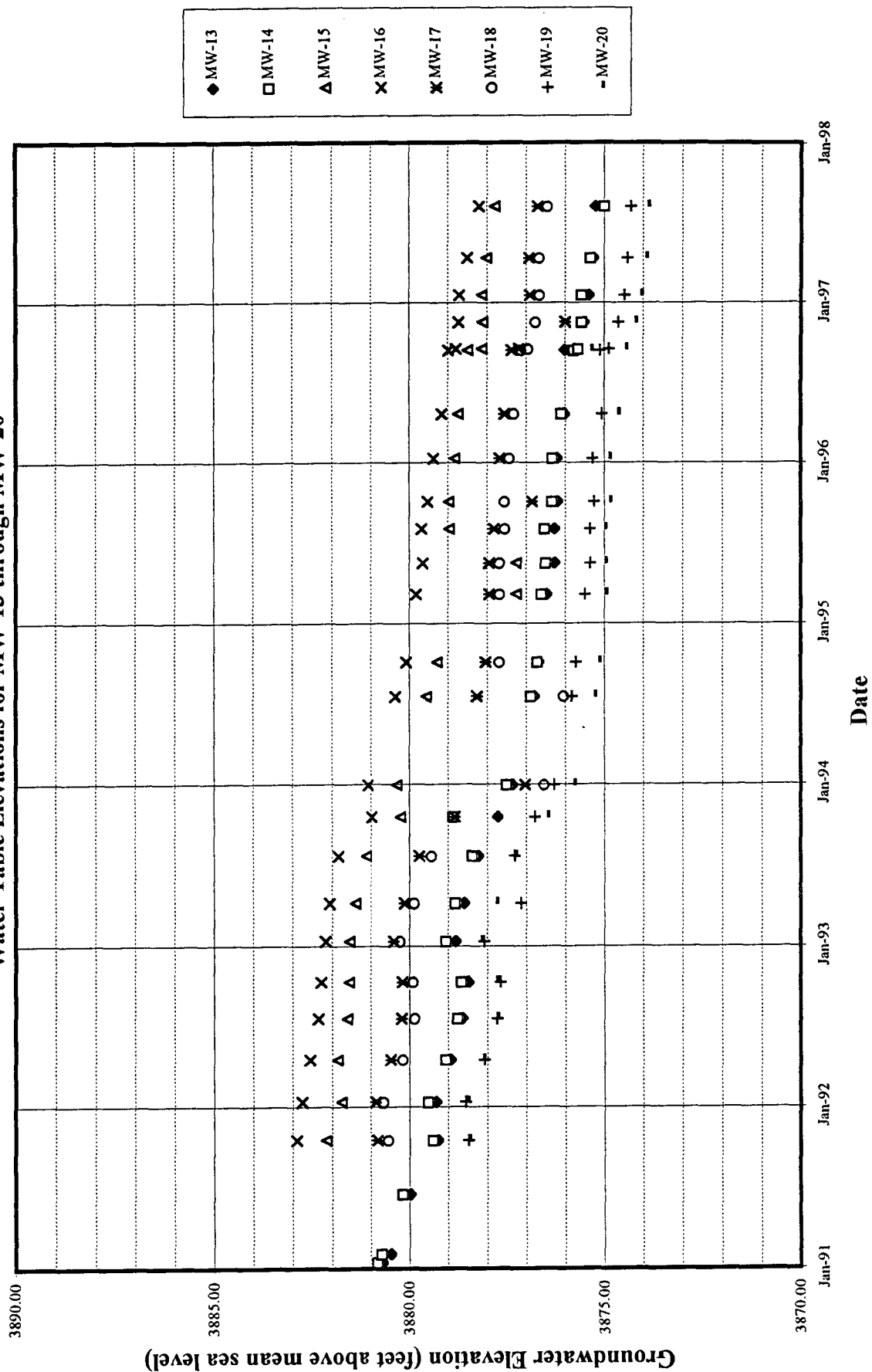
Figure 2a



Water Table Elevations for MW-1 through MW-12
(excluding recovery wells MW-6, MW-7 and MW-10)



Water Table Elevations for MW-13 through MW-20



5.0 Distribution of Hydrocarbons in Groundwater

A historical listing of benzene, toluene, ethylbenzene and xylene (BTEX) concentrations obtained from the on site monitoring wells are summarized in Table 2. A BTEX concentration map depicting the most recent BTEX concentrations (August 12, 1997) is presented in Figure 3.

Based on the most recent analytical data for samples collected by BDM on August 12, 1997, the distribution of hydrocarbons at the Lee Gas Plant is described below.

- BTEX concentrations in downgradient wells MW-11, MW-12, MW-13, MW-19 and MW-20 have been below New Mexico Water Quality Control Commission (WQCC) standards, and in most cases below laboratory detection limits, for the last three years.
- BTEX concentrations in crossgradient wells MW-2, MW-17 and MW-18 remain well below WQCC standards.
- Benzene concentrations in monitoring wells MW-3, MW-9 and MW-14, located within the areal extent of the dissolved-phase hydrocarbon plume, and upgradient well MW-16, remain above WQCC standards.
- Benzene concentrations in recovery wells MW-6, MW-7 and MW-10 remain above WQCC standards.
- BTEX concentrations in monitoring wells MW-22 and MW-23, which are screened below the vertical extent of the hydrocarbon plume, remain below WQCC standards.
- Benzene and xylene concentrations in former injection well MW-21, located adjacent to MW-22 and MW-23 and screened within the vertical extent of the hydrocarbon plume, have increased back to levels above WQCC standards.
- Monitoring wells MW-1 and MW-4 could not be sampled due to dry well conditions.
- Monitoring wells MW-5 and MW-15 were not be sampled due to the presence of 4.16 feet and 0.10 feet of free product, respectively.

Table 2
BTEX Analytical Results In Groundwater
GPM - Lee Plant

Monitoring Well	Date Sampled	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Xylenes (mg/l)
MW-1	Mar-90	0.004	<0.001	<0.001	<0.001
	3/28/90	0.002	<0.001	<0.001	<0.001
	6/27/91	<0.002	<0.002	<0.002	<0.003
MW-2	Mar-90	<0.001	<0.001	<0.001	<0.001
	3/28/90	0.002	<0.001	<0.001	<0.001
	6/27/90	<0.002	<0.002	<0.002	<0.003
	7/30/92	<0.001	<0.001	<0.001	<0.001
	7/21/93	<0.002	<0.002	<0.002	<0.006
	1/6/94	<0.001	<0.001	<0.001	<0.003
	7/26/94	<0.001	<0.001	<0.001	<0.003
	1/16/96	<0.001	<0.001	<0.001	<0.001
	8/13/97	<0.001	<0.001	<0.001	<0.001
MW-3	Mar-90	0.069	0.002	0.001	0.001
	3/28/90	<0.001	0.002	<0.001	<0.001
	6/27/90	0.043	0.006	0.002	<0.003
	8/13/97	1.990	0.078	0.042	0.061
MW-4	Never analyzed due to presence of phase-separated hydrocarbons or dry well conditions.				
MW-5	3/27/90	<0.001	0.098	<0.001	0.043
	6/27/91	5.00	0.570	0.015	0.088
	7/30/92	10.0	1.40	0.059	0.070
	7/21/93	22.0	7.87	0.570	1.27
	7/1/94	66.4	17.1	0.630	<1.5
MW-6	4/3/90	<0.001	<0.001	<0.001	<0.001
	2/13/91	72	3.0	35	42
	3/1/95	18.8	17.0	1.76	3.10
	8/13/97	11.6	4.1	0.49	0.82
MW-7	4/3/90	6.1	0.36	3.9	0.26
	6/27/91	3.2	1.4	0.023	0.13
	7/30/92	0.001	<0.001	<0.001	<0.001
	7/21/93	0.040	0.57	<0.001	1.27
	7/25/94	0.003	0.002	0.001	0.005
	8/9/95	0.083	0.001	0.002	<0.003
	8/27/96	1.14	<0.010	<0.010	<0.010
	8/13/97	1.39	<0.025	<0.025	<0.025
MW-8	4/6/90	18	0.83	7.1	0.29
	6/27/91	21	1.3	0.012	0.42
	7/30/92	13	0.38	0.37	0.18
MW-9	8/11/90	0.006	0.001	0.001	0.002
	1/23/91	0.007	0.001	0.005	0.002
	6/27/91	0.16	0.056	0.003	0.004
	10/17/91	0.002	0.003	0.002	<0.001
	1/23/92	<0.001	0.003	0.005	<0.001
	4/28/92	<0.001	0.001	<0.001	<0.001
	7/30/92	0.31	0.004	0.010	0.003
	10/21/92	3.0	0.28	0.11	0.12
	1/20/93	5.9	0.004	0.022	0.011
	4/15/93	2.2	0.011	0.020	0.040
	7/21/93	0.673	0.314	0.029	0.069
	7/25/94	0.495	<0.01	<0.01	<0.03
	8/9/95	5.86	<0.025	<0.025	<0.075
	8/27/96	0.327	<0.001	<0.001	<0.001
	8/12/97	0.138	<0.001	<0.001	<0.001

Table 2
BTEX Analytical Results In Groundwater
GPM - Lee Plant

Monitoring Well	Date Sampled	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Xylenes (mg/l)
MW-10	8/10/90	1.3	0.050	0.034	0.016
	1/23/91	0.98	0.015	0.016	<0.005
	6/27/91	9.7	0.42	0.084	0.039
	7/21/93	0.004	<0.002	<0.002	NS
	7/25/94	4.16	0.21	0.23	0.86
	8/9/95	3.66	0.033	<0.025	<0.075
	8/27/96	2.98	0.060	<0.025	<0.025
	8/12/97	4.71	<0.050	<0.050	<0.050
MW-11	8/10/90	0.001	0.002	0.003	0.006
	6/26/91	<0.002	<0.002	<0.002	<0.003
	10/17/91	0.002	0.002	<0.001	<0.001
	1/23/92	<0.001	<0.001	<0.001	<0.001
	4/28/92	0.002	<0.001	<0.001	<0.001
	7/30/92	0.031	0.007	0.002	0.001
	10/21/92	0.078	0.130	0.022	0.051
	1/20/93	0.001	<0.001	<0.001	0.001
	4/15/93	0.001	<0.001	<0.001	0.001
	7/20/93	0.016	0.031	<0.002	0.012
	10/26/93	<0.002	<0.002	<0.002	<0.006
	1/6/94	0.004	0.006	<0.001	0.004
	5/3/94	<0.001	<0.001	0.001	0.004
	7/26/94	0.002	0.001	<0.001	<0.003
	10/12/94	<0.001	0.002	<0.001	<0.003
	3/16/95	<0.001	0.002	<0.001	0.003
	6/24/95	<0.001	0.001	<0.001	<0.003
	8/10/95	<0.001	<0.001	<0.001	<0.003
	10/10/95	<0.001	<0.001	<0.001	<0.001
	1/16/96	<0.001	<0.001	<0.001	<0.001
	4/25/96	<0.001	<0.001	<0.001	<0.001
	8/27/96	<0.001	<0.001	<0.001	<0.001
	11/20/96	<0.001	<0.001	<0.001	<0.001
	1/21/97	<0.001	<0.001	<0.001	<0.001
	4/17/97	<0.001	<0.001	<0.001	<0.001
	8/12/97	<0.001	<0.001	<0.001	<0.001
MW-12	8/10/90	0.001	0.001	0.001	0.003
	1/23/91	0.12	0.001	0.004	0.001
	6/26/91	<0.002	0.002	<0.002	<0.003
	10/17/91	0.004	0.003	<0.001	<0.001
	1/23/92	<0.001	<0.001	<0.001	<0.001
	4/28/92	<0.001	<0.001	<0.001	<0.001
	7/30/92	0.018	0.004	0.001	0.001
	10/21/92	0.064	0.130	0.024	0.056
	1/20/93	0.067	0.001	<0.001	<0.001
	4/15/93	0.030	<0.001	<0.001	<0.001
	7/20/93	0.011	0.029	<0.002	0.012
	10/26/93	<0.002	<0.002	<0.002	<0.006
	1/6/94	0.003	0.004	<0.001	<0.003
	5/3/94	<0.001	0.002	0.001	0.004
	7/26/94	0.004	<0.001	<0.001	<0.003
	10/12/94	<0.001	<0.001	<0.001	<0.003
	3/16/95	<0.001	0.003	<0.001	0.004
	6/24/95	<0.001	<0.001	<0.001	<0.003

Table 2
BTEX Analytical Results In Groundwater
GPM - Lee Plant

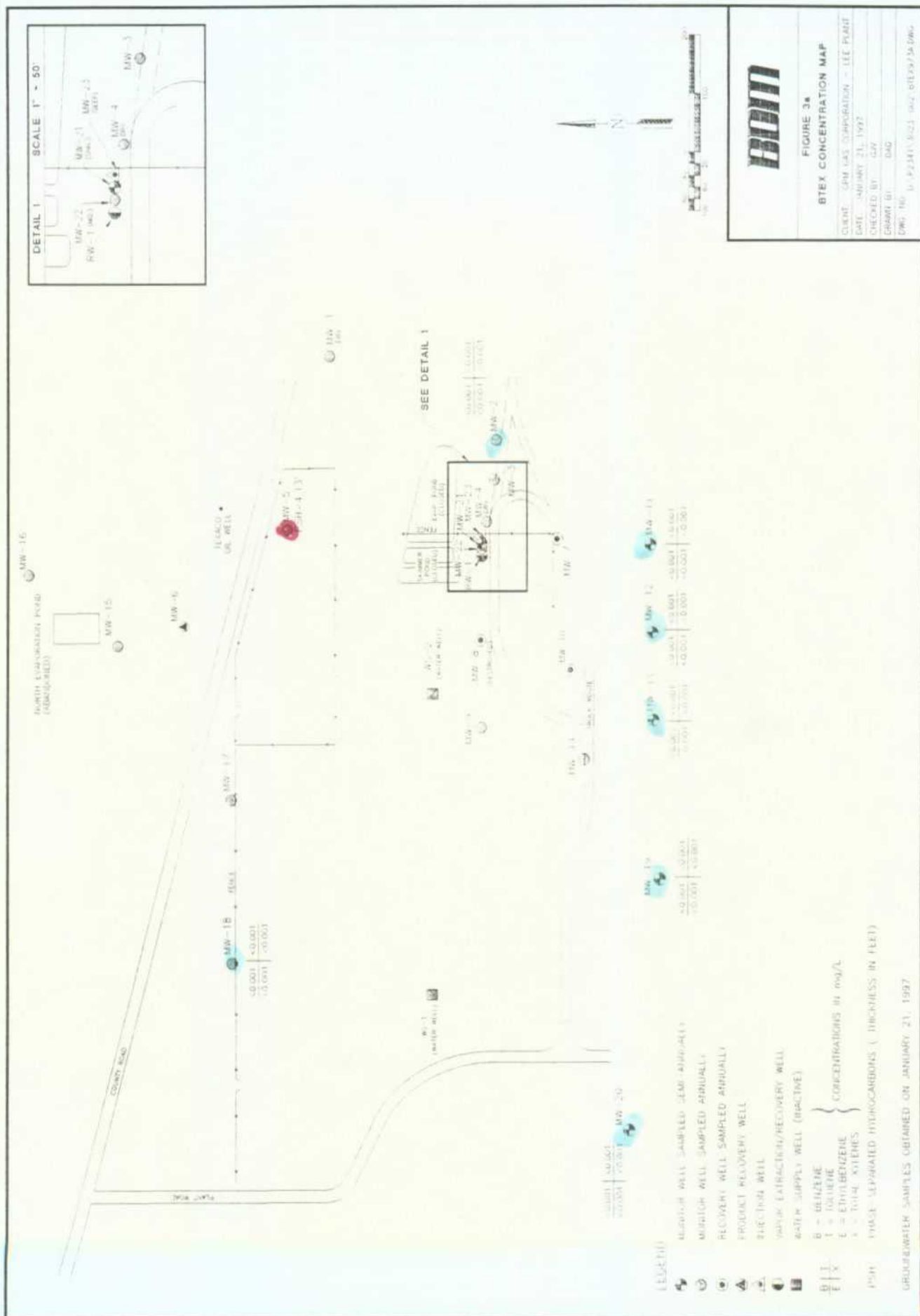
Monitoring Well	Date Sampled	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Xylenes (mg/l)
MW-12	8/10/95	<0.001	<0.001	<0.001	<0.003
	10/10/95	<0.001	<0.001	<0.001	<0.001
	1/16/96	<0.001	<0.001	<0.001	<0.001
	4/25/96	<0.001	<0.001	<0.001	<0.001
	8/27/96	<0.001	<0.001	<0.001	<0.001
	11/20/96	<0.001	<0.001	<0.001	<0.001
	1/21/97	<0.001	<0.001	<0.001	<0.001
	4/17/97	<0.001	<0.001	<0.001	<0.001
	8/12/97	<0.001	<0.001	<0.001	<0.001
MW-13	1/27/91	0.016	0.003	0.019	0.005
	6/26/91	0.002	<0.002	<0.002	<0.003
	10/17/91	0.001	0.001	<0.001	<0.001
	1/23/92	<0.001	<0.001	<0.001	<0.001
	7/30/92	<0.001	<0.001	<0.001	<0.001
	10/21/92	0.084	0.150	0.026	0.062
	1/20/93	0.028	<0.001	<0.001	<0.001
	4/15/93	0.013	<0.001	<0.001	<0.001
	7/20/93	0.015	0.034	<0.002	0.013
	10/26/93	0.029	0.030	<0.002	0.010
	1/6/94	0.002	0.003	<0.001	<0.003
	5/3/94	<0.001	<0.001	<0.001	<0.003
	7/26/94	0.007	0.001	<0.001	<0.003
	10/12/94	<0.001	<0.001	<0.001	<0.001
	3/16/95	<0.001	0.003	<0.001	<0.003
	6/24/95	<0.001	<0.001	<0.001	0.003
	8/10/95	<0.001	<0.001	<0.001	<0.003
	10/10/95	<0.001	<0.001	<0.001	<0.001
	1/16/96	<0.001	<0.001	<0.001	<0.001
	4/25/96	<0.001	<0.001	<0.001	<0.001
	8/27/96	<0.001	<0.001	<0.001	<0.001
	11/20/96	<0.001	<0.001	<0.001	<0.001
	1/21/97	<0.001	<0.001	<0.001	<0.001
	4/17/97	<0.001	<0.001	<0.001	<0.001
	8/12/97	<0.001	<0.001	<0.001	<0.001
MW-14	1/27/91	<0.001	<0.001	<0.001	<0.001
	6/27/91	<0.002	<0.002	<0.002	<0.003
	10/21/92	0.043	0.099	0.019	0.045
	1/20/93	0.019	<0.001	<0.001	0.001
	4/15/93	0.013	0.003	0.003	0.006
	4/25/96	2.22	<0.010	0.049	<0.010
	4/17/97	3.79	<0.025	0.050	<0.025
	8/13/97	3.42	<0.050	<0.050	<0.050
MW-15	10/29/91	4.2	0.45	0.10	0.10
	3/16/95	6.24	0.981	0.087	0.214
MW-16	10/18/91	0.004	0.002	<0.001	<0.001
	7/30/92	0.42	0.077	0.008	0.008
	7/20/93	1.19	0.157	0.030	0.048
	7/26/94	3.82	1.66	0.120	<0.300
	8/10/95	3.53	0.540	0.137	0.378
	8/27/96	0.724	0.166	0.035	0.021
	8/13/97	0.891	0.216	0.042	0.081

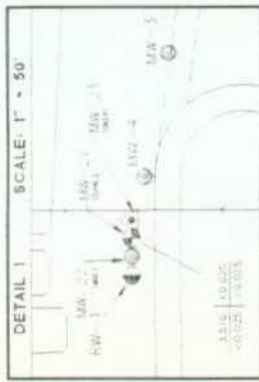
Table 2
BTEX Analytical Results In Groundwater
GPM - Lee Plant

Monitoring Well	Date Sampled	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Xylenes (mg/l)
MW-20	11/20/96	<0.001	<0.001	<0.001	<0.001
	1/21/97	<0.001	<0.001	<0.001	<0.001
	4/17/97	<0.001	<0.001	<0.001	<0.001
	8/12/97	<0.001	<0.001	<0.001	<0.001
MW-21	7/20/93	37	5	<2	<6
	4/23/94	0.007	<0.001	<0.001	<0.003
	5/4/94	0.517	0.052	<0.001	<0.003
	7/26/94	0.078	0.051	<0.001	0.011
	3/16/95	0.042	<0.001	<0.001	<0.003
	10/10/95	0.092	<0.001	<0.001	<0.001
	4/25/96	0.001	<0.001	<0.001	<0.001
	11/20/96	0.010	<0.001	<0.001	<0.001
	4/17/97	3.51	<0.025	<0.025	<0.025
MW-22	8/13/97	33	0.31	0.73	0.90
	7/20/93	0.170	0.065	0.036	0.048
	4/23/94	2.52	0.26	<0.10	<0.30
	5/4/94	0.007	0.002	<0.001	0.007
	7/26/94	0.005	0.001	<0.001	<0.003
	3/16/95	<0.001	<0.001	<0.001	<0.003
	10/10/95	<0.001	<0.001	<0.001	<0.001
	4/25/96	<0.001	<0.001	<0.001	<0.001
	11/20/96	<0.001	<0.001	<0.001	<0.001
MW-23	8/13/97	0.002	0.001	<0.001	<0.001
	7/20/93	0.190	0.130	0.010	0.046
WS-1	8/13/97	<0.001	<0.001	<0.001	<0.001
	Mar-90	0.015	0.004	0.002	0.004
	8/10/90	0.010	0.001	0.001	0.001
	6/27/91	0.007	<0.002	<0.002	<0.003
	1/23/92	0.110	0.020	0.020	0.010
	7/30/92	0.015	0.003	0.003	0.002
	4/15/93	0.007	0.003	0.002	0.002
WS-2	7/26/94	0.020	<0.001	0.002	<0.003
	Mar-90	0.007	<0.001	0.001	<0.001
	6/27/91	0.280	0.027	0.002	0.003
	1/23/92	0.010	<0.001	<0.001	<0.001
	7/30/92	0.46	0.011	0.005	0.002
RW-1	4/15/93	1.6	<0.001	0.019	0.014
	4/4/90	2.6	0.32	0.58	0.19
WQCC Standards (mg/l)		0.010	0.75	0.75	0.62
Samples analyzed for BTEX using EPA Method 602.					
New Mexico Water Quality Control Commission (WQCC) standards are listed as specified in Section 3-103.					

Table 2
BTEX Analytical Results In Groundwater
GPM - Lee Plant

Monitoring Well	Date Sampled	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Xylenes (mg/l)
MW-17	10/27/91	0.008	0.002	<0.001	<0.001
	3/16/95	0.062	0.020	0.004	0.010
	1/16/96	<0.001	<0.001	<0.001	<0.001
	8/13/97	0.002	<0.001	<0.001	<0.001
MW-18	10/28/91	<0.001	0.001	<0.001	<0.001
	7/30/92	0.023	0.006	0.002	0.001
	7/20/93	0.011	0.029	<0.002	0.012
	1/6/94	<0.001	0.002	<0.001	<0.003
	7/26/94	0.057	0.008	0.002	<0.003
	3/16/95	<0.001	0.002	<0.001	<0.003
	8/10/95	<0.001	<0.001	<0.001	<0.003
	1/16/96	<0.001	<0.001	<0.001	<0.001
	8/27/96	<0.001	<0.001	<0.001	<0.001
	1/21/97	<0.001	<0.001	<0.001	<0.001
	8/13/97	<0.001	<0.001	<0.001	<0.001
MW-19	10/25/91	<0.001	0.001	<0.001	<0.001
	7/30/92	0.014	0.004	0.002	0.001
	7/20/93	0.015	0.036	<0.002	0.014
	10/26/93	0.011	0.012	<0.002	<0.006
	1/6/94	0.003	0.003	<0.001	<0.003
	5/3/94	<0.001	<0.001	<0.001	<0.003
	7/26/94	0.005	<0.001	<0.001	<0.003
	10/12/94	<0.001	<0.001	<0.001	<0.003
	3/16/95	0.079	0.028	0.005	0.011
	5/24/95	0.003	0.004	0.002	0.003
	8/10/95	<0.001	<0.001	<0.001	<0.003
	10/10/95	<0.001	<0.001	<0.001	<0.001
	1/16/96	<0.001	<0.001	<0.001	<0.001
	4/25/96	<0.001	<0.001	<0.001	<0.001
	8/27/96	<0.001	<0.001	<0.001	<0.001
	11/20/96	<0.001	<0.001	<0.001	<0.001
	1/21/97	<0.001	<0.001	<0.001	<0.001
	4/17/97	<0.001	<0.001	<0.001	<0.001
	8/12/97	<0.001	<0.001	<0.001	<0.001
MW-20	10/29/91	0.080	0.041	0.003	0.003
	1/23/92	<0.001	<0.001	<0.001	<0.001
	7/30/92	0.22	0.076	0.006	0.006
	1/20/93	<0.001	<0.001	<0.001	<0.001
	4/15/93	0.001	<0.001	<0.001	0.002
	7/20/93	0.217	0.102	0.011	0.034
	10/26/93	0.018	0.014	<0.002	<0.006
	1/6/94	0.004	0.005	0.003	0.010
	5/3/94	<0.001	<0.001	<0.001	<0.003
	7/26/94	<0.001	<0.001	<0.001	<0.003
	10/12/94	<0.001	<0.001	<0.001	<0.003
	3/16/95	0.001	0.006	<0.001	0.006
	6/24/95	<0.001	<0.001	<0.001	0.003
	8/10/95	<0.001	<0.001	<0.001	<0.003
	10/10/95	<0.001	<0.001	<0.001	<0.001
	1/16/96	<0.001	<0.001	<0.001	<0.001
	4/25/96	<0.001	<0.001	<0.001	<0.001
	8/27/96	<0.001	<0.001	<0.001	<0.001





- LEGEND
- MONITOR WELL SAMPLED SEMI-ANNUALLY
 - MONITOR WELL SAMPLED ANNUALLY
 - RECOVERY WELL SAMPLED ANNUALLY
 - PROJECT RECOVERY WELL
 - INJECTION WELL
 - VAPOR EXTRACTION/RECOVERY WELL
 - WATER SUPPLY WELL (INACTIVE)
 - B = BENZENE
 - T = TOLUENE
 - E = ETHYLBENZENE
 - X = TOTAL XYLENES
- CONCENTRATIONS IN mg/L
- PHASE SEPARATED HYDROCARBONS (THICKNESS IN FEET)



FIGURE 3b
BTEX CONCENTRATION MAP

CLIENT: GPM GAS CORPORATION - IEE PLANT
DATE: APRIL 17, 1997
CHECKED BY: GAV
DRAWN BY: DAC
DWG NO: G-2241-3023-001-BTEX3b.DWG

GROUNDWATER SAMPLES OBTAINED ON APRIL 17, 1997

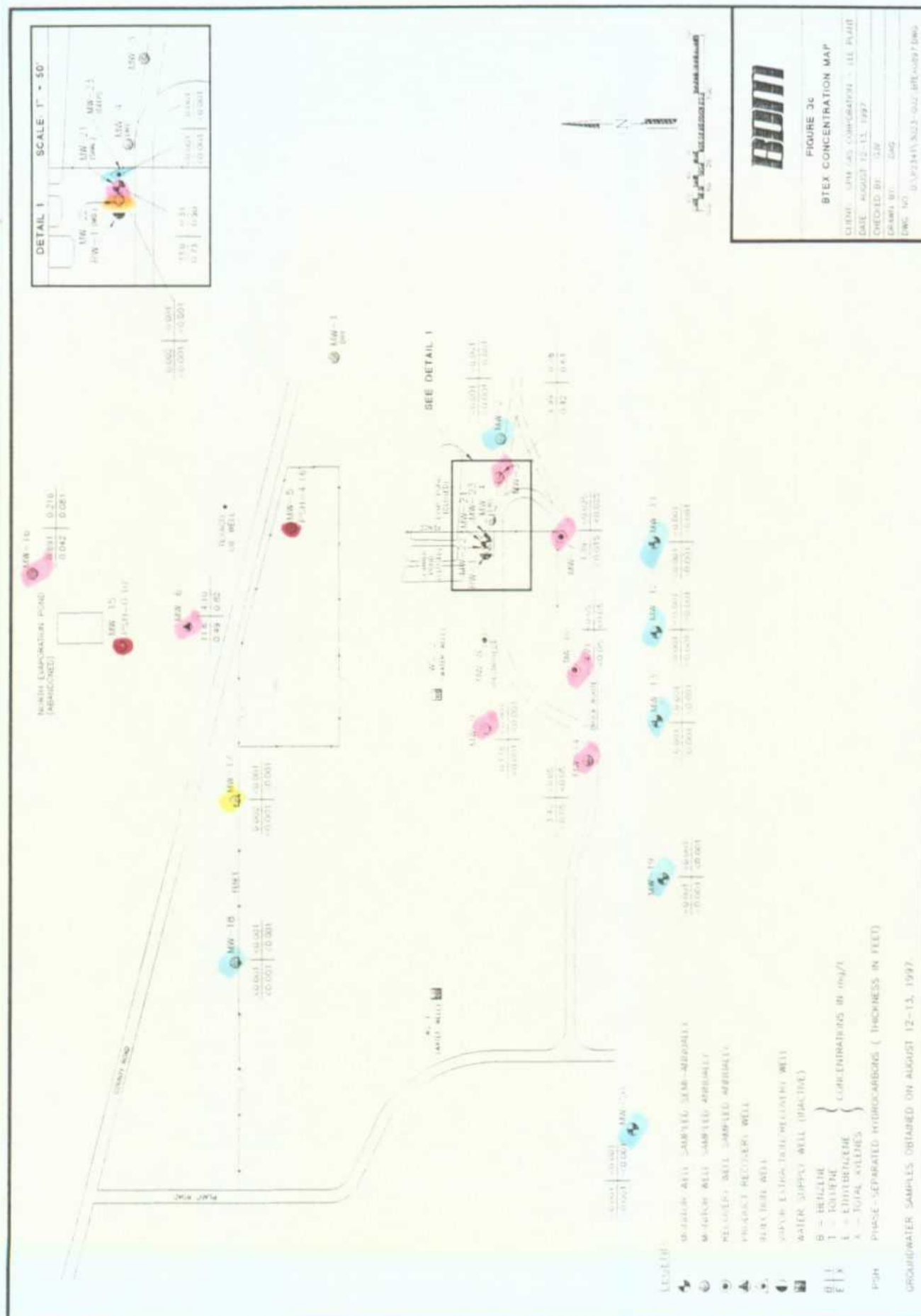


Figure 4a
Hydrocarbon Concentrations Versus Time
(Central Area Wells)

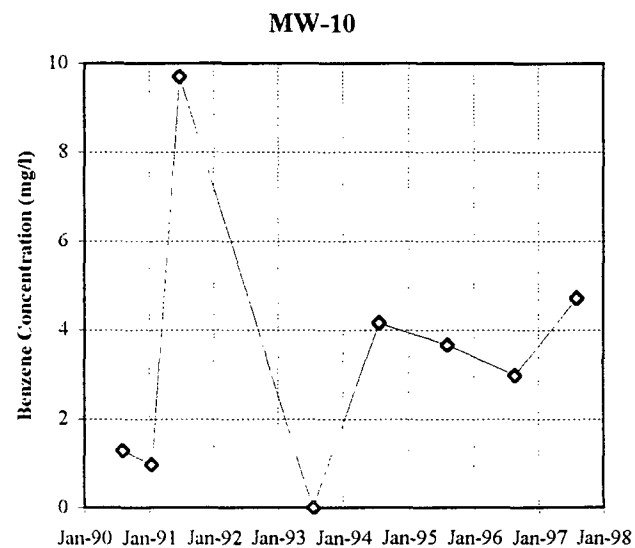
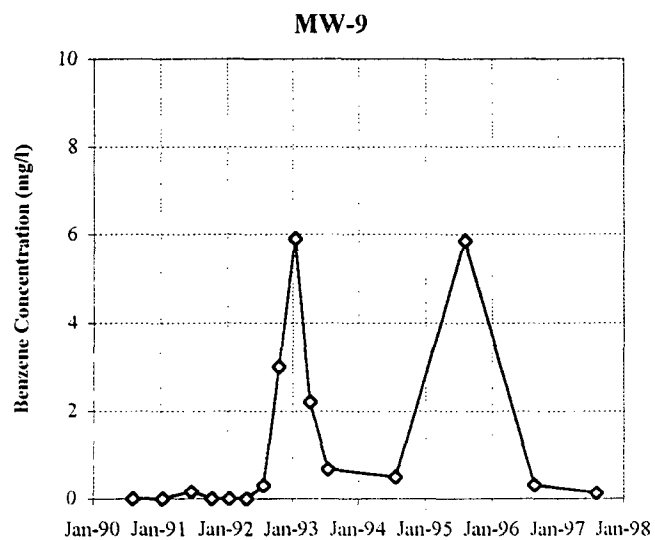
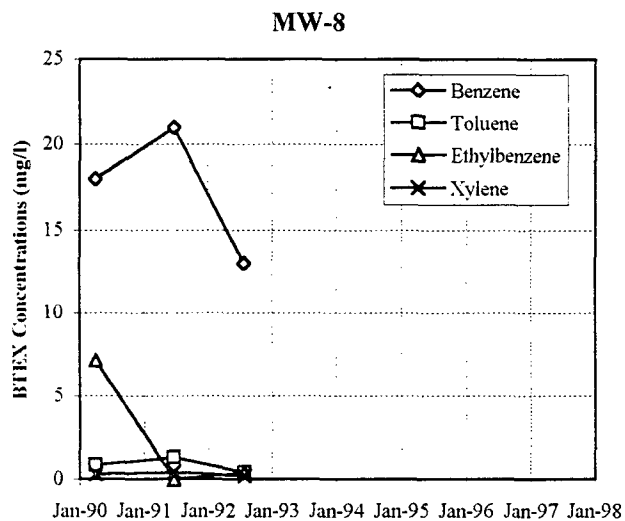
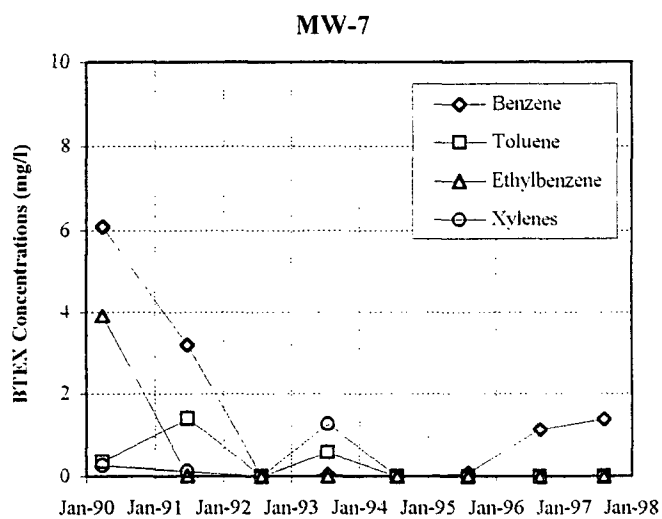
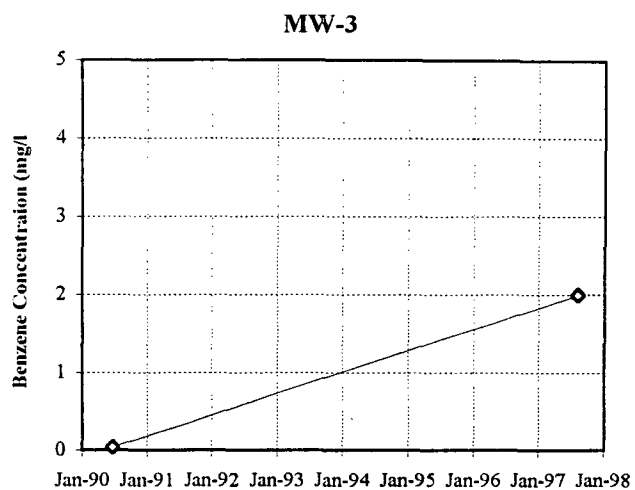
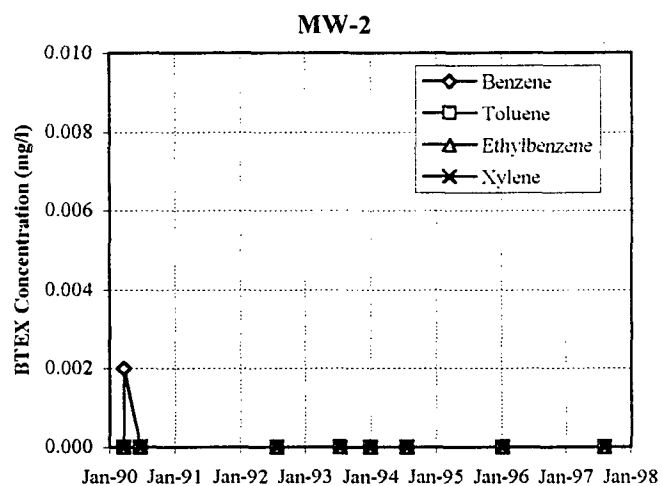


Figure 4a
Hydrocarbon Concentrations Versus Time
(Central Area Wells)

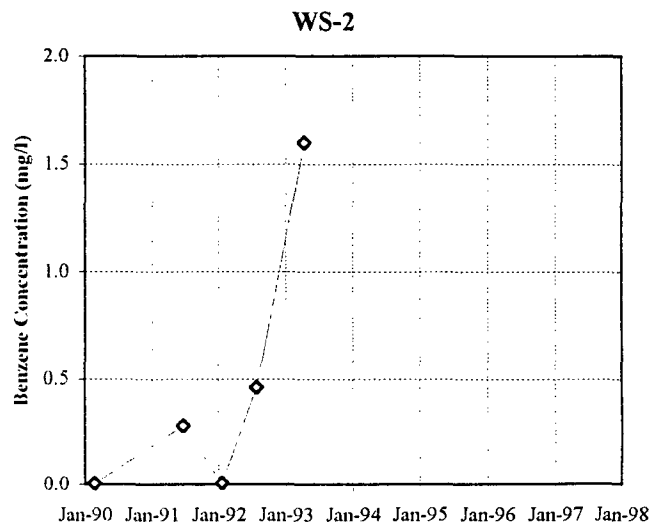
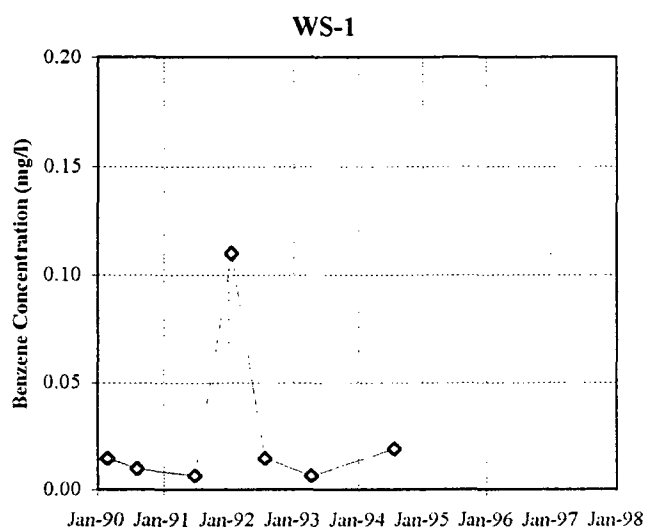
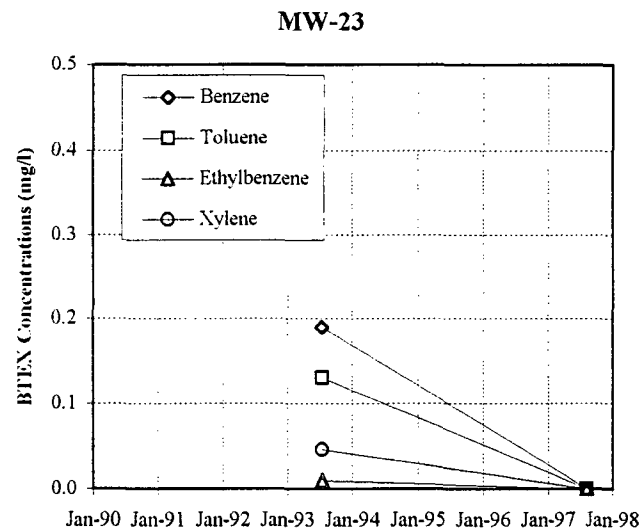
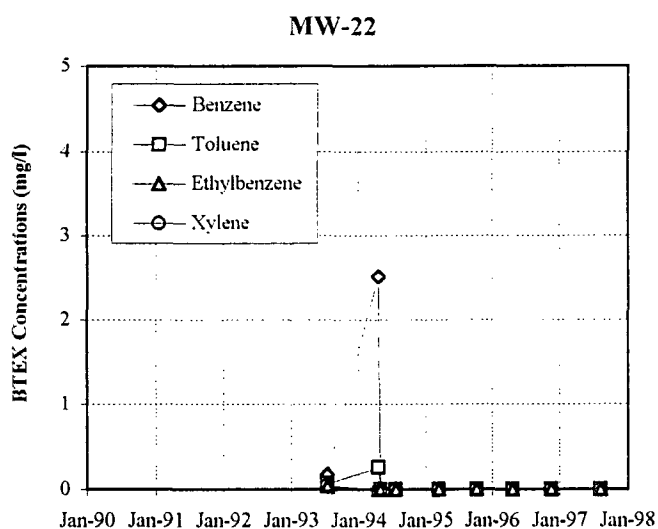
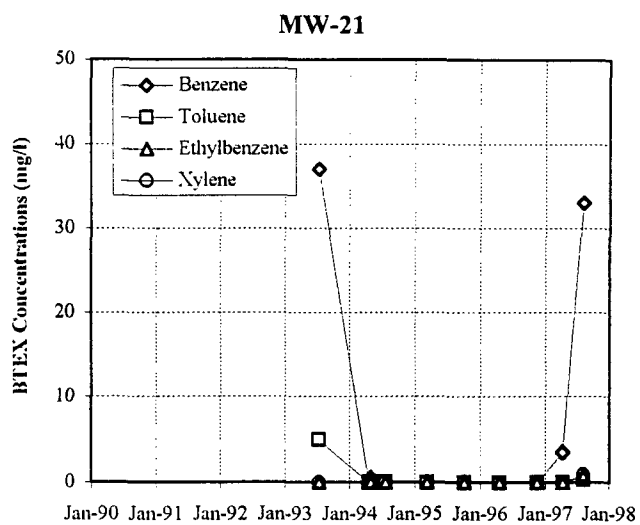
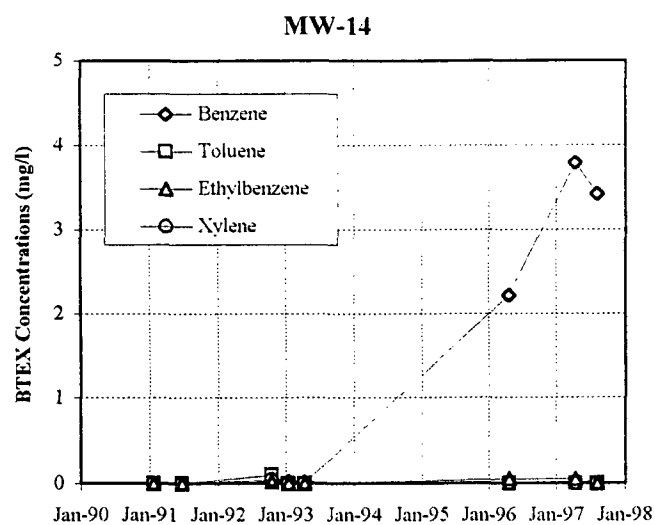


Figure 4b
Hydrocarbon Concentrations Versus Time
(North Area Wells)

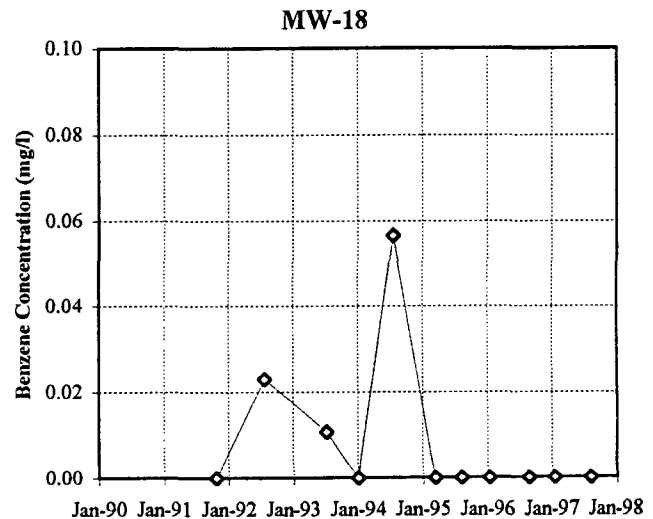
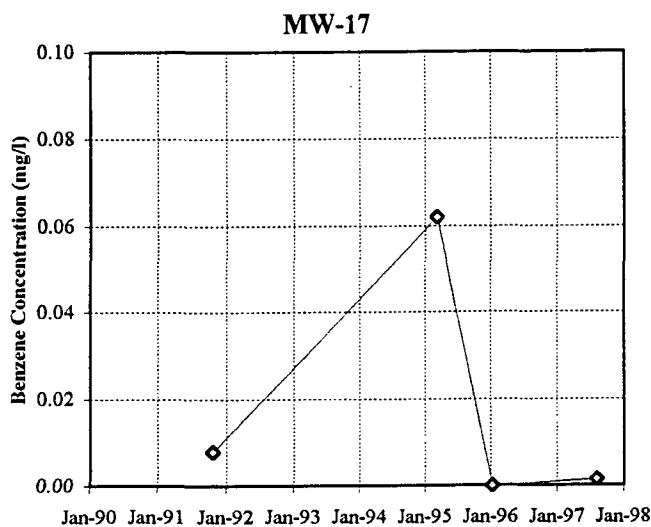
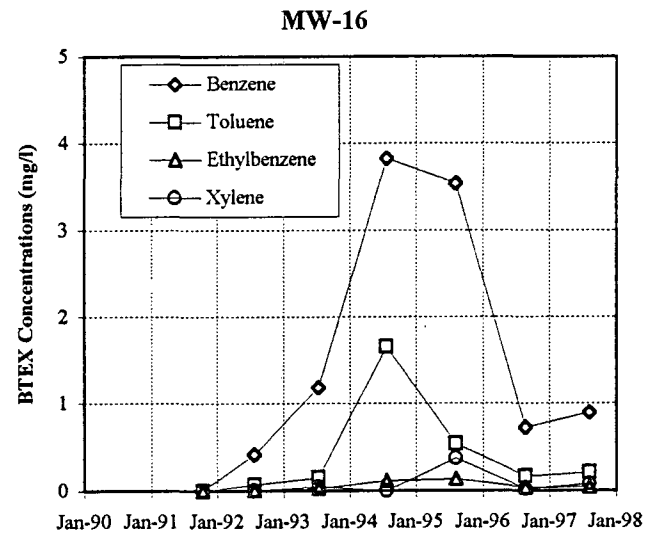
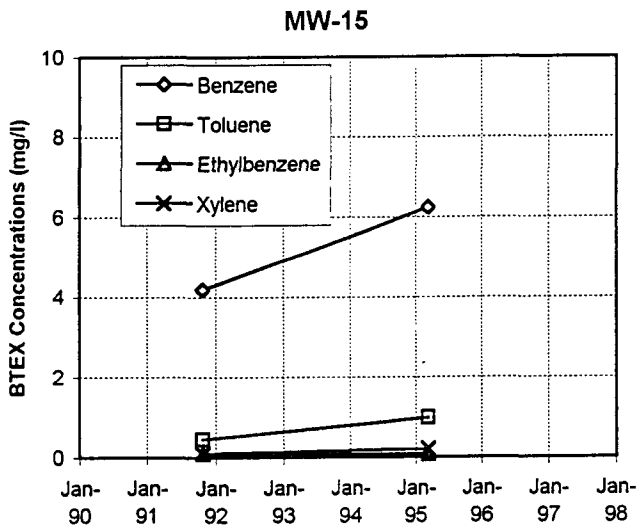
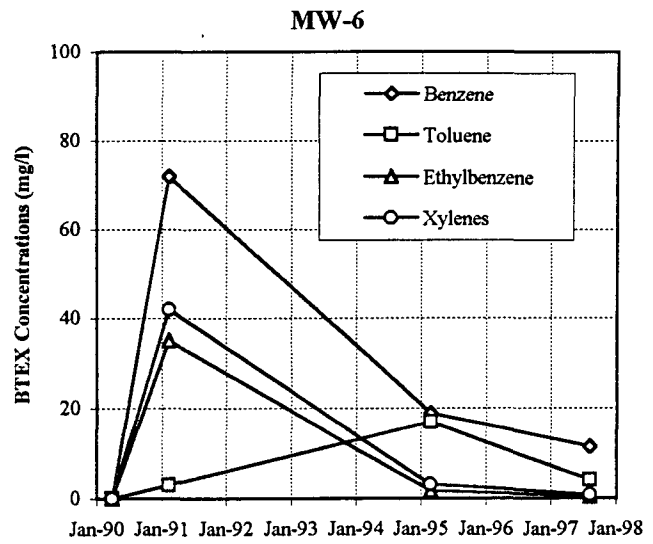
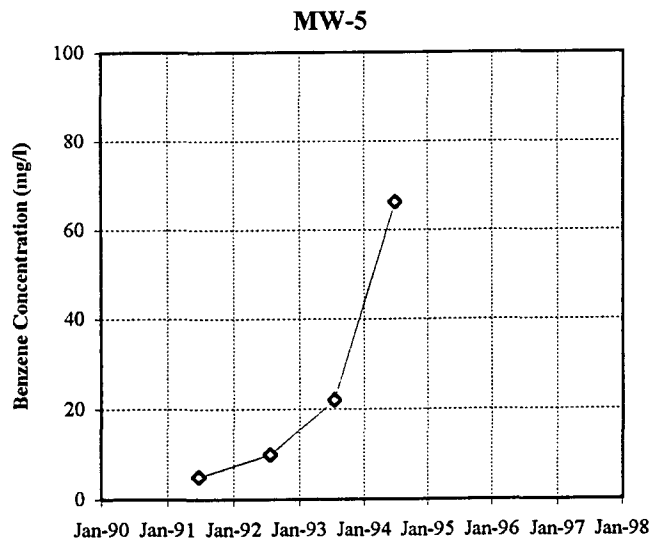
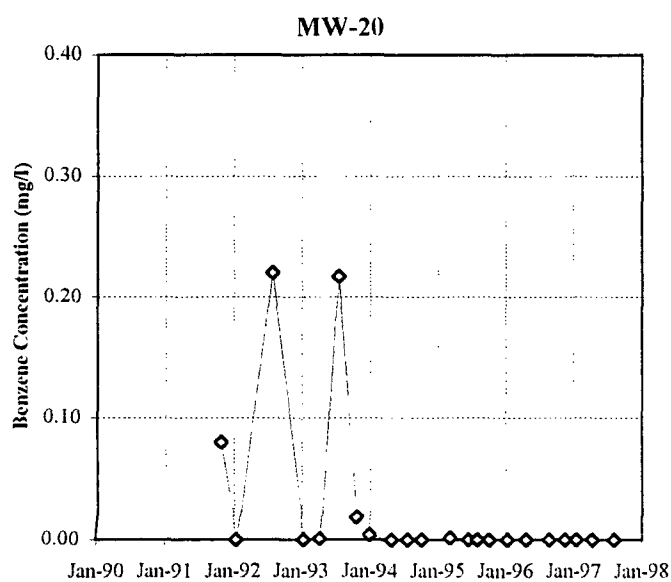
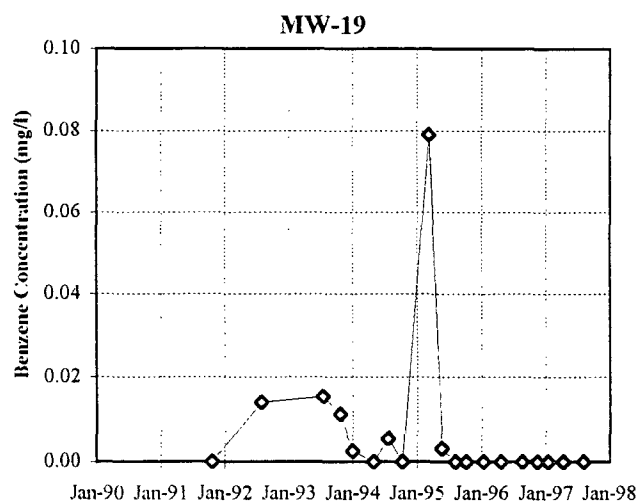
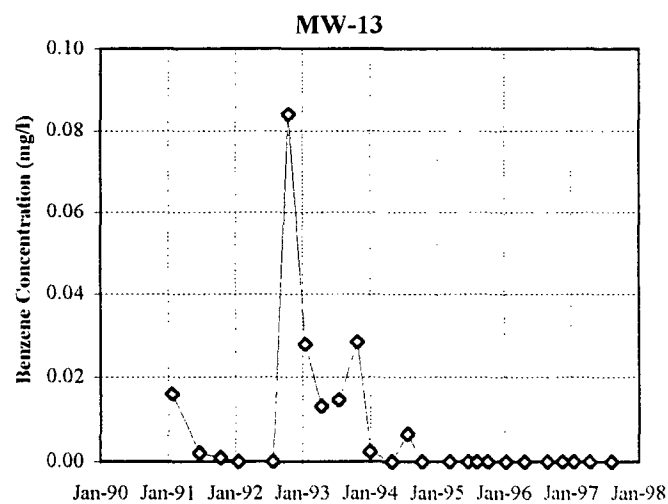
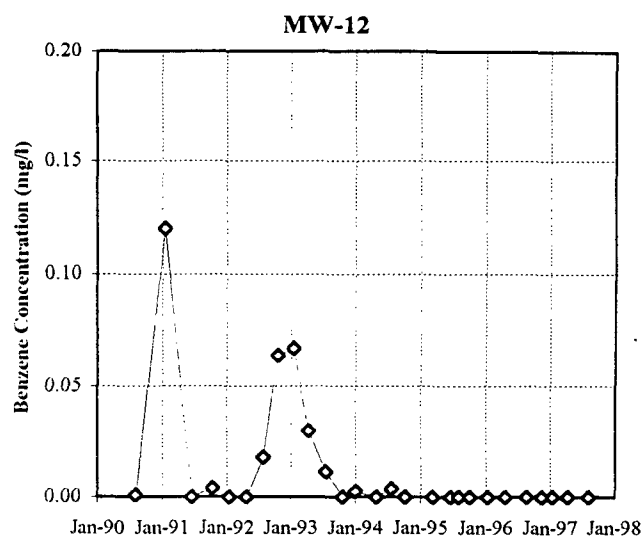
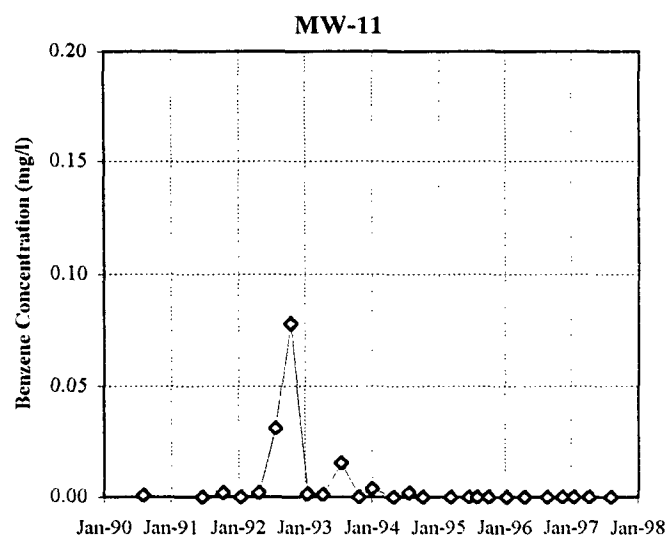


Figure 4c
Hydrocarbon Concentrations Versus Time
(Downgradient - South Area Wells)



6.0 Remediation System Performance

The remediation system at the Lee Gas Plant consists of four groundwater recovery wells (RW-1, MW-6, MW-7, and MW-10), one soil vapor extraction well (RW-1), and one injection well (MW-23). In January 1995, it was determined that the remediation system was operating efficiently and concentrations of benzene, toluene, ethylbenzene, and xylenes (BTEX) were sufficiently reduced such that the injection well could be turned off. Therefore, when the water injection line was removed on January 16, 1995 to repair the disfunctioning packer, the injection well was taken out of service. Since BTEX concentrations have now returned to levels above the WQCC standards in MW-21, the injection well will be returned to service.

A total of 525,210 gallons of groundwater was recovered by the four recovery wells during the period of record (January 1, 1997 through September 30, 1997). The estimated monthly recovery volumes (gallons) from the remediation system recovery wells are summarized in the following table.

Table 2 Groundwater Recovery System Performance Total Fluids Extraction Rates GPM - Lee Gas Plant				
Month-Year	Monthly Groundwater Recovery Volumes (gallons)			
	RW-1	MW-6	MW-7	MW-10
Jan-97	3,164	15,161	0	40,785
Feb-97	1,979	37,795	71	36,310
Mar-97	16,659	33,815	18,120	32,625
Apr-97	10,613	38,877	7,027	35,680
May-97	14,553	20,982	9,281	10,488
Jun-97	10,072	1,542	12,215	1,047
Jul-97	11,739	10,043	28,730	13,966
Aug-97	9,854	5,254	18,155	0
Sep-97	10,707	2	7,900	1
Well Totals	89,339	163,471	101,499	170,902
Total volume recovered for period of record (1/1/97 through 9/30/97)				525,210
Readings obtained by GPM using a Great Plains Industry Electronic Digital Meter Groundwater recovery volumes may be greater than above estimates due to occasional malfunction of digital meters.				

The groundwater recovery system has been effective in limiting the downgradient migration of the dissolved-phase hydrocarbon plume. It has also been effective in recovering free product, although the amount of free product recovery is unknown since it cannot be measured.

7.0 Conclusions

Conclusions relevant to groundwater conditions and the remediation performance at the Lee Gas Plant are presented below.

- BTEX concentrations in monitoring wells MW-2, MW-11, MW-12, MW-13, MW-17, MW-18, MW-19 and MW-20 remain below WQCC standards. This indicates that the groundwater recovery system has been effective in limiting the downgradient migration of the dissolved-phase hydrocarbon plume.
- Benzene concentrations in monitoring wells located within the dissolved-phase hydrocarbon plume (MW-3, MW-6, MW-7, MW-9, MW-10, MW-14, and MW-16) remain above WQCC standards.
- Benzene and xylene concentrations in former injection well MW-21, located adjacent to MW-22 and MW-23 and screened within the vertical extent of the hydrocarbon plume, have increased back to levels above WQCC standards.
- A total of 525,210 gallons of groundwater was recovered by the four recovery wells during the period of record (January 1, 1997 through September 30, 1997).
- Approximately 4.16 feet and 0.10 feet of free product was measured in monitoring wells MW-5 and MW-15, respectively.
- The depth to the water table across the site varies from approximately 100 to 105 feet below ground surface. The average water table elevations across the site have decreased by an average of about 1 foot per year since March 28, 1988.
- The hydraulic gradient is approximately 0.004 feet/foot and the direction of groundwater flow is to the southwest based on the gauging data obtained on August 12, 1997. This is consistent with previous gauging data.

8.0 Recommendations

The following recommendations are proposed for the remediation system and monitoring operations at the Lee Gas Plant.

- Continue groundwater recovery operations since the present system has been effective in limiting the downgradient migration of the dissolved-phase hydrocarbon plume.
- Continue hand bailing free product from monitoring wells MW-5 and MW-15.
- Continue the sampling and monitoring program on a semi-annual basis. The next sampling event is scheduled during the first quarter of 1998.

APPENDIX A

LABORATORY ANALYTICAL REPORTS AND CHAIN OF CUSTODY DOCUMENTATION



Intertek Testing Services Environmental Laboratories

ANALYTICAL REPORT

DATE RECEIVED : 15-AUG-1997

REPORT NUMBER : D97-10014

REPORT DATE : 20-AUG-1997

ATTENTION : Mr. Gilbert VanDeventer
SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701

PROJECT : GPM-Lee Plant
PURCHASE ORDER NO : 13179

Included in this data package are the analytical results for the sample group which you have submitted to Intertek Testing Services for analysis. These results are representative of the samples as received by the laboratory.

The information contained herein has undergone extensive review and is deemed accurate and complete. Sample analysis and quality control were performed in accordance with all applicable protocols. Please refrain from reproducing this report except in its entirety.

If you have any questions regarding this report and its associated materials please call your Project Manager at (972) 238-5591.

We appreciate the opportunity to serve you and look forward to providing continued service in the future.

Martin Jeffus
General Manager



Intertek Testing Services

Environmental Laboratories

DATE RECEIVED : 15-AUG-1997

REPORT NUMBER : D97-10014-1

REPORT DATE : 20-AUG-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION : Mr. Gilbert VanDeventer

SAMPLE MATRIX : Water
ID MARKS : 9708121000
: MW-20

PROJECT : GPM-Lee Plant
PURCHASE ORDER NO : 13179
DATE SAMPLED : 12-AUG-1997
ANALYSIS METHOD : EPA 602 /1
ANALYZED BY : VHT
ANALYZED ON : 17-AUG-1997
DILUTION FACTOR : 1
METHOD FACTOR : 1
QC BATCH NO : 30-081697A

BTEX ANALYSIS				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
Benzene	1.0	µg/L	< 1.0	µg/L
Toluene	1.0	µg/L	< 1.0	µg/L
Ethyl benzene	1.0	µg/L	< 1.0	µg/L
Xylenes	1.0	µg/L	< 1.0	µg/L
BTEX (total)			< 1.0	µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		102 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.

ITS Intertek Testing Services

Environmental Laboratories

DATE RECEIVED : 15-AUG-1997

REPORT NUMBER : D97-10014-2

REPORT DATE : 20-AUG-1997

SAMPLE SUBMITTED BY : BDM

ADDRESS : 415 W. Wall Suite 1818

: Midland, Texas 79701

ATTENTION : Mr. Gilbert VanDeventer

SAMPLE MATRIX : Water

ID MARKS : 9708121051

: MW-19

PROJECT : GPM-Lee Plant

PURCHASE ORDER NO : 13179

DATE SAMPLED : 12-AUG-1997

ANALYSIS METHOD : EPA 602 /1

ANALYZED BY : VHT

ANALYZED ON : 17-AUG-1997

DILUTION FACTOR : 1

METHOD FACTOR : 1

QC BATCH NO : 30-081697A

BTEX ANALYSIS			
TEST REQUESTED	DETECTION LIMIT		RESULTS
Benzene	1.0	µg/L	< 1.0 µg/L
Toluene	1.0	µg/L	< 1.0 µg/L
Ethyl benzene	1.0	µg/L	< 1.0 µg/L
Xylenes	1.0	µg/L	< 1.0 µg/L
BTEX (total)			< 1.0 µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		99.9 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.

Intertek Testing Services NA Inc.
1089 East Collins Boulevard Richardson, TX 75081
Telephone (972) 238-5591 Fax (972) 238-5592



Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 15-AUG-1997

REPORT NUMBER : D97-10014-3

REPORT DATE : 20-AUG-1997

SAMPLE SUBMITTED BY : BDM

ADDRESS : 415 W. Wall Suite 1818

: Midland, Texas 79701

ATTENTION : Mr. Gilbert VanDeventer

SAMPLE MATRIX : Water

ID MARKS : 9708121140

: MW-13

PROJECT : GPM-Lee Plant

PURCHASE ORDER NO : 13179

DATE SAMPLED : 12-AUG-1997

ANALYSIS METHOD : EPA 602 /1

ANALYZED BY : VHT

ANALYZED ON : 17-AUG-1997

DILUTION FACTOR : 1

METHOD FACTOR : 1

QC BATCH NO : 30-081697A

BTEX ANALYSIS			
TEST REQUESTED	DETECTION LIMIT		RESULTS
Benzene	1.0	µg/L	< 1.0 µg/L
Toluene	1.0	µg/L	< 1.0 µg/L
Ethyl benzene	1.0	µg/L	< 1.0 µg/L
Xylenes	1.0	µg/L	< 1.0 µg/L
BTEX (total)			< 1.0 µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		102 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



Intertek Testing Services

Environmental Laboratories

DATE RECEIVED : 15-AUG-1997

REPORT NUMBER : D97-10014-4

REPORT DATE : 20-AUG-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION : Mr. Gilbert VanDeventer

SAMPLE MATRIX : Water
ID MARKS : 9708121300
: MW-12
PROJECT : GPM-Lee Plant
PURCHASE ORDER NO : 13179
DATE SAMPLED : 12-AUG-1997
ANALYSIS METHOD : EPA 602 /1
ANALYZED BY : VHT
ANALYZED ON : 19-AUG-1997
DILUTION FACTOR : 1
METHOD FACTOR : 1
QC BATCH NO : 30-081897

BTEX ANALYSIS				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
Benzene	1.0	µg/L	< 1.0	µg/L
Toluene	1.0	µg/L	< 1.0	µg/L
Ethyl benzene	1.0	µg/L	< 1.0	µg/L
Xylenes	1.0	µg/L	< 1.0	µg/L
BTEX (total)			< 1.0	µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		98.4 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 15-AUG-1997

REPORT NUMBER : D97-10014-5

REPORT DATE : 20-AUG-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION : Mr. Gilbert VanDeventer

SAMPLE MATRIX : Water
ID MARKS : 9708121200
: MW-24D
PROJECT : GPM-Lee Plant
PURCHASE ORDER NO : 13179
DATE SAMPLED : 12-AUG-1997
ANALYSIS METHOD : EPA 602 /1
ANALYZED BY : VHT
ANALYZED ON : 17-AUG-1997
DILUTION FACTOR : 1
METHOD FACTOR : 1
QC BATCH NO : 30-081697A

BTEX ANALYSIS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Benzene	1.0 µg/L	141 µg/L
Toluene	1.0 µg/L	< 1.0 µg/L
Ethyl benzene	1.0 µg/L	< 1.0 µg/L
Xylenes	1.0 µg/L	< 1.0 µg/L
BTEX (total)		141 µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		93.8 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 15-AUG-1997

REPORT NUMBER : D97-10014-6

REPORT DATE : 20-AUG-1997

SAMPLE SUBMITTED BY : BDM

ADDRESS : 415 W. Wall Suite 1818

: Midland, Texas 79701

ATTENTION : Mr. Gilbert VanDeventer

SAMPLE MATRIX : Water

ID MARKS : 9708121415

: MW-11

PROJECT : GPM-Lee Plant

PURCHASE ORDER NO : 13179

DATE SAMPLED : 12-AUG-1997

ANALYSIS METHOD : EPA 602 /1

ANALYZED BY : VHT

ANALYZED ON : 19-AUG-1997

DILUTION FACTOR : 1

METHOD FACTOR : 1

QC BATCH NO : 30-081897

BTEX ANALYSIS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Benzene	1.0	µg/L	<	1.0	µg/L
Toluene	1.0	µg/L	<	1.0	µg/L
Ethyl benzene	1.0	µg/L	<	1.0	µg/L
Xylenes	1.0	µg/L	<	1.0	µg/L
BTEX (total)			<	1.0	µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		101 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.

Intertek Testing Services NA Inc.
1089 East Collins Boulevard Richardson, TX 75081
Telephone (972) 238-5591 Fax (972) 238-5592



Intertek Testing Services

Environmental Laboratories

DATE RECEIVED : 15-AUG-1997

REPORT NUMBER : D97-10014-7

REPORT DATE : 20-AUG-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION : Mr. Gilbert VanDeventer

SAMPLE MATRIX : Water
ID MARKS : 9708121520
: MW-18
PROJECT : GPM-Lee Plant
PURCHASE ORDER NO : 13179
DATE SAMPLED : 12-AUG-1997
ANALYSIS METHOD : EPA 602 /1
ANALYZED BY : VHT
ANALYZED ON : 17-AUG-1997
DILUTION FACTOR : 1
METHOD FACTOR : 1
QC BATCH NO : 30-081697A

BTEX ANALYSIS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Benzene	1.0	µg/L	<	1.0	µg/L
Toluene	1.0	µg/L	<	1.0	µg/L
Ethyl benzene	1.0	µg/L	<	1.0	µg/L
Xylenes	1.0	µg/L	<	1.0	µg/L
BTEX (total)			<	1.0	µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		102 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 15-AUG-1997

REPORT NUMBER : D97-10014-8

REPORT DATE : 20-AUG-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION : Mr. Gilbert VanDeventer

SAMPLE MATRIX : Water
ID MARKS : 9708121600
: MW-17

PROJECT : GPM-Lee Plant
PURCHASE ORDER NO : 13179
DATE SAMPLED : 12-AUG-1997
ANALYSIS METHOD : EPA 602 /1
ANALYZED BY : VHT
ANALYZED ON : 17-AUG-1997
DILUTION FACTOR : 1
METHOD FACTOR : 1
QC BATCH NO : 30-081697A

BTEX ANALYSIS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Benzene	1.0 µg/l.	1.5 µg/L
Toluene	1.0 µg/L	< 1.0 µg/L
Ethyl benzene	1.0 µg/L	< 1.0 µg/L
Xylenes	1.0 µg/L	< 1.0 µg/L
BTEX (total)		1.5 µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		98.6 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



Intertek Testing Services

Environmental Laboratories

DATE RECEIVED : 15-AUG-1997

REPORT NUMBER : D97-10014-9

REPORT DATE : 20-AUG-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION : Mr. Gilbert VanDeventer

SAMPLE MATRIX : Water
ID MARKS : 9708121645
: MW-9
PROJECT : GPM-Lee Plant
PURCHASE ORDER NO : 13179
DATE SAMPLED : 12-AUG-1997
ANALYSIS METHOD : EPA 602 /1
ANALYZED BY : VHT
ANALYZED ON : 17-AUG-1997
DILUTION FACTOR : 1
METHOD FACTOR : 1
QC BATCH NO : 30-081697A

BTEX ANALYSIS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Benzene	1.0 µg/L	138 µg/L
Toluene	1.0 µg/L	< 1.0 µg/L
Ethyl benzene	1.0 µg/L	< 1.0 µg/L
Xylenes	1.0 µg/L	< 1.0 µg/L
BTEX (total)		138 µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		94.1 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



Intertek Testing Services

Environmental Laboratories

DATE RECEIVED : 15-AUG-1997

REPORT NUMBER : D97-10014-10

REPORT DATE : 20-AUG-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION : Mr. Gilbert VanDeventer

SAMPLE MATRIX : Water
ID MARKS : 9708121800
: MW-23
PROJECT : GPM-Lee Plant
PURCHASE ORDER NO : 13179
DATE SAMPLED : 12-AUG-1997
ANALYSIS METHOD : EPA 602 /1
ANALYZED BY : VHT
ANALYZED ON : 19-AUG-1997
DILUTION FACTOR : 1
METHOD FACTOR : 1
QC BATCH NO : 30-081897

BTEX ANALYSIS				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
Benzene	1.0	µg/L	<	1.0 µg/L
Toluene	1.0	µg/L	<	1.0 µg/L
Ethyl benzene	1.0	µg/L	<	1.0 µg/L
Xylenes	1.0	µg/L	<	1.0 µg/L
BTEX (total)			<	1.0 µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		99.9 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 15-AUG-1997

REPORT NUMBER : D97-100

REPORT DATE : 20-AUG-

SAMPLE SUBMITTED BY : BDM

ADDRESS : 415 W. Wall Suite 1818

: Midland, Texas 79701

ATTENTION : Mr. Gilbert VanDeventer

SAMPLE MATRIX : Water

ID MARKS : MW-22

PROJECT : GPM-Lee Plant

PURCHASE ORDER NO : 13179

DATE SAMPLED : 13-AUG-1997

ANALYSIS METHOD : EPA 602 /1

ANALYZED BY : VHT

ANALYZED ON : 18-AUG-1997

DILUTION FACTOR : 1

METHOD FACTOR : 1

QC BATCH NO : 34-081897

BTEX ANALYSIS			
TEST REQUESTED	DETECTION LIMIT		RESULTS
Benzene	1.0	µg/L	2.3 µg/L
Toluene	1.0	µg/L	1.3 µg/L
Ethyl benzene	1.0	µg/L	< 1.0 µg/L
Xylenes	1.0	µg/L	< 1.0 µg/L
BTEX (total)			3.6 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		91.5 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



Intertek Testing Services

Environmental Laboratories

DATE RECEIVED : 15-AUG-1997

REPORT NUMBER : D97-10014-12

REPORT DATE : 20-AUG-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION : Mr. Gilbert VanDeventer

SAMPLE MATRIX : Water
ID MARKS : 9708131010
: MW-21
PROJECT : GPM-Lee Plant
PURCHASE ORDER NO : 13179
DATE SAMPLED : 13-AUG-1997
ANALYSIS METHOD : EPA 602 /1
ANALYZED BY : VHT
ANALYZED ON : 19-AUG-1997
DILUTION FACTOR : 250
METHOD FACTOR : 1
QC BATCH NO : 30-081897

BTEX ANALYSIS			
TEST REQUESTED	DETECTION LIMIT		RESULTS
Benzene	250	µg/L	33000 µg/L
Toluene	250	µg/L	310 µg/L
Ethyl benzene	250	µg/L	730 µg/L
Xylenes	250	µg/L	900 µg/L
BTEX (total)			34900 µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		91.7 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



Intertek Testing Services

Environmental Laboratories

DATE RECEIVED : 15-AUG-1997

REPORT NUMBER : D97-10014-13

REPORT DATE : 20-AUG-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION : Mr. Gilbert VanDeventer

SAMPLE MATRIX : Water

ID MARKS : 9708131015

: MW-2

PROJECT : GPM-Lee Plant

PURCHASE ORDER NO : 13179

DATE SAMPLED : 13-AUG-1997

ANALYSIS METHOD : EPA 602 /1

ANALYZED BY : VHT

ANALYZED ON : 18-AUG-1997

DILUTION FACTOR : 1

METHOD FACTOR : 1

QC BATCH NO : 34-081897

BTEX ANALYSIS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Benzene	1.0	µg/L	<	1.0	µg/L
Toluene	1.0	µg/L	<	1.0	µg/L
Ethyl benzene	1.0	µg/L	<	1.0	µg/L
Xylenes	1.0	µg/L	<	1.0	µg/L
BTEX (total)			<	1.0	µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		92.6 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



Intertek Testing Services

Environmental Laboratories

DATE RECEIVED : 15-AUG-1997

REPORT NUMBER : D97-10014-14

REPORT DATE : 20-AUG-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION : Mr. Gilbert VanDeventer

SAMPLE MATRIX : Water
ID MARKS : 9708131130
: MW-3

PROJECT : GPM-Lee Plant
PURCHASE ORDER NO : 13179
DATE SAMPLED : 13-AUG-1997
ANALYSIS METHOD : EPA 602 /1
ANALYZED BY : VHT
ANALYZED ON : 18-AUG-1997
DILUTION FACTOR : 25
METHOD FACTOR : 1
QC BATCH NO : 30-081897

BTEX ANALYSIS			
TEST REQUESTED	DETECTION LIMIT		RESULTS
Benzene	25	µg/L	1990 µg/L
Toluene	25	µg/L	78 µg/L
Ethyl benzene	25	µg/L	42 µg/L
Xylenes	25	µg/L	61 µg/L
BTEX (total)			2170 µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		95.2 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



Intertek Testing Services

Environmental Laboratories

DATE RECEIVED : 15-AUG-1997

REPORT NUMBER : D97-10014-16

REPORT DATE : 20-AUG-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION : Mr. Gilbert VanDeventer

SAMPLE MATRIX : Water
ID MARKS : 9708131205
: MW-10
PROJECT : GPM-Lee Plant
PURCHASE ORDER NO : 13179
DATE SAMPLED : 13-AUG-1997
ANALYSIS METHOD : EPA 602 /1
ANALYZED BY : VHT
ANALYZED ON : 18-AUG-1997
DILUTION FACTOR : 50
METHOD FACTOR : 1
QC BATCH NO : 30-081897

BTX ANALYSIS				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
Benzene	50	µg/L	4710	µg/L
Toluene	50	µg/L	< 50	µg/L
Ethyl benzene	50	µg/L	< 50	µg/L
Xylenes	50	µg/L	< 50	µg/L
BTX (total)			4710	µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		94.1 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



Intertek Testing Services

Environmental Laboratories

DATE RECEIVED : 15-AUG-1997

REPORT NUMBER : D97-10014-17

REPORT DATE : 20-AUG-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION : Mr. Gilbert VanDeventer

SAMPLE MATRIX : Water
ID MARKS : 9708131318
: MW-14
PROJECT : GPM-Lee Plant
PURCHASE ORDER NO : 13179
DATE SAMPLED : 15-AUG-1997
ANALYSIS METHOD : EPA 602 /1
ANALYZED BY : VHT
ANALYZED ON : 18-AUG-1997
DILUTION FACTOR : 50
METHOD FACTOR : 1
QC BATCH NO : 30-081897

BTEX ANALYSIS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Benzene	50	µg/L	3420	µg/L	
Toluene	50	µg/L	< 50	µg/L	
Ethyl benzene	50	µg/L	< 50	µg/L	
Xylenes	50	µg/L	< 50	µg/L	
BTEX (total)			3420	µg/L	#

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		94.2 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



Intertek Testing Services

Environmental Laboratories

DATE RECEIVED : 15-AUG-1997

REPORT NUMBER : D97-10014-18

REPORT DATE : 20-AUG-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION : Mr. Gilbert VanDeventer

SAMPLE MATRIX : Water
ID MARKS : 9708131340
: MW-6
PROJECT : GPM-Lee Plant
PURCHASE ORDER NO : 13179
DATE SAMPLED : 13-AUG-1997
ANALYSIS METHOD : EPA 602 /1
ANALYZED BY : VHT
ANALYZED ON : 19-AUG-1997
DILUTION FACTOR : 100
METHOD FACTOR : 1
QC BATCH NO : 30-081897

BTEX ANALYSIS			
TEST REQUESTED	DETECTION LIMIT		RESULTS
Benzene	100	µg/L	11600 µg/L
Toluene	100	µg/L	4100 µg/L
Ethyl benzene	100	µg/L	490 µg/L
Xylenes	100	µg/L	820 µg/L
BTEX (total)			17000 µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		93.3 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



Intertek Testing Services

Environmental Laboratories

DATE RECEIVED : 15-AUG-1997

REPORT NUMBER : D97-10014-19

REPORT DATE : 20-AUG-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION : Mr. Gilbert VanDeventer

SAMPLE MATRIX : Water
ID MARKS : 9708131415
: MW-16
PROJECT : GPM-Lee Plant
PURCHASE ORDER NO : 13179
DATE SAMPLED : 13-AUG-1997
ANALYSIS METHOD : EPA 602 /1
ANALYZED BY : VHT
ANALYZED ON : 18-AUG-1997
DILUTION FACTOR : 10
METHOD FACTOR : 1
QC BATCH NO : 30-081897

BTEX ANALYSIS			
TEST REQUESTED	DETECTION LIMIT		RESULTS
Benzene	10	µg/L	891 µg/L
Toluene	10	µg/L	216 µg/L
Ethyl benzene	10	µg/L	42 µg/L
Xylenes	10	µg/L	81 µg/L
BTEX (total)			1230 µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		94.4 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



Intertek Testing Services

Environmental Laboratories

DATE RECEIVED : 15-AUG-1997

REPORT NUMBER : D97-10014-20

REPORT DATE : 20-AUG-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION : Mr. Gilbert VanDeventer

SAMPLE MATRIX : Water
ID MARKS : 9708131555
: Rinsate
PROJECT : GPM-Lee Plant
PURCHASE ORDER NO : 13179
DATE SAMPLED : 13-AUG-1997
ANALYSIS METHOD : EPA 602 /1
ANALYZED BY : VHT
ANALYZED ON : 18-AUG-1997
DILUTION FACTOR : 1
METHOD FACTOR : 1
QC BATCH NO : 34-081897

BTEX ANALYSIS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Benzene	1.0 µg/L	7.2 µg/L
Toluene	1.0 µg/L	1.3 µg/L
Ethyl benzene	1.0 µg/L	2.3 µg/L
Xylenes	1.0 µg/L	6.7 µg/L
BTEX (total)		17.5 µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		90.1 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



Intertek Testing Services

Environmental Laboratories

REPORT DATE : 20-AUG-1997

REPORT NUMBER : D97-10014

SAMPLE SUBMITTED BY : BDM

ATTENTION : Mr. Gilbert VanDeventer

PROJECT : GPM-Lee Plant

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Benzene	Ethylbenzene	Benzene	Ethylbenzene	Benzene
BATCH NO.	30-081697A	30-081697A	30-081897	30-081897	34-081897
LCS LOT NO.	AC033-50A	AC033-50A	AC033-50A	AC033-50A	AC033-50A
PREP METHOD	---	---	---	---	---
PREPARED BY	---	---	---	---	---
ANALYSIS METHOD	EPA 602	EPA 602	EPA 602	EPA 602	EPA 602
ANALYZED BY	VHT	VHT	VHT	VHT	VHT
UNITS	µg/L	µg/L	µg/L	µg/L	µg/L
METHOD BLANK	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
SPIKE LEVEL	500	500	500	500	500
SPK REC LIMITS	75.0 - 125	75.0 - 125	75.0 - 125	75.0 - 125	75.0 - 125
SPK RPD LIMITS	20.0	20.0	20.0	20.0	20.0
MS RESULT	539	540	544	553	508
MS RECOVERY %	108	108	109	111	102
MSD RESULT	571	575	575	583	530
MSD RECOVERY %	114	115	115	117	106
MS/MSD RPD %	5.77	6.28	5.54	5.28	4.24
BS RESULT	NA	NA	NA	NA	NA
BS RECOVERY %	NA	NA	NA	NA	NA
BSD RESULT	NA	NA	NA	NA	NA
BSD RECOVERY %	NA	NA	NA	NA	NA
BS/BSD RPD %	NA	NA	NA	NA	NA
DUP RPD LIMITS	---	---	---	---	---
DUPLICATE RPD %	NA	NA	NA	NA	NA
LCS LEVEL	50.0	50.0	50.0	50.0	50.0
LCS REC LIMITS	75.0 - 125	75.0 - 125	75.0 - 125	75.0 - 125	75.0 - 125
LCS RESULT	54.1	54.4	55.9	56.2	50.6
LCS RECOVERY %	108	109	112	112	101
SPIKE SAMPLE ID	10014-1	10014-1	10014-4	10014-4	9979-1
SAMPLE VALUE	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
DUP SAMPLE ID	---	---	---	---	---
DUP SAMPLE VAL/1	---	---	---	---	---
DUP SAMPLE VAL/2	---	---	---	---	---

NA

Not applicable

Intertek Testing Services NA Inc.
1089 East Collins Boulevard Richardson, TX 75081
Telephone (972) 238-5591 Fax (972) 238-5592



Intertek Testing Services Environmental Laboratories

REPORT DATE : 20-AUG-1997

REPORT NUMBER : D97-10014

SAMPLE SUBMITTED BY : BDM

ATTENTION : Mr. Gilbert VanDeventer

PROJECT : GPM-Lee Plant

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Ethylbenzene
BATCH NO.	34-081897
LCS LOT NO.	AC033-50A
PREP METHOD	---
PREPARED BY	---
ANALYSIS METHOD	EPA 602
ANALYZED BY	VHT
UNITS	µg/L
METHOD BLANK	< 1.00
SPIKE LEVEL	500
SPK REC LIMITS	75.0 - 125
SPK RPD LIMITS	20.0
MS RESULT	537
MS RECOVERY %	107
MSD RESULT	560
MSD RECOVERY %	112
MS/MSD RPD %	4.19
BS RESULT	NA
BS RECOVERY %	NA
BSD RESULT	NA
BSD RECOVERY %	NA
BS/BSD RPD %	NA
DUP RPD LIMITS	---
DUPLICATE RPD %	NA
LCS LEVEL	50.0
LCS REC LIMITS	75.0 - 125
LCS RESULT	53.6
LCS RECOVERY %	107
SPIKE SAMPLE ID	9979-1
SAMPLE VALUE	< 1.00
DUP SAMPLE ID	---
DUP SAMPLE VAL/1	---
DUP SAMPLE VAL/2	---

NA

Not applicable



BDM International, Inc.
415 West Wall
Suite 1818
Midland, TX 79701
(915) 682-0008
FAX: (915) 682-0028

13179

Chain of Custody

Date 8-13-97 Page 1 of 2

Lab Name <u>Intertek Testing Services</u> Address <u>1089 East Collins Blvd.</u> <u>Richardson, Tx 75081-2331</u> Telephone <u>972-238-5591</u> <u>G. Van Deventer</u> Samplers (SIGNATURES)			Analysis Request																					
Sample Number	Matrix	Location	Halogenated Volatiles 601/8010	Aromatic Volatiles 602/8020	Phenols, Sub Phenols 604/8040	Pesticides/PCB 608/8080	Polynuclear Aromatic Hydrocarbons 610/8310	Volatile Compounds GC/MS 624/8240	Base/New/Acid Compounds GC/MS 625/8270	Total Organic Carbon (TOC) 415/9060	Total Organic Halides (TOX) 9020	Petroleum Hydrocarbons 418.1	TPH/BTEX Modified 8015	Herbicides, Pesticides TCLP - Vol., Semi-Vol.	TCLP - Metals	RCA Metals (8)	Priority Pollutant Metals (13)	CAM Metals (18) TLC/STLC	Flash Point	Corrosivity	Reactivity	Oil & Grease	Cyanide Total/Amenable Demand (COD)	Number of Containers
9708121000	Water	MW-20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
9708121051	Water	MW-19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
9708121140	Water	MW-13	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
9708121300	Water	MW-12	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
9708121200	Water	MW-24d	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
9708121415	Water	MW-11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
9708121520	Water	MW-18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
9708121600	Water	MW-17	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
9708121645	Water	MW-9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
9708121800	Water	MW-23	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3

Project Information		Sample Receipt	
Project	GP4M- Lee Plant	Total No. of Containers	
Project Director	G. Van Deventer	Chain of Custody Seals	
Charge Code No.	8/2341/3C	Rec'd Good Condition/Cold	
Shipping ID, No.		Conforms to Record	
Via:	F20EX	Lab No.	
Special Instructions/Comments: Proj # 8/2341/3C			

Relinquished By		Relinquished By		Relinquished By	
Signature	(Time)	Signature	(Time)	Signature	(Time)
<u>G. Van Deventer</u>	<u>8-14-97</u>				
(Printed Name)	(Date)	(Printed Name)	(Date)	(Printed Name)	(Date)
<u>BDM Environmental Services</u>					
(Company)		(Company)		(Company)	
Received By		Received By		Received By	
(Signature)	(Time)	(Signature)	(Time)	(Signature)	(Time)
(Printed Name)	(Date)	(Printed Name)	(Date)	(Printed Name)	(Date)
(Company)		(Company)		(Company)	

Relinquished By		Relinquished By		Relinquished By	
Signature	(Time)	Signature	(Time)	Signature	(Time)
<u>G. Van Deventer</u>	<u>8-14-97</u>				
(Printed Name)	(Date)	(Printed Name)	(Date)	(Printed Name)	(Date)
<u>BDM Environmental Services</u>					
(Company)		(Company)		(Company)	
Received By		Received By		Received By	
(Signature)	(Time)	(Signature)	(Time)	(Signature)	(Time)
(Printed Name)	(Date)	(Printed Name)	(Date)	(Printed Name)	(Date)
(Company)		(Company)		(Company)	

Relinquished By		Relinquished By		Relinquished By	
Signature	(Time)	Signature	(Time)	Signature	(Time)
<u>G. Van Deventer</u>	<u>8-14-97</u>				
(Printed Name)	(Date)	(Printed Name)	(Date)	(Printed Name)	(Date)
<u>BDM Environmental Services</u>					
(Company)		(Company)		(Company)	
Received By		Received By		Received By	
(Signature)	(Time)	(Signature)	(Time)	(Signature)	(Time)
(Printed Name)	(Date)	(Printed Name)	(Date)	(Printed Name)	(Date)
(Company)		(Company)		(Company)	

Distribution: White, Canary-Laboratory • Pink, BDM



BDM International, Inc.
415 West Wall
Suite 1818
Midland, TX 79701
(915) 682-0008
FAX: (915) 682-0028

13180

Chain of Custody

Date 8-13-97 Page 2 of 2

Lab Name <u>Intertek Testing Services</u>		Analysis Request																													
Address <u>1089 East Collier Blvd</u>		Sample Number	Matrix	Location	Halogenated Volatiles 601/8010	Aromatic Volatiles 602/8000	Phenols, Sub Phenols 604/8040	Pesticides/PCB 608/8080	Polyaromatic Aromatic Hydrocarbons 610/8310	Volatiles Compounds GC/MS 624/8240	Base/Neu/Acid Compounds GC/MS 625/8270	Total Organic Carbon (TOC) 415/9060	Total Organic Halides (TOX) 9020	Petroleum Hydrocarbons 418.1	TPH/BTEX Modified 8015	TCLP Vol. Semi-Vol. Herbicides, Pesticides	TCLP Metals	RCRA Metals (8)	Priority Pollutant Metals (13)	CAM Metals (18) TLC/STLC	Flash Point	Corrosivity	Reactivity	Oil & Grease	Cyanide Total/Amenable	Chemical Oxygen Demand (COD)	Number of Containers				
Telephone <u>972-238-5591</u>		9708130810	Water	MW-22	✓																							2			
Samplers (SIGNATURES) <u>[Signature]</u>		9708131010	Water	MW-21	✓																							2			
		9708131015	Water	MW-2	✓																							2			
		9708131130	Water	MW-3	✓																							2			
		9708131151	Water	MW-7	✓																							2			
		9708131205	Water	MW-10	✓																							2			
		9708131318	Water	MW-14	✓																							2			
		9708131340	Water	MW-6	✓																							2			
		9708131415	Water	MW-16	✓																							2			
		9708131555	Water	Rinsate	✓																							2			
Project Information		Sample Receipt		Relinquished By																											
Project <u>GAM-Lee Plant</u>		Total No. of Containers		Signature		Time		Relinquished By		Signature		Time		Relinquished By		Signature		Time		Relinquished By		Signature		Time		Relinquished By		Signature		Time	
Project Director <u>G. Van Deventer</u>		Chain of Custody Seals		Signature		Time		Relinquished By		Signature		Time		Relinquished By		Signature		Time		Relinquished By		Signature		Time		Relinquished By		Signature		Time	
Charge Code No. <u>P123413C</u>		Rec'd Good Condition/Cold		Signature		Time		Relinquished By		Signature		Time		Relinquished By		Signature		Time		Relinquished By		Signature		Time		Relinquished By		Signature		Time	
Shipping ID. No.		Conforms to Record		Signature		Time		Relinquished By		Signature		Time		Relinquished By		Signature		Time		Relinquished By		Signature		Time		Relinquished By		Signature		Time	
Via: <u>FED Ex</u>		Lab No.		Signature		Time		Relinquished By		Signature		Time		Relinquished By		Signature		Time		Relinquished By		Signature		Time		Relinquished By		Signature		Time	
Special Instructions/Comments:				Signature		Time		Relinquished By		Signature		Time		Relinquished By		Signature		Time		Relinquished By		Signature		Time		Relinquished By		Signature		Time	
Proj. # <u>P12341/3C</u>				Signature		Time		Relinquished By		Signature		Time		Relinquished By		Signature		Time		Relinquished By		Signature		Time		Relinquished By		Signature		Time	

Distribution: White, Canary-Laboratory • Pink, BDM



Intertek Testing Services

Environmental Laboratories

ANALYTICAL REPORT

DATE RECEIVED : 19-APR-1997

REPORT NUMBER : D97-4772

REPORT DATE : 30-APR-1997

SAMPLE SUBMITTED BY : BDM

ADDRESS : 415 W. Wall Suite 1818

: Midland, Texas 79701

ATTENTION : Mr. Gilbert VanDeventer

PROJECT : GPM Lee Plant

PURCHASE ORDER NO : 13152

Included in this data package is the revised report for the sample group which you have recently submitted to Intertek Testing Services for analysis. These results are representative of the samples as received by the laboratory. Please refrain from reproducing this report except in its entirety.

If you have any questions regarding this report please call your Project Manager at (972) 238-5591.

We appreciate the opportunity to serve you and look forward to providing continued service in the future.

A handwritten signature in black ink, reading "Martin Jeffus".

Martin Jeffus
General Manager



Intertek Testing Services
Environmental Laboratories

DATE RECEIVED : 19-APR-1997

REPORT NUMBER : D97-4772-1

REPORT DATE : 30-APR-1997

SAMPLE SUBMITTED BY : BDM

ADDRESS : 415 W. Wall Suite 1818

: Midland, Texas 79701

ATTENTION : Mr. Gilbert VanDeventer

SAMPLE MATRIX : Water

ID MARKS : 9704171000

: MW-20

PROJECT : GPM Lee Plant

PURCHASE ORDER NO : 13152

DATE SAMPLED : 17-APR-1997

PROJECT MANAGER: TLROHNE

FAX RESULTS :

PHONE NUMBER : 915-682-0008

FAX NUMBER : 19156820028

QC REPORTING LEVEL : 1



Intertek Testing Services Environmental Laboratories

ANALYTICAL REPORT

DATE RECEIVED : 19-APR-1997

REPORT NUMBER : D97-4772

REPORT DATE : 30-APR-1997

ATTENTION : Mr. Gilbert VanDeventer
SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701

PROJECT : GPM Lee Plant
PURCHASE ORDER NO : 13152

Included in this data package are the analytical results for the sample group which you have submitted to Intertek Testing Services for analysis. These results are representative of the samples as received by the laboratory.

The information contained herein has undergone extensive review and is deemed accurate and complete. Sample analysis and quality control were performed in accordance with all applicable protocols. Please refrain from reproducing this report except in its entirety.

If you have any questions regarding this report and its associated materials please call your Project Manager at (972) 238-5591.

We appreciate the opportunity to serve you and look forward to providing continued service in the future.

Martin Jeffus
General Manager



Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 19-APR-1997

REPORT NUMBER : D97-4772-1

REPORT DATE : 30-APR-1997

SAMPLE SUBMITTED BY : BDM

ADDRESS : 415 W. Wall Suite 1818

: Midland, Texas 79701

ATTENTION : Mr. Gilbert VanDeventer

SAMPLE MATRIX : Water

ID MARKS : 9704171000

: MW-20

PROJECT : GPM Lee Plant

PURCHASE ORDER NO : 13152

DATE SAMPLED : 17-APR-1997

ANALYSIS METHOD : EPA 602 /1

ANALYZED BY : CNA

ANALYZED ON : 25-APR-1997

DILUTION FACTOR : 1

METHOD FACTOR : 1

QC BATCH NO : 30-042497

BTEX ANALYSIS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Benzene	1.0	µg/L	<	1.0	µg/L
Toluene	1.0	µg/L	<	1.0	µg/L
Ethyl benzene	1.0	µg/L	<	1.0	µg/L
Xylenes	1.0	µg/L	<	1.0	µg/L
BTEX (total)			<	1.0	µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		98.0 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.

ITS Intertek Testing Services

Environmental Laboratories

DATE RECEIVED : 19-APR-1997

REPORT NUMBER : D97-4772-2

REPORT DATE : 30-APR-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION : Mr. Gilbert VanDeventer

SAMPLE MATRIX : Water
ID MARKS : 9704171100
: MW-19
PROJECT : GPM Lee Plant
PURCHASE ORDER NO : 13152
DATE SAMPLED : 17-APR-1997
ANALYSIS METHOD : EPA 602 /1
ANALYZED BY : VHT
ANALYZED ON : 24-APR-1997
DILUTION FACTOR : 1
METHOD FACTOR : 1
QC BATCH NO : 30-042397A

BTEX ANALYSIS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Benzene	1.0	µg/L	<	1.0	µg/L
Toluene	1.0	µg/L	<	1.0	µg/L
Ethyl benzene	1.0	µg/L	<	1.0	µg/L
Xylenes	1.0	µg/L	<	1.0	µg/L
BTEX (total)			<	1.0	µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		97.1 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



Intertek Testing Services

Environmental Laboratories

DATE RECEIVED : 19-APR-1997

REPORT NUMBER : D97-4772-3

REPORT DATE : 30-APR-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION : Mr. Gilbert VanDeventer

SAMPLE MATRIX : Water
ID MARKS : 9704171215
: MW-13
PROJECT : GPM Lee Plant
PURCHASE ORDER NO : 13152
DATE SAMPLED : 17-APR-1997
ANALYSIS METHOD : EPA 602 /1
ANALYZED BY : CNA
ANALYZED ON : 25-APR-1997
DILUTION FACTOR : 1
METHOD FACTOR : 1
QC BATCH NO : 30-042597

BTEX ANALYSIS				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
Benzene	1.0	µg/L	< 1.0	µg/L
Toluene	1.0	µg/L	< 1.0	µg/L
Ethyl benzene	1.0	µg/L	< 1.0	µg/L
Xylenes	1.0	µg/L	< 1.0	µg/L
BTEX (total)			< 1.0	µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		97.9 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



Intertek Testing Services

Environmental Laboratories

DATE RECEIVED : 19-APR-1997

REPORT NUMBER : D97-4772-4

REPORT DATE : 30-APR-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION : Mr. Gilbert VanDeventer

SAMPLE MATRIX : Water
ID MARKS : 9704171315
: MW-12
PROJECT : GPM Lee Plant
PURCHASE ORDER NO : 13152
DATE SAMPLED : 17-APR-1997
ANALYSIS METHOD : EPA 602 /1
ANALYZED BY : CNA
ANALYZED ON : 25-APR-1997
DILUTION FACTOR : 1
METHOD FACTOR : 1
QC BATCH NO : 30-042497

BTEX ANALYSIS				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
Benzene	1.0	µg/L	< 1.0	µg/L
Toluene	1.0	µg/L	< 1.0	µg/L
Ethyl benzene	1.0	µg/L	< 1.0	µg/L
Xylenes	1.0	µg/L	< 1.0	µg/L
BTEX (total)			< 1.0	µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		100 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



Intertek Testing Services

Environmental Laboratories

DATE RECEIVED : 19-APR-1997

REPORT NUMBER : D97-4772-5

REPORT DATE : 30-APR-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION : Mr. Gilbert VanDeventer

SAMPLE MATRIX : Water
ID MARKS : 9704171400
: MW-11
PROJECT : GPM Lee Plant
PURCHASE ORDER NO : 13152
DATE SAMPLED : 17-APR-1997
ANALYSIS METHOD : EPA 602 /1
ANALYZED BY : CNA
ANALYZED ON : 25-APR-1997
DILUTION FACTOR : 1
METHOD FACTOR : 1
QC BATCH NO : 30-042597

BTX ANALYSIS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Benzene	1.0	µg/L	<	1.0	µg/L
Toluene	1.0	µg/L	<	1.0	µg/L
Ethyl benzene	1.0	µg/L	<	1.0	µg/L
Xylenes	1.0	µg/L	<	1.0	µg/L
BTX (total)			<	1.0	µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		97.9 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



Intertek Testing Services

Environmental Laboratories

DATE RECEIVED : 19-APR-1997

REPORT NUMBER : D97-4772-6

REPORT DATE : 30-APR-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION : Mr. Gilbert VanDeventer

SAMPLE MATRIX : Water
ID MARKS : 9704171530
: MW-14
PROJECT : GPM Lee Plant
PURCHASE ORDER NO : 13152
DATE SAMPLED : 17-APR-1997
ANALYSIS METHOD : EPA 602 /1
ANALYZED BY : VHT
ANALYZED ON : 28-APR-1997
DILUTION FACTOR : 25
METHOD FACTOR : 1
QC BATCH NO : 30-042897

BTEX ANALYSIS				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
Benzene	25	µg/L	3790	µg/L
Toluene	25	µg/L	< 25	µg/L
Ethyl benzene	25	µg/L	50	µg/L
Xylenes	25	µg/L	< 25	µg/L
BTEX (total)			3840	µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		85.2 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



Intertek Testing Services

Environmental Laboratories

DATE RECEIVED : 19-APR-1997

REPORT NUMBER : D97-4772-7

REPORT DATE : 30-APR-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION : Mr. Gilbert VanDeventer

SAMPLE MATRIX : Water
ID MARKS : 9704171630
: MW-24D
PROJECT : GPM Lee Plant
PURCHASE ORDER NO : 13152
DATE SAMPLED : 17-APR-1997
ANALYSIS METHOD : EPA 602 /1
ANALYZED BY : VHT
ANALYZED ON : 28-APR-1997
DILUTION FACTOR : 25
METHOD FACTOR : 1
QC BATCH NO : 30-042897

BTEX ANALYSIS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Benzene	25 $\mu\text{g/L}$	3360 $\mu\text{g/L}$
Toluene	25 $\mu\text{g/L}$	< 25 $\mu\text{g/L}$
Ethyl benzene	25 $\mu\text{g/L}$	43 $\mu\text{g/L}$
Xylenes	25 $\mu\text{g/L}$	< 25 $\mu\text{g/L}$
BTEX (total)		3400 $\mu\text{g/L}$ #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		86.7 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 19-APR-1997

REPORT NUMBER : D97-4772-8

REPORT DATE : 30-APR-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION : Mr. Gilbert VanDeventer

SAMPLE MATRIX : Water
ID MARKS : 9704171735
: MW-21
PROJECT : GPM Lee Plant
PURCHASE ORDER NO : 13152
DATE SAMPLED : 17-APR-1997
ANALYSIS METHOD : EPA 602 /1
ANALYZED BY : VHT
ANALYZED ON : 28-APR-1997
DILUTION FACTOR : 25
METHOD FACTOR : 1
QC BATCH NO : 30-042897

BTEX ANALYSIS				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
Benzene	25	µg/L	3510	µg/L
Toluene	25	µg/L	< 25	µg/L
Ethyl benzene	25	µg/L	< 25	µg/L
Xylenes	25	µg/L	< 25	µg/L
BTEX (total)			3510	µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		85.8 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



Intertek Testing Services Environmental Laboratories

REPORT DATE : 19-MAY-1997

REPORT NUMBER : D97-4772

SAMPLE SUBMITTED BY : BDM

ATTENTION : Mr. Gilbert VanDeventer

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Benzene	Ethylbenzene	Benzene	Ethylbenzene	Benzene
BATCH NO.	30-042497	30-042497	30-042597	30-042597	30-042397A
LCS LOT NO.	AC033-16A	AC033-16A	AC033-16A	AC033-16A	AC033-16A
PREP METHOD	---	---	---	---	---
PREPARED BY	---	---	---	---	---
ANALYSIS METHOD	EPA 602	EPA 602	EPA 602	EPA 602	EPA 602
ANALYZED BY	CNA	CNA	CNA	CNA	VHT
UNITS	µg/L	µg/L	µg/L	µg/L	µg/L
METHOD BLANK	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
SPIKE LEVEL	500	500	500	500	500
SPK REC LIMITS	75.0 - 125	75.0 - 125	75.0 - 125	75.0 - 125	75.0 - 125
SPK RPD LIMITS	20.0	20.0	20.0	20.0	20.0
MS RESULT	518	525	547	556	519
MS RECOVERY %	104	105	109	111	104
MSD RESULT	474	482	528	540	507
MSD RECOVERY %	94.8	96.4	106	108	101
MS/MSD RPD %	8.87	8.54	3.53	2.92	2.34
BS RESULT	NA	NA	NA	NA	NA
BS RECOVERY %	NA	NA	NA	NA	NA
BSD RESULT	NA	NA	NA	NA	NA
BSD RECOVERY %	NA	NA	NA	NA	NA
BS/BSD RPD %	NA	NA	NA	NA	NA
DUP RPD LIMITS	---	---	---	---	---
DUPLICATE RPD %	NA	NA	NA	NA	NA
LCS LEVEL	50.0	50.0	50.0	50.0	50.0
LCS REC LIMITS	75.0 - 125	75.0 - 125	75.0 - 125	75.0 - 125	75.0 - 125
LCS RESULT	50.4	51.6	53.3	55.0	53.8
LCS RECOVERY %	101	103	107	110	108
SPIKE SAMPLE ID	4772-4	4772-4	4841-1	4841-1	4772-2
SAMPLE VALUE	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
DUP SAMPLE ID	---	---	---	---	---
DUP SAMPLE VAL/1	---	---	---	---	---
DUP SAMPLE VAL/2	---	---	---	---	---

NA

Not applicable

Intertek Testing Services NA Inc.
1089 East Collins Boulevard Richardson, TX 75081
Telephone (972) 238-5591 Fax (972) 238-5592



Intertek Testing Services Environmental Laboratories

REPORT DATE : 19-MAY-1997

REPORT NUMBER : D97-47

SAMPLE SUBMITTED BY : BDM

ATTENTION : Mr. Gilbert VanDeventer

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Ethylbenzene	Benzene	Ethylbenzene
BATCH NO.	30-042397A	30-042897	30-042897
LCS LOT NO.	AC033-16A	AC033-16A	AC033-16A
PREP METHOD	---	---	---
PREPARED BY	---	---	---
ANALYSIS METHOD	EPA 602	EPA 602	EPA 602
ANALYZED BY	VHT	VHT	VHT
UNITS	µg/L	µg/L	µg/L
METHOD BLANK	< 1.00	< 1.00	< 1.00
SPIKE LEVEL	500	500	500
SPK REC LIMITS	75.0 - 125	75.0 - 125	75.0 - 125
SPK RPD LIMITS	20.0	20.0	20.0
MS RESULT	512	500	509
MS RECOVERY %	102	100	102
MSD RESULT	498	514	521
MSD RECOVERY %	99.6	103	104
MS/MSD RPD %	2.77	2.76	2.33
BS RESULT	NA	NA	NA
BS RECOVERY %	NA	NA	NA
BSD RESULT	NA	NA	NA
BSD RECOVERY %	NA	NA	NA
BS/BSD RPD %	NA	NA	NA
DUP RPD LIMITS	---	---	---
DUPLICATE RPD %	NA	NA	NA
LCS LEVEL	50.0	50.0	50.0
LCS REC LIMITS	75.0 - 125	75.0 - 125	75.0 - 125
LCS RESULT	54.4	52.4	53.0
LCS RECOVERY %	109	105	106
SPIKE SAMPLE ID	4772-2	4938-15	4938-15
SAMPLE VALUE	< 1.00	< 1.00	< 1.00
DUP SAMPLE ID	---	---	---
DUP SAMPLE VAL/1	---	---	---
DUP SAMPLE VAL/2	---	---	---

NA

Not applicable

Intertek Testing Services NA Inc.
1089 East Collins Boulevard Richardson, TX 75081
Telephone (972) 238-5591 Fax (972) 238-5592



BDM International, Inc.
415 West Wall
Suite 1818
Midland, TX 79701
(915) 682-0008
FAX: (915) 682-0028

4772

13152

Chain of Custody

Date 4-18-97 Page 1 of 1

Lab Name Incharge Testing Services			Analysis Request																																	
Address 1289 E. Collins Blvd																																				
Telephone 972-238-5591																																				
Samples (SIGNATURES)																																				
Sample Number	Matrix	Location	Halogenated	Aromatic Volatiles	Phenols, Sub Phenols	Pesticides/PCB	Polyuclear Aromatic	Hydrocarbons 610/8310	Volatile Compounds	GC/MS 624/8240	Base/New Acid Compounds	GC/MS 625/8270	Total Organic Carbon	(TOC) 415/9060	Total Organic Halides	(TOX) 9020	Petroleum	Hydrocarbons 418.1	TPH/BTEX	Modified 8015	TCAP Vol, Semi-Vol	Herbicides, Pesticides	TCAP Metals	RCRA	Metals (8)	Priority Pollutant	CAM Metals (18)	TLC/STLC	Flash Point	Corrosivity	Reactivity	Oil & Grease	Cyanide Total/Amenable	Chemical Oxygen Demand (COD)	Number of Containers	
9704171000	Water	MW-20																																	4772	3
9704171100	Water	MW-19																																	52	3
9704171215	Water	MW-13																																	53	3
9704171315	Water	MW-12																																	54	3
9704171400	Water	MW-11																																	55	3
9704171530	Water	MW-14																																	56	3
9704171630	Water	MW-24d																																	57	3
9704171755	Water	MW-21																																	58	3

ORIGINAL

Project Information		Sample Receipt		Relinquished By		Relinquished By	
Project	GPM-Lee Plant	Total No. of Containers		Signature	(Time)	Signature	(Time)
Project Director	G.I. Van Deventer	Chain of Custody Seals		(Printed Name)	(Date)	(Printed Name)	(Date)
Charge Code No.	912341/3C	Rec'd Good Condition/Cold		(Company)		(Company)	
Shipping ID, No.	TRUCK #	Conforms to Record		Received By		Received By	
3555713792		Lab No.		(Signature)	(Time)	(Signature)	(Time)
Via: FEDEX				(Printed Name)	(Date)	(Printed Name)	(Date)
Special Instructions/Comments:				(Company)		(Company)	

Distribution: White, Canary-Laboratory • Pink, BDM



Inchcape Testing Services

Environmental Laboratories

1089 E. Collins Blvd.
Richardson, TX 75081
Tel. 972-238-5591
Fax 972-238-5592

ANALYTICAL REPORT

DATE RECEIVED : 22-JAN-1997

REPORT NUMBER : D97-862

REPORT DATE : 27-JAN-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION :
PROJECT : GPM-Lee Plant

Included in this data package are the analytical results for the sample group which you have submitted to Inchcape Testing Services for analysis. These results are representative of the samples as received by the laboratory.

The information contained herein has undergone extensive review and is deemed accurate and complete. Sample analysis and quality control were performed in accordance with all applicable protocols. Please refrain from reproducing this report except in its entirety.

If you have any questions regarding this report and its associated materials please call your Project Manager at (972) 238-5591.

We appreciate the opportunity to serve you and look forward to providing continued service in the future.

Martin Jeffus
General Manager



Inchcape Testing Services

Environmental Laboratories

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Fax 972-238-5592

DATE RECEIVED : 22-JAN-1997

REPORT NUMBER : D97-862-1
REPORT DATE : 27-JAN-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION :

SAMPLE MATRIX : Water
ID MARKS : MW-11
PROJECT : GPM-Lee Plant
DATE SAMPLED : 21-JAN-1997
ANALYSIS METHOD : EPA 8020 /1
ANALYZED BY : VHT
ANALYZED ON : 23-JAN-1997
DILUTION FACTOR : 1
METHOD FACTOR : 1
QC BATCH NO : 34-012397

BTEX ANALYSIS			
TEST REQUESTED	DETECTION LIMIT		RESULTS
Benzene	1.0	µg/L	< 1.0 µg/L
Toluene	1.0	µg/L	< 1.0 µg/L
Ethyl benzene	1.0	µg/L	< 1.0 µg/L
Xylenes	1.0	µg/L	< 1.0 µg/L
BTEX (total)			< 1.0 µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		100 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



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DATE RECEIVED : 22-JAN-1997

REPORT NUMBER : D97-862-2

REPORT DATE : 27-JAN-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION :

SAMPLE MATRIX : Water
ID MARKS : MW-12
PROJECT : GPM-Lee Plant
DATE SAMPLED : 21-JAN-1997
ANALYSIS METHOD : EPA 8020 /1
ANALYZED BY : VHT
ANALYZED ON : 23-JAN-1997
DILUTION FACTOR : 1
METHOD FACTOR : 1
QC BATCH NO : 34-012397

BTEX ANALYSIS				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
Benzene	1.0	µg/L	<	1.0 µg/L
Toluene	1.0	µg/L	<	1.0 µg/L
Ethyl benzene	1.0	µg/L	<	1.0 µg/L
Xylenes	1.0	µg/L	<	1.0 µg/L
BTEX (total)			<	1.0 µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		100 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



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DATE RECEIVED : 22-JAN-1997

REPORT NUMBER : D97-862-3

REPORT DATE : 27-JAN-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION :

SAMPLE MATRIX : Water
ID MARKS : MW-13
PROJECT : GPM-Lee Plant
DATE SAMPLED : 21-JAN-1997
ANALYSIS METHOD : EPA 8020 /1
ANALYZED BY : VHT
ANALYZED ON : 23-JAN-1997
DILUTION FACTOR : 1
METHOD FACTOR : 1
QC BATCH NO : 34-012397

BTEX ANALYSIS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Benzene	1.0	µg/L	<	1.0	µg/L
Toluene	1.0	µg/L	<	1.0	µg/L
Ethyl benzene	1.0	µg/L	<	1.0	µg/L
Xylenes	1.0	µg/L	<	1.0	µg/L
BTEX (total)			<	1.0	µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		101 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



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DATE RECEIVED : 22-JAN-1997

REPORT NUMBER : D97-862-4

REPORT DATE : 27-JAN-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION :

SAMPLE MATRIX : Water
ID MARKS : MW-19
PROJECT : GPM-Lee Plant
DATE SAMPLED : 21-JAN-1997
ANALYSIS METHOD : EPA 8020 /1
ANALYZED BY : VHT
ANALYZED ON : 23-JAN-1997
DILUTION FACTOR : 1
METHOD FACTOR : 1
QC BATCH NO : 34-012397

BTEX ANALYSIS			
TEST REQUESTED	DETECTION LIMIT	RESULTS	
Benzene	1.0 µg/L	<	1.0 µg/L
Toluene	1.0 µg/L	<	1.0 µg/L
Ethyl benzene	1.0 µg/L	<	1.0 µg/L
Xylenes	1.0 µg/L	<	1.0 µg/L
BTEX (total)		<	1.0 µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		100 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



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DATE RECEIVED : 22-JAN-1997

REPORT NUMBER : D97-862-5

REPORT DATE : 27-JAN-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION :

SAMPLE MATRIX : Water
ID MARKS : MW-20
PROJECT : GPM-Lee Plant
DATE SAMPLED : 21-JAN-1997
ANALYSIS METHOD : EPA 8020 /1
ANALYZED BY : VHT
ANALYZED ON : 23-JAN-1997
DILUTION FACTOR : 1
METHOD FACTOR : 1
QC BATCH NO : 34-012397

BTEX ANALYSIS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Benzene	1.0	µg/L	<	1.0	µg/L
Toluene	1.0	µg/L	<	1.0	µg/L
Ethyl benzene	1.0	µg/L	<	1.0	µg/L
Xylenes	1.0	µg/L	<	1.0	µg/L
BTEX (total)			<	1.0	µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		99.4 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



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DATE RECEIVED : 22-JAN-1997

REPORT NUMBER : D97-862-6

REPORT DATE : 27-JAN-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION :

SAMPLE MATRIX : Water
ID MARKS : MW-18
PROJECT : GPM-Lee Plant
DATE SAMPLED : 21-JAN-1997
ANALYSIS METHOD : EPA 8020 /1
ANALYZED BY : VHT
ANALYZED ON : 23-JAN-1997
DILUTION FACTOR : 1
METHOD FACTOR : 1
QC BATCH NO : 34-012397

BTEX ANALYSIS				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
Benzene	1.0	µg/L	< 1.0	µg/L
Toluene	1.0	µg/L	< 1.0	µg/L
Ethyl benzene	1.0	µg/L	< 1.0	µg/L
Xylenes	1.0	µg/L	< 1.0	µg/L
BTEX (total)			< 1.0	µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		101 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



Inchcape Testing Services

Environmental Laboratories

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Tel. 972-238-5591
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DATE RECEIVED : 22-JAN-1997

REPORT NUMBER : D97-862-7

REPORT DATE : 27-JAN-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION :

SAMPLE MATRIX : Water
ID MARKS : MW-18D
PROJECT : GPM-Lee Plant
DATE SAMPLED : 21-JAN-1997
ANALYSIS METHOD : EPA 8020 /1
ANALYZED BY : VHT
ANALYZED ON : 23-JAN-1997
DILUTION FACTOR : 1
METHOD FACTOR : 1
QC BATCH NO : 34-012397

BTEX ANALYSIS				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
Benzene	1.0	µg/L	<	1.0 µg/L
Toluene	1.0	µg/L	<	1.0 µg/L
Ethyl benzene	1.0	µg/L	<	1.0 µg/L
Xylenes	1.0	µg/L	<	1.0 µg/L
BTEX (total)			<	1.0 µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		101 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



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DATE RECEIVED : 22-JAN-1997

REPORT NUMBER : D97-862-8

REPORT DATE : 27-JAN-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION :

SAMPLE MATRIX : Water
ID MARKS : Rinsate
PROJECT : GPM-Lee Plant
DATE SAMPLED : 21-JAN-1997
ANALYSIS METHOD : EPA 8020 /1
ANALYZED BY : VHT
ANALYZED ON : 23-JAN-1997
DILUTION FACTOR : 1
METHOD FACTOR : 1
QC BATCH NO : 34-012397

BTEX ANALYSIS			
TEST REQUESTED	DETECTION LIMIT		RESULTS
Benzene	1.0	µg/L	< 1.0 µg/L
Toluene	1.0	µg/L	< 1.0 µg/L
Ethyl benzene	1.0	µg/L	< 1.0 µg/L
Xylenes	1.0	µg/L	< 1.0 µg/L
BTEX (total)			< 1.0 µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		99.8 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



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DATE RECEIVED : 22-JAN-1997

REPORT NUMBER : D97-862-9

REPORT DATE : 27-JAN-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION :

SAMPLE MATRIX : Water
ID MARKS : MW-2
PROJECT : GPM-Lee Plant
DATE SAMPLED : 21-JAN-1997
ANALYSIS METHOD : EPA 8020 /1
ANALYZED BY : VHT
ANALYZED ON : 23-JAN-1997
DILUTION FACTOR : 1
METHOD FACTOR : 1
QC BATCH NO : 34-012397

BTEX ANALYSIS			
TEST REQUESTED	DETECTION LIMIT	RESULTS	
Benzene	1.0 µg/L	<	1.0 µg/L
Toluene	1.0 µg/L	<	1.0 µg/L
Ethyl benzene	1.0 µg/L	<	1.0 µg/L
Xylenes	1.0 µg/L	<	1.0 µg/L
BTEX (total)		<	1.0 µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		98.7 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



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DATE RECEIVED : 22-JAN-1997

REPORT NUMBER : D97-862-10

REPORT DATE : 27-JAN-1997

SAMPLE SUBMITTED BY : BDM
ADDRESS : 415 W. Wall Suite 1818
: Midland, Texas 79701
ATTENTION :

SAMPLE MATRIX : Water
ID MARKS : Trip Blank
PROJECT : GPM-Lee Plant
DATE SAMPLED : 21-JAN-1997
ANALYSIS METHOD : EPA 8020 /1
ANALYZED BY : VHT
ANALYZED ON : 23-JAN-1997
DILUTION FACTOR : 1
METHOD FACTOR : 1
QC BATCH NO : 34-012397

BTX ANALYSIS				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
Benzene	1.0	µg/L	<	1.0 µg/L
Toluene	1.0	µg/L	<	1.0 µg/L
Ethyl benzene	1.0	µg/L	<	1.0 µg/L
Xylenes	1.0	µg/L	<	1.0 µg/L
BTEX (total)			<	1.0 µg/L #

QUALITY CONTROL DATA		
SURROGATE COMPOUND		SPIKE RECOVERED
Bromofluorobenzene		98.9 %

Based upon Good Laboratory Practice, the result is rounded to the appropriate number of significant figures.



Inchcape Testing Services

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REPORT DATE : 27-JAN-1997

REPORT NUMBER : D97-862

SAMPLE SUBMITTED BY : BDM

ATTENTION :

PROJECT : GPM-Lee Plant

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Benzene	Ethylbenzene
BATCH NO.	34-012397	34-012397
LCS LOT NO.	AB709-77C	AB709-77C
PREP METHOD	---	---
PREPARED BY	---	---
ANALYSIS METHOD	EPA 8020	EPA 8020
ANALYZED BY	VHT	VHT
UNITS	µg/L	µg/L
METHOD BLANK	< 1.00	< 1.00
SPIKE LEVEL	500	500
SPK REC LIMITS	39.0 - 150	32.0 - 160
SPK RPD LIMITS	20.0	20.0
MS RESULT	563	553
MS RECOVERY %	113	111
MSD RESULT	506	486
MSD RECOVERY %	101	97.2
MS/MSD RPD %	10.7	12.9
BS RESULT	NA	NA
BS RECOVERY %	NA	NA
BSD RESULT	NA	NA
BSD RECOVERY %	NA	NA
BS/BSD RPD %	NA	NA
DUP RPD LIMITS	---	---
DUPLICATE RPD %	NA	NA
LCS LEVEL	50.0	50.0
LCS REC LIMITS	39.0 - 150	32.0 - 160
LCS RESULT	53.8	50.6
LCS RECOVERY %	108	101
SPIKE SAMPLE ID	862-2	862-2
SAMPLE VALUE	< 1.00	< 1.00
DUP SAMPLE ID	---	---
DUP SAMPLE VAL/1	---	---
DUP SAMPLE VAL/2	---	---

NA

Not applicable



Environmental Science
and Engineering
A BDM International Company

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NASA-WSTF
PO Drawer MM
Las Cruces, NM 88004
(505) 524-5353
FAX: (505) 524-5315

No 10068

Chain of Custody

Date 1/21/97 Page 1 of 1

Analysis Request

Lab Name Incheape Testing Services
Address 1089 East Collins
Richardson TX 75081
Telephone 214-238-5591

Samplers (SIGNATURES)

Sample Number Matrix Location

Halogenated Volatiles 601/8010	Aromatic Volatiles 602/8020	Phenols, Sub Phenols 604/8040	Pesticides/PCB 608/8080	Polynuclear Aromatic Hydrocarbons 610/8310	Volatiles Compounds GC/MS 624/8240	Base/Neu/Acid Compounds GC/MS 625/8270	Total Organic Carbon (TOC) 415/9060	Total Organic Halides (TOX) 9020	Petroleum Hydrocarbons 418.1	TPH/BTEX Modified 8015	TCLP- Vol., Semi-Vol. Herbicides, Pesticides	TCLP- Metals	RCRA Metals(8)	Priority Pollutant Metals (13)	CAM Metals (18) TTLC/STLC	Flash Point	Corrosivity	Reactivity	Oil & Grease	Cyanide Total/Amenable	Chemical Oxygen Demand (COD)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													</
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ORIGINAL

Project Information

Project GPM-Lee Plant
Project Director Gil Van Deventer
Change Code No. P/2341/3023-002
Shipping ID. No.

Sample Receipt

Total No. of Containers
Chain of Custody Seals
Rec'd Good Condition/Cold
Conforms to Record
Lab No.

Via: Fed 1

Special Instructions/Comments: FAX to 915-682-0028
Send results to: BDM
415 W. Wall, Suite 1818
Midland TX 79701

Relinquished By [Signature] 1630
Signature [Signature] 1/27/97
(Date) (Time)

Received By [Signature] 1. Received By [Signature] 2. Received By [Signature] 3.
(Date) (Time) (Date) (Time) (Date) (Time)

SCREENED FOR COOLER TEMPERATURE

Distribution: White, Canary, Laboratory, Pink, GCL

