GW - 28

MONITORING REPORTS

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1997 - 1998 - 1999 - 2000

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

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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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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 lease 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 usinga 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.

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

NS indicates well was not sampled.

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

4.0 Groundwater Elevations, Hydraulic Gradient and Flow Direction

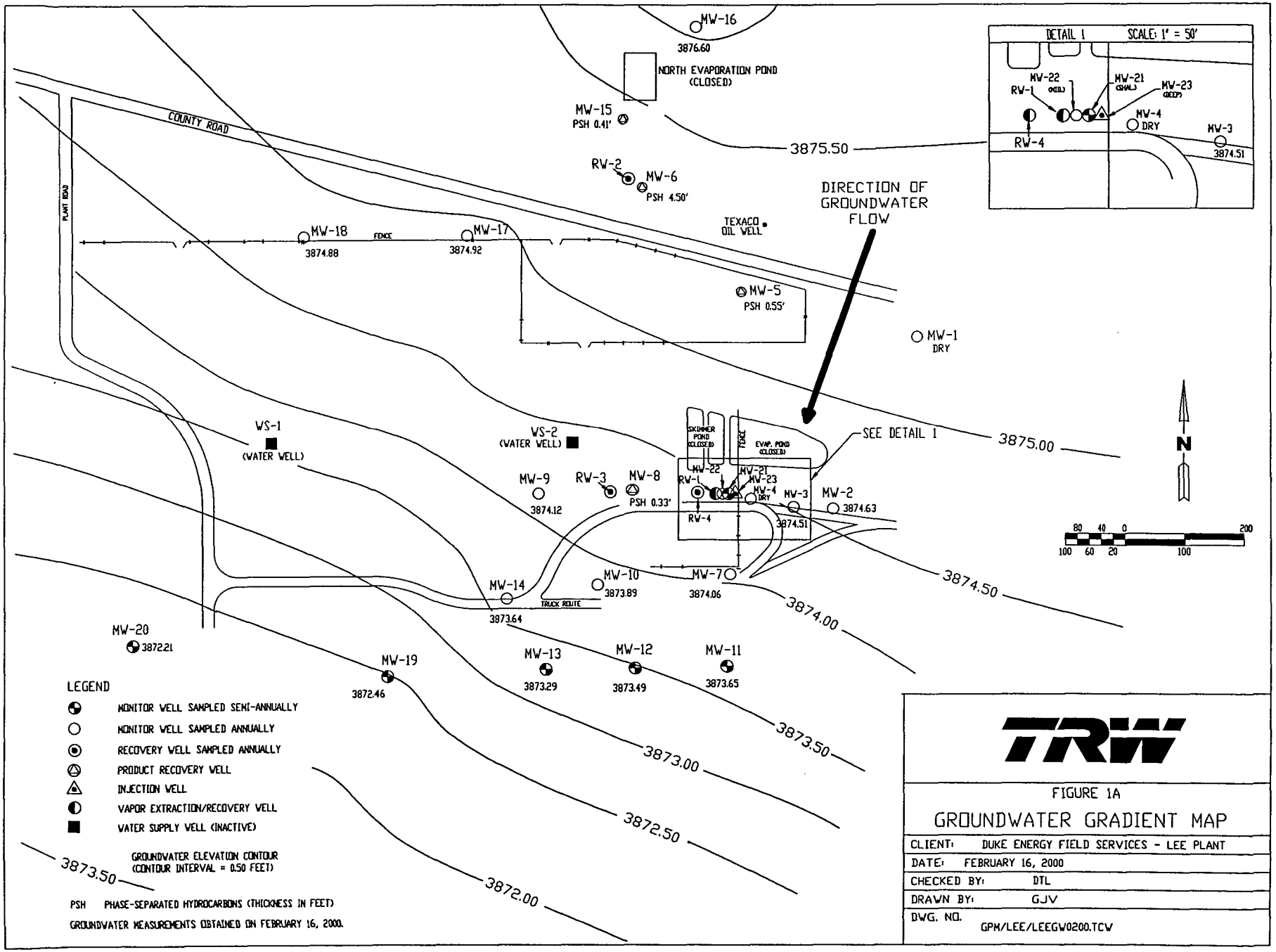
Based on the most recent gauging data collected by TRW on August 15, 2000, the groundwater conditions at the Lee Gas Plant are characterized below.

- 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.

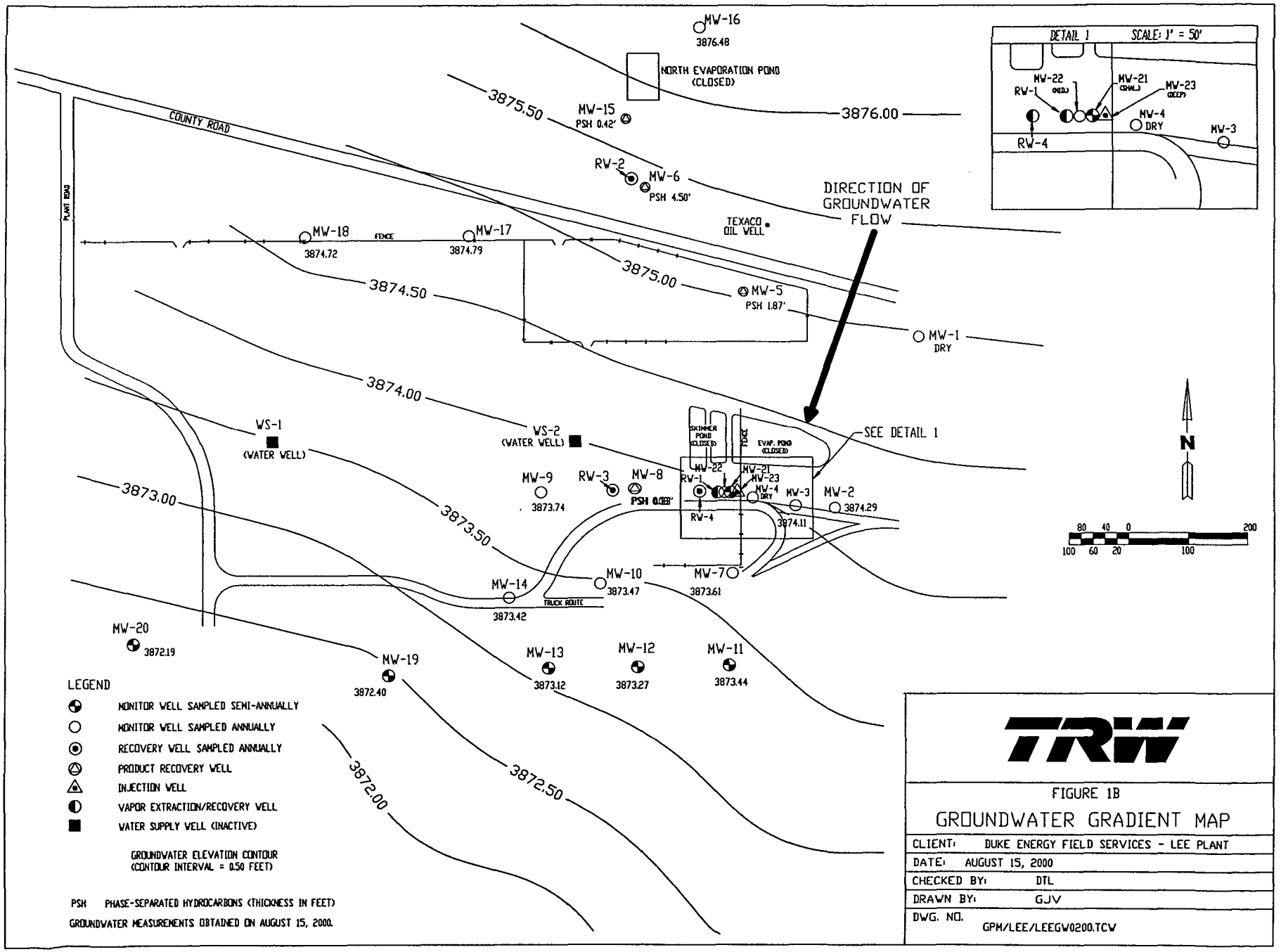


TRW

FIGURE 1A

GROUNDWATER GRADIENT MAP

CLIENT:	DUKE ENERGY FIELD SERVICES - LEE PLANT
DATE:	FEBRUARY 16, 2000
CHECKED BY:	DTL
DRAWN BY:	GJV
DWG. NO.	GPM/LEE/LEEGW0200.TCW



TRW

FIGURE 1B

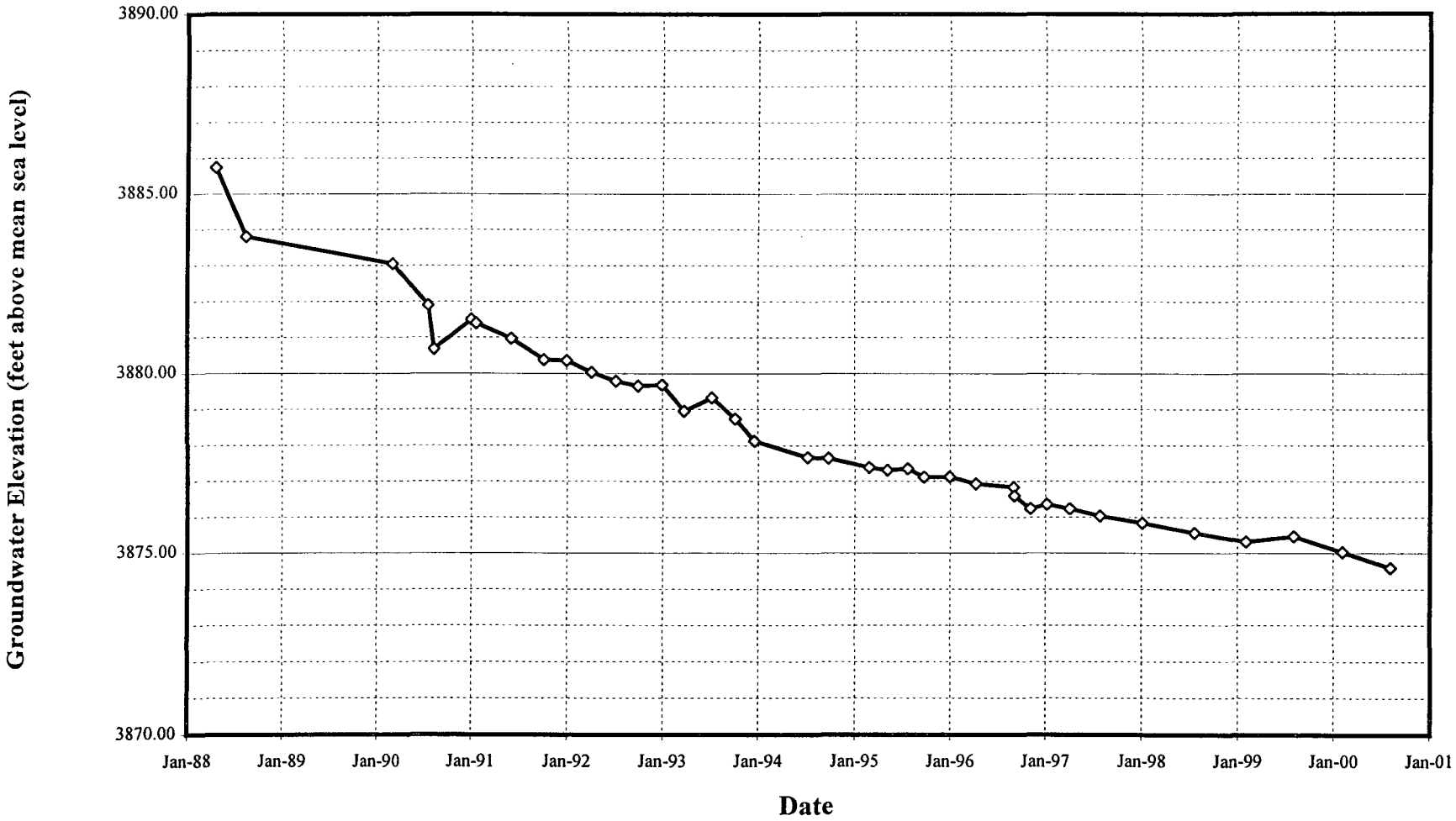
GROUNDWATER GRADIENT MAP

CLIENT:	DUKE ENERGY FIELD SERVICES - LEE PLANT
DATE:	AUGUST 15, 2000
CHECKED BY:	DTL
DRAWN BY:	GJV
DWG. NO.	GPM/LEE/LEEGW0200.TCW

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:

Figure	Area	Monitoring Wells
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 lease 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
	08/17/00	**3.70**	<0.005	<0.005	<0.005
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
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

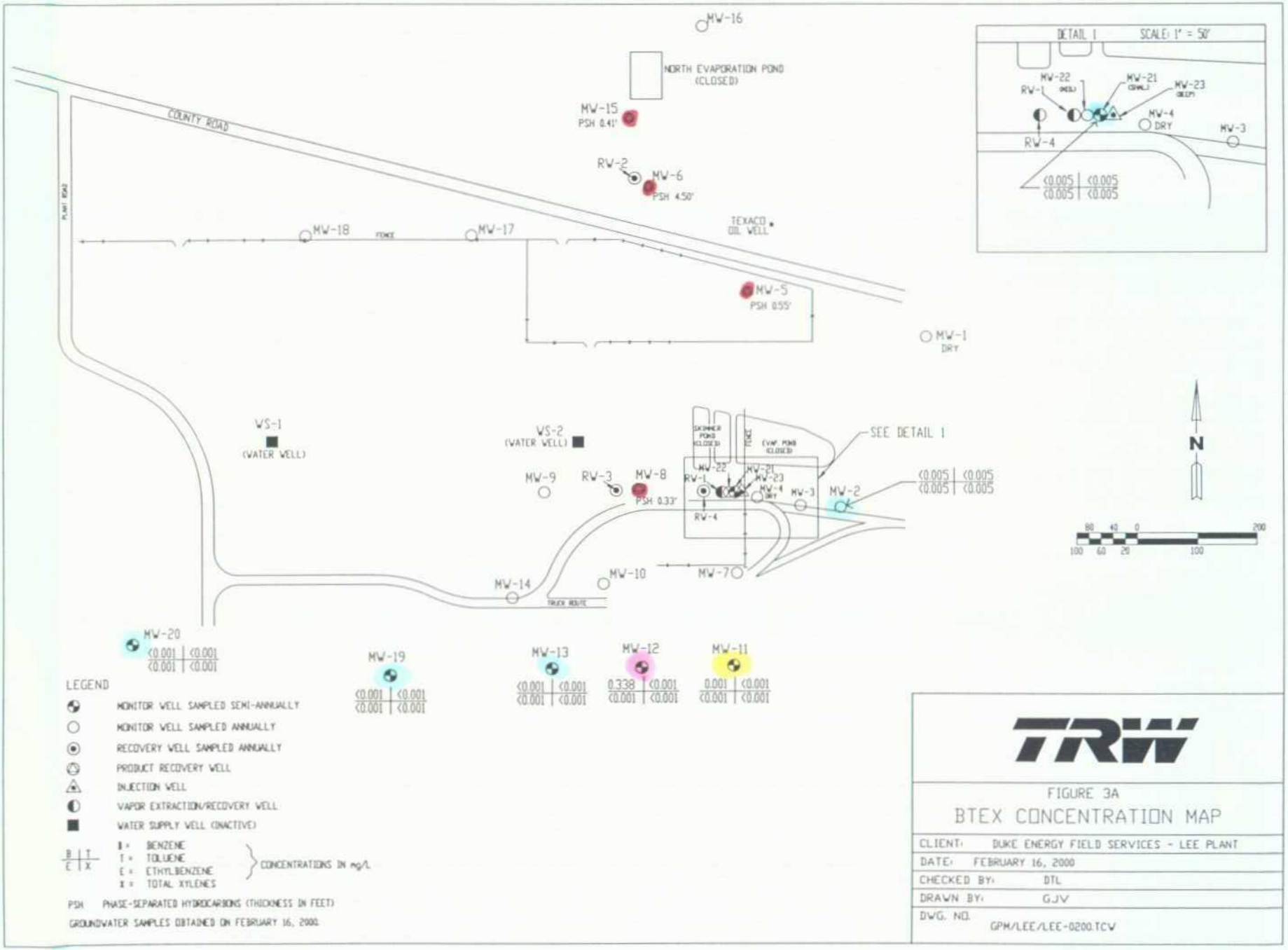
Monitoring Well	Date Sampled	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Xylenes (mg/l)
MW-19	05/24/95	0.003	0.004	0.002	0.003
	08/10/95	<0.001	<0.001	<0.001	<0.003
	10/10/95	<0.001	<0.001	<0.001	<0.001
	01/16/96	<0.001	<0.001	<0.001	<0.001
	04/25/96	<0.001	<0.001	<0.001	<0.001
	08/27/96	<0.001	<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.

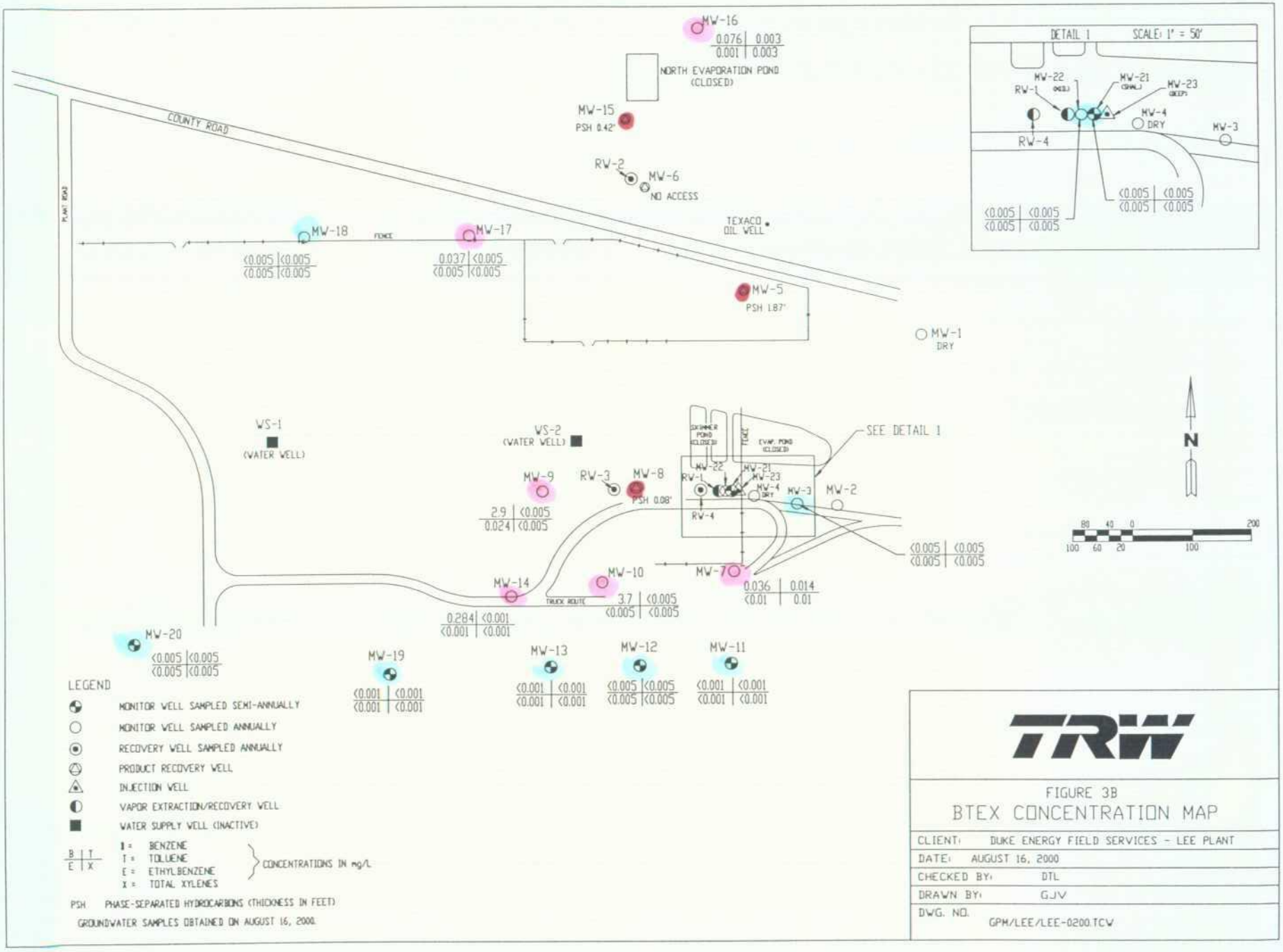


TRW

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.TCW



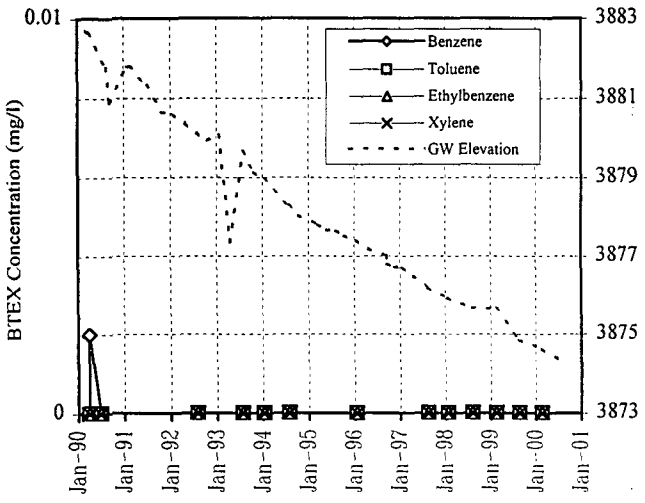
TRW

FIGURE 3B
BTEX CONCENTRATION MAP

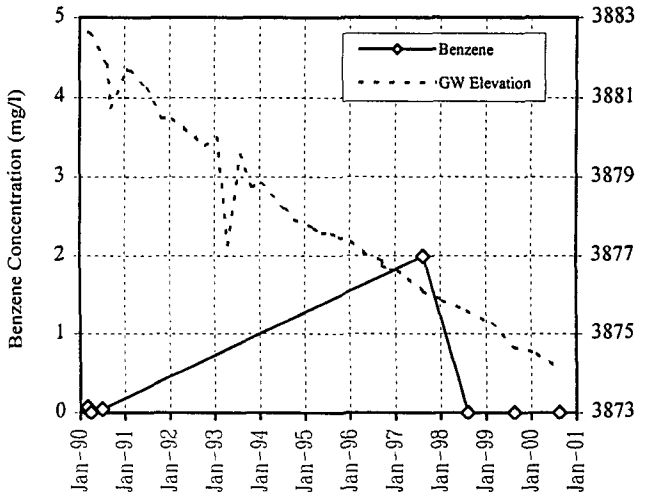
CLIENT:	DUKE ENERGY FIELD SERVICES - LEE PLANT
DATE:	AUGUST 16, 2000
CHECKED BY:	DTL
DRAWN BY:	GJV
DWG. NO.	GPM/LEE/LEE-0200.TCW

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

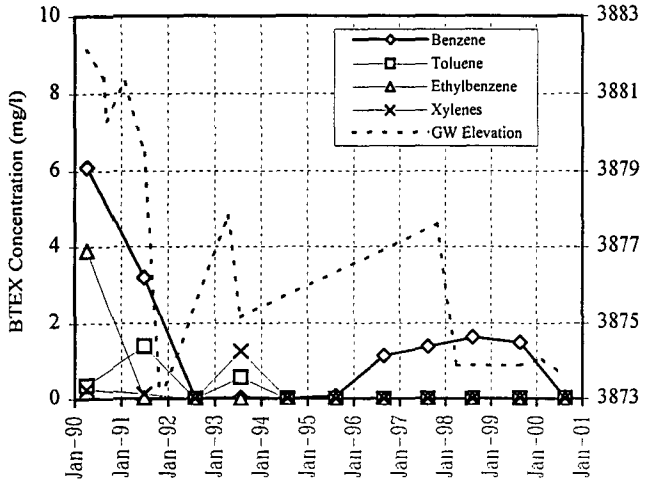
MW-2



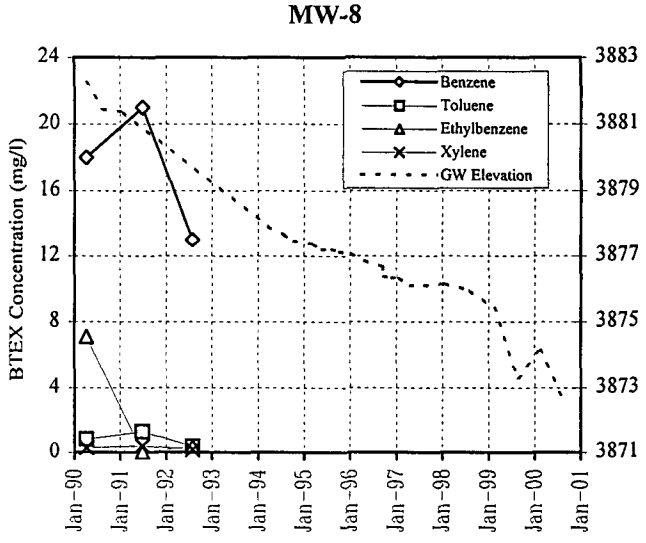
MW-3



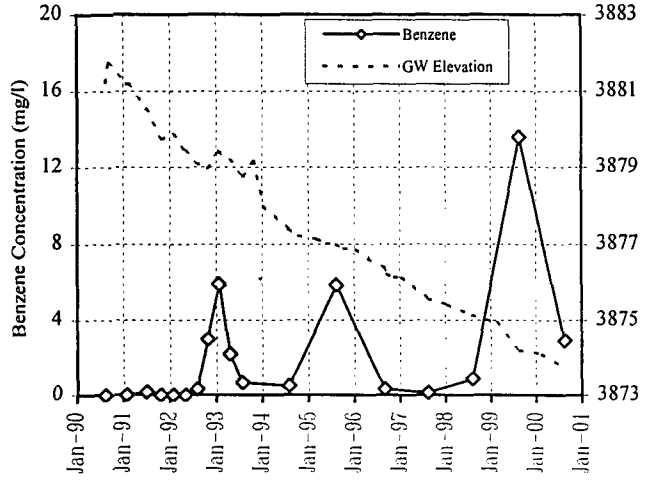
MW-7



MW-8



MW-9



MW-10

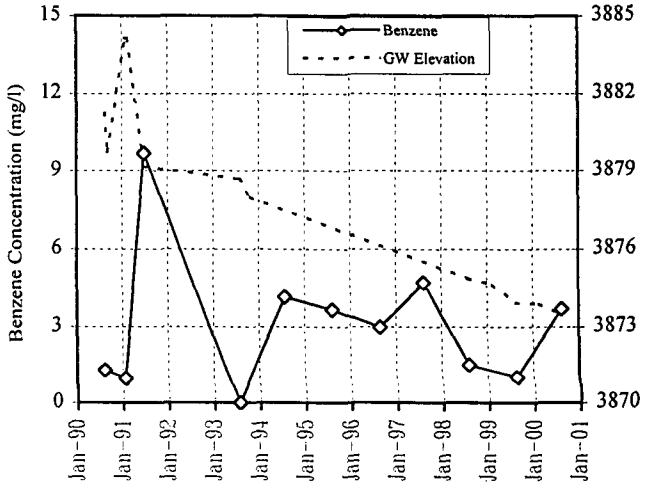
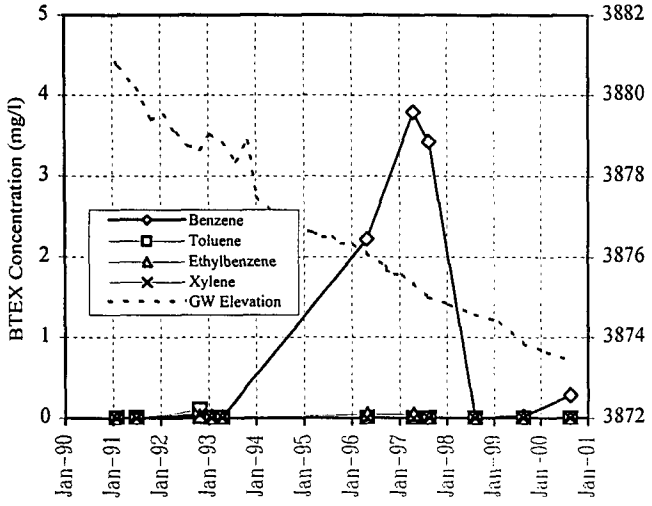
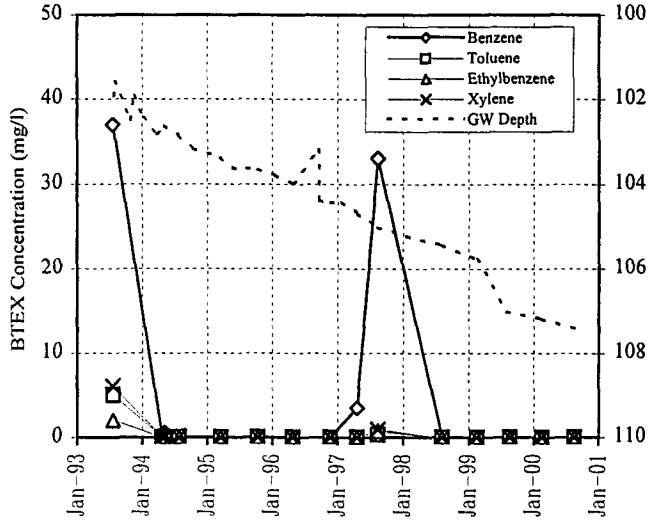


Figure 4A (continued)
Hydrocarbon Concentration Versus Time (Central Area Wells)

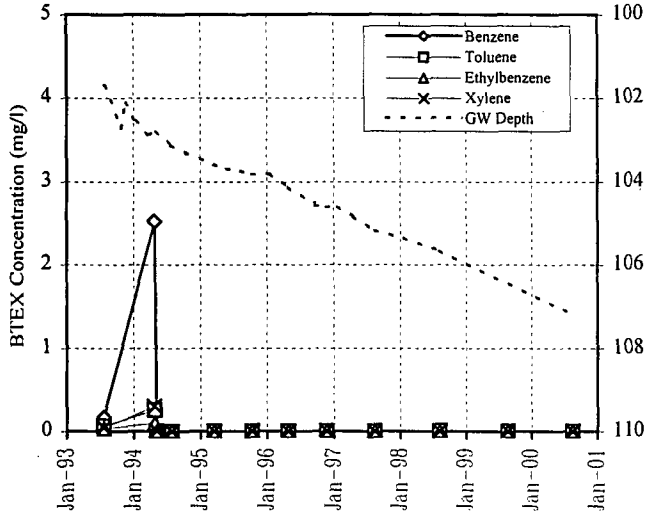
MW-14



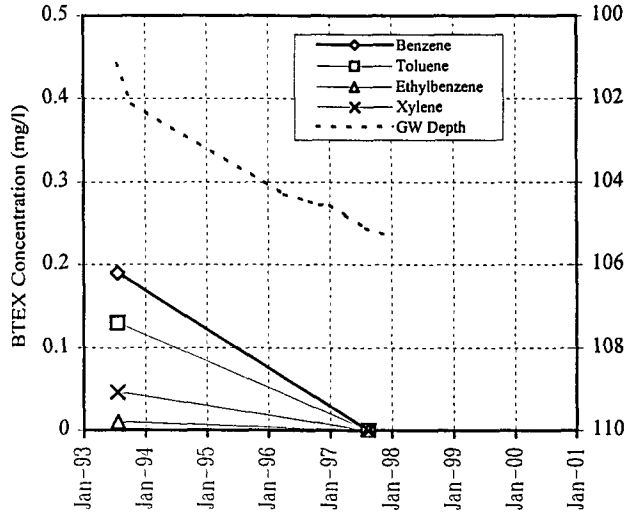
MW-21



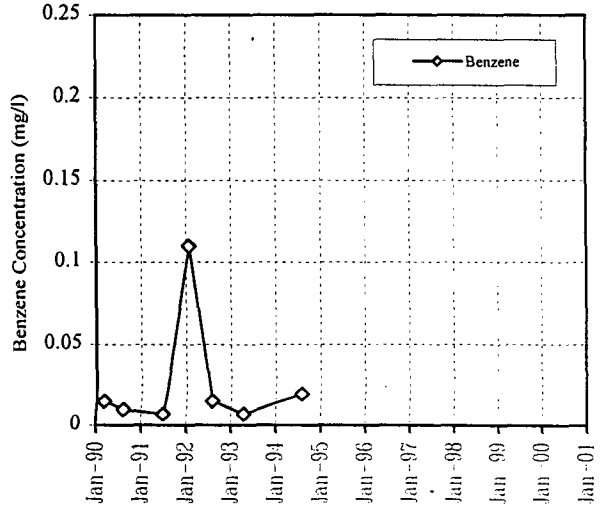
MW-22



MW-23



WS-1



WS-2

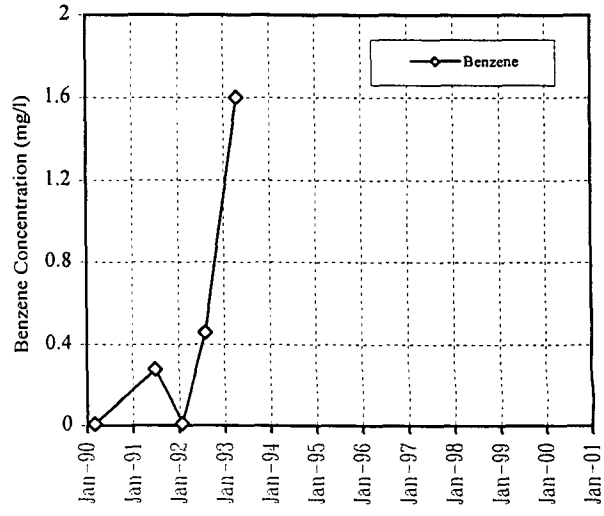
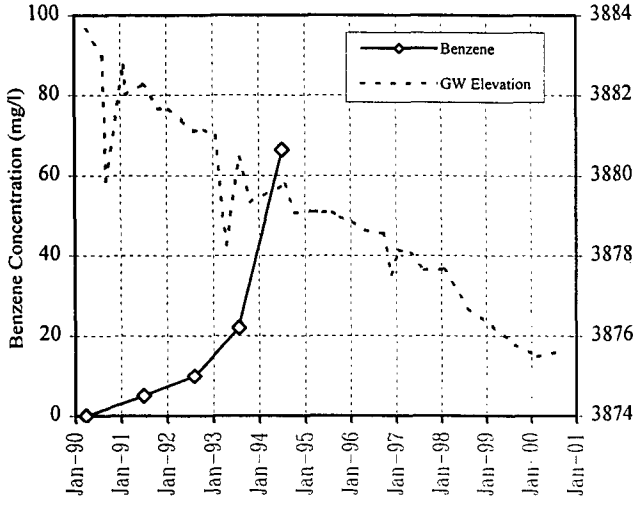
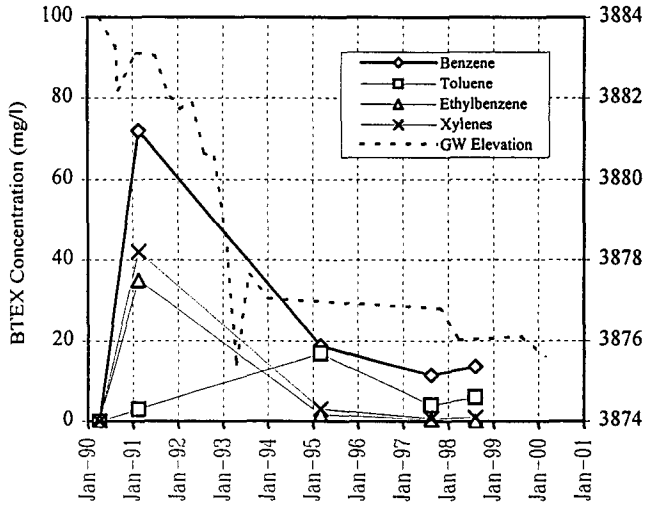


Figure 4B
Hydrocarbon Concentration Versus Time (North Area Wells)

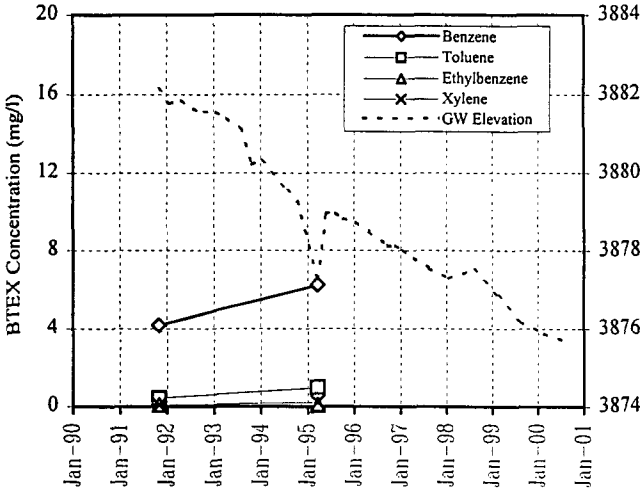
MW-5



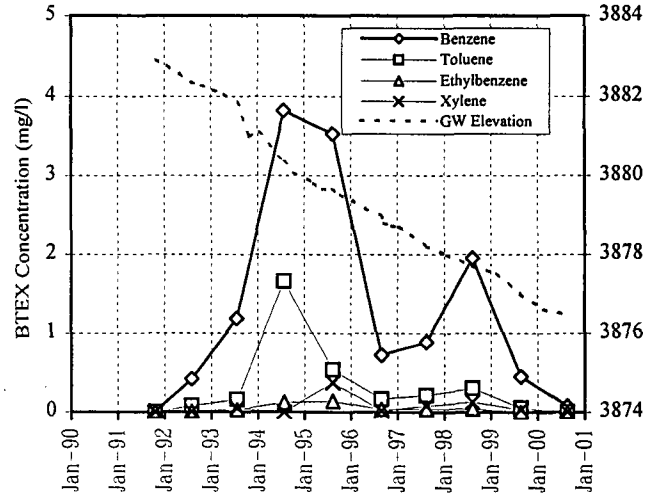
MW-6



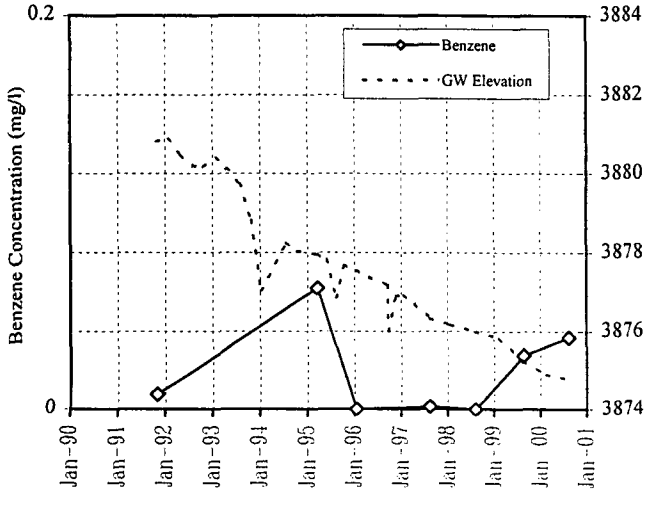
MW-15



MW-16



MW-17



MW-18

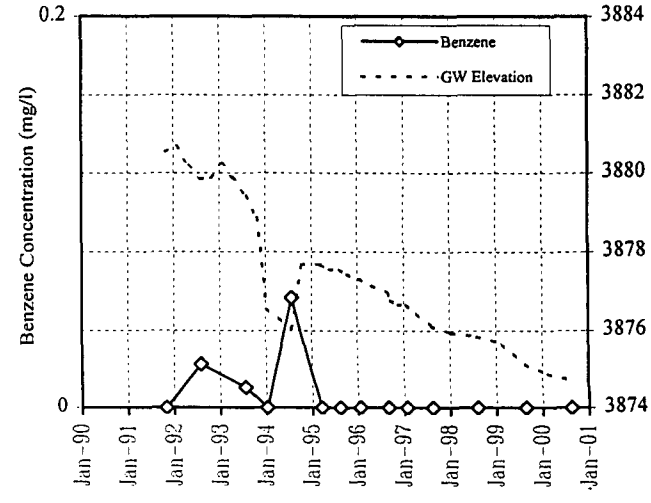
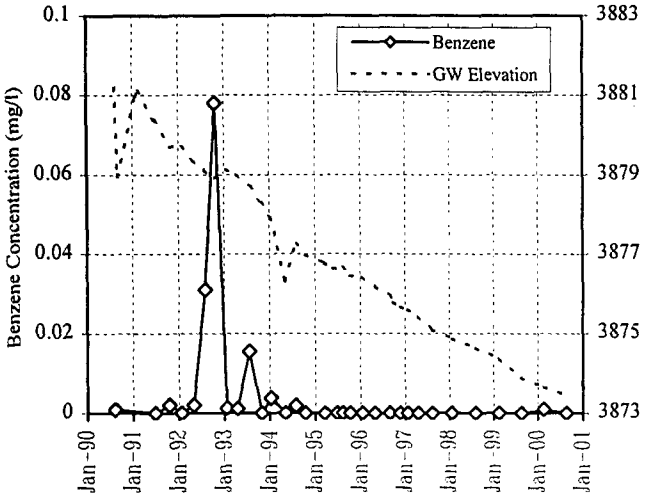
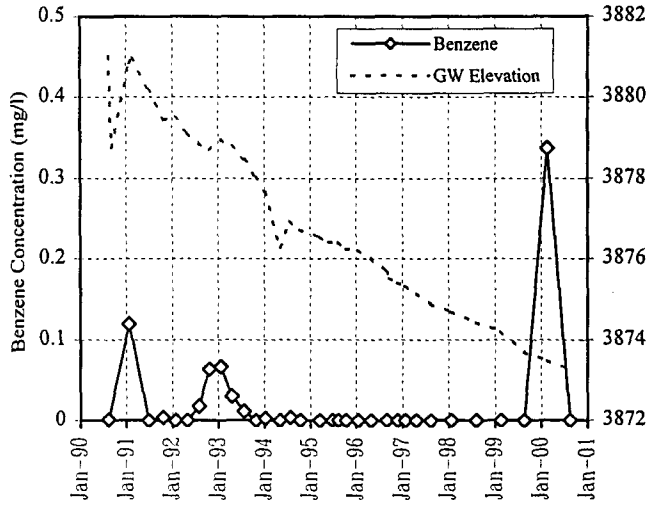


Figure 4C
Hydrocarbon Concentration Versus Time (Downgradient - South Area Wells)

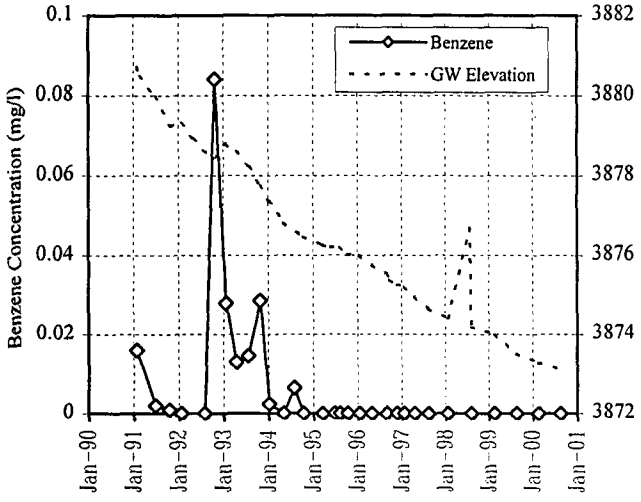
MW-11



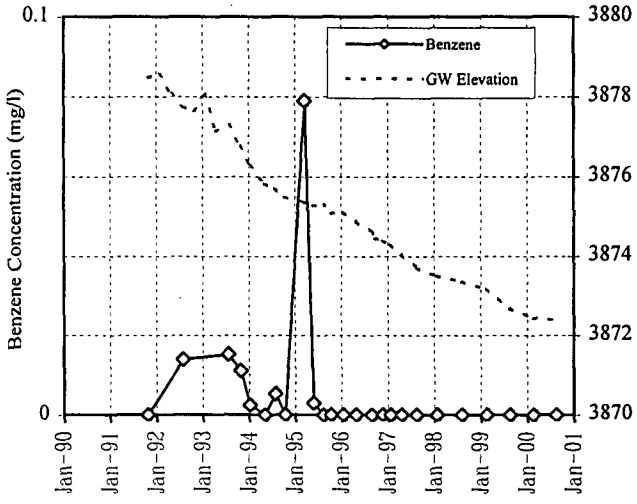
MW-12



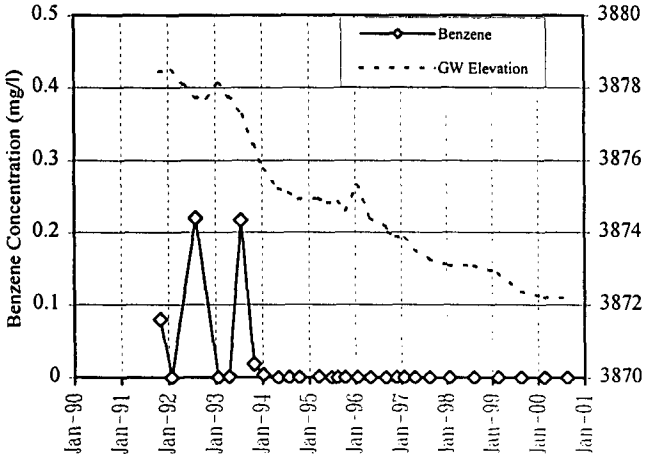
MW-13



MW-19



MW-20



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.

Figure 5
Total Fluid Extraction Volumes for 1999 and 2000

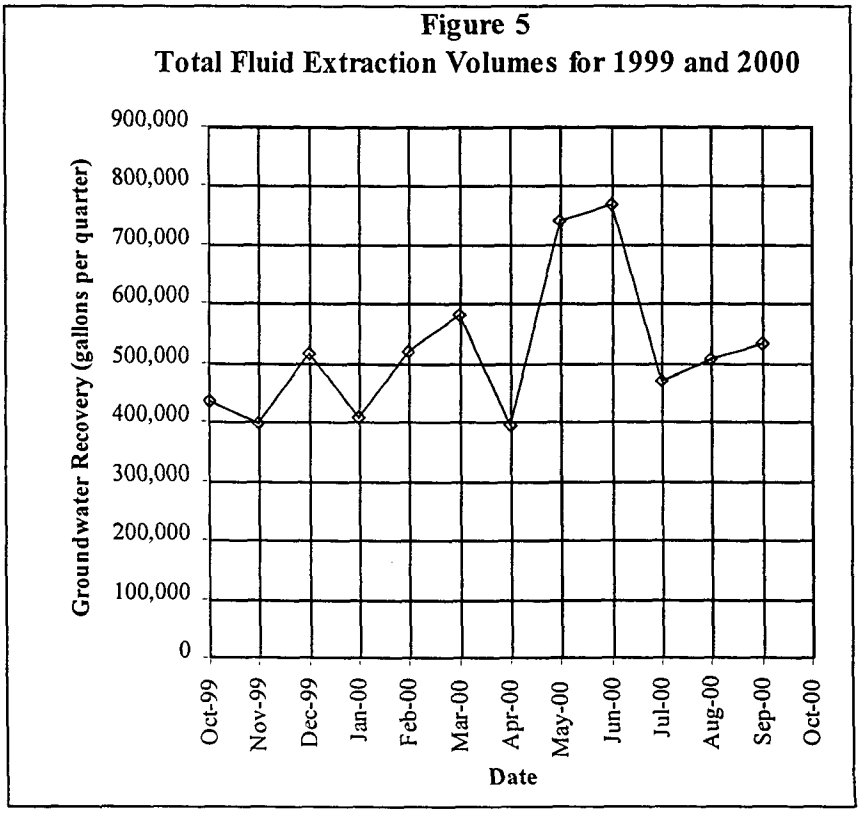


Table 5
Measurable Free Product Recovery Volumes for 10/1/99-10/31/00
Duke Energy Field Services - Lee Gas Plant

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

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

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.

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	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		0.098	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	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		0.374	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	RDL
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
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

AC00082108

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

№ 13513

Chain of Custody

Date _____ Page 1 of 2

Lab Name: True Analysis Inc.
Address: 6701 Aberdeen Av, Ste 9
Lubbock, Tx 79424
Telephone: 806/794-1296

Samplers (SIGNATURES)

Sample Identification	Matrix	Date	Time	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							Number of Containers
Analysis Request																								
MW-20 151741	Water	8-15-00	1510	✓																				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	8-16-00	1500	✓																				2
MW-9 748	Water	8-16-00	1645	✓																				2
MW-21 749	Water	8-16-00	0915	✓																				2
MW-22 750	Water	8-16-00	1020	✓																				2

Project Information	Sample Receipt
Project Name: Duke Energy Field Services	Total Containers:
Project Location: Lee Gas Plant	COC Seals:
Project Manager: Gil Van Deventer	Rec'd Good Cond/Cold:
Cost Center No.: P/6494/1Ac	Conforms to Records:
Shipping ID No.: 902 439 6030	Lab No.:
P O No.: E2L15-702010	

Special Instructions/Comments:
Invoice directly to DEFS (Vicki Gunter)

Relinquished By: (1)	Relinquished By: (2)	Relinquished By: (3)
(Signature) (Time) 1330	(Signature) (Time)	(Signature) (Time)
(Printed Name) Gil Van Deventer (Date) 8-16	(Printed Name) (Date)	(Printed Name) (Date)
(Company) TRW Inc.	(Company)	(Company)
Received By: (1)	**Received By: (2)**	**Received By: (3)**
(Signature) (Time)	(Signature) (Time)	(Signature) 9:30am (Time)
(Printed Name) (Date)	(Printed Name) (Date)	(Printed Name) Marc Sroga 08/19/00 (Date)
(Company)	(Company)	(Company) True Analysis Inc

TNMO 902 439 6030 4 MK

Distribution: White, Canary-Laboratory / Pink-TRW

A0000821 08

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

№ 13514

Chain of Custody

Date _____ Page 2 of 2

Lab Name: Trace Analysis Inc.
Address: 6701 Aberdeen Ave, Ste 9
Lubbock, Tx 79424
Telephone: 806/794-1296

Samplers (SIGNATURES)

Analysis Request

Sample Identification		Matrix	Date	Time	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							Number of Containers
MW-3	751	Water	8-16-00	1105	✓																				2
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	0000	✓																				2
Rinsate	756	Water	8-17-00	1225	✓																				2
MW-7	757	Water	8-16-00	1645	✓																				2
Trip Blank	758	Water	8-20-A	8-20-B	✓																				2

Project Information

Project Name: Duke Energy Field Service
Project Location: Lee Gas Plant
Project Manager: Gil Van Deventer
Cost Center No.: P/6494/1AC
Shipping ID No.: 902 439 6030
P O No.: E2L15-702010

Sample Receipt

Total Containers:
COC Seals:
Rec'd Good Cond/Cold:
Conforms to Records:
Lab No.:

Special Instructions/Comments:
Invoice directly to DEFS (Vicki Gunter)

Relinquished By: (1)	Relinquished By: (2)	Relinquished By: (3)
(Signature) 1330 (Time)	(Signature) (Time)	(Signature) (Time)
(Printed Name) Gil Van Deventer (Date) 8-18-00	(Printed Name) (Date)	(Printed Name) (Date)
(Company) TRW Inc.	(Company)	(Company)
Received By: (1)	**Received By: (2)**	**Received By: (3)**
(Signature) (Time)	(Signature) (Time)	(Signature) 9130AM (Time)
(Printed Name) (Date)	(Printed Name) (Date)	(Printed Name) Marie Sharpe (Date) 08/18/00
(Company)	(Company)	(Company) Trace Analysis Inc

TNMT 902 439 6030 MS 4

Distribution: White, Canary-Laboratory / Pink-TRW

TRACEANALYSIS, INC.

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4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

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

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

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

A00021918

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№ 13487

Chain of Custody

Date 2-17-00 Page 1 of 1

Lab Name: Trace Analysis Inc
Address: 6701 Aberdeen Av., Ste 9
Lubbock, Tx 79424
Telephone: 800/378-1296

Samplers (SIGNATURES) G Van Deventer

Sample Identification	Matrix	Date	Time	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							Number of Containers
MW-20	Water	2-16-00	1115	✓														14	10	28				3
MW-19	Water	2-16-00	1340	✓																29				3
MW-13	Water	2-16-00	1450	✓																30				3
MW-12	Water	2-16-00	1555	✓																31				2
MW-11	Water	2-16-00	1700	✓																32				3
MW-2	Water	2-16-00	1640	✓																33				2
[redacted] Duplicate	Water	2-16-00	2400	✓																34				2
MW-21	Water	2-17-00	1000	✓																35				2
Rinsate	Water	2-17-00	1200	✓																36				2
Trip Blank (691A/691B)	Water	—	—	✓																37				2

Analysis Request

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.: Maytag	Lab No.:
P O No.:	

Special Instructions/Comments: Bill direct to GPM Gas Co LLC
New Mexico Region
Attn: Mel Driver
P.O. Box 50020
Midland, Tx 79710-0020
☆ Reference cost center number on invoice

Relinquished By: (1)	Relinquished By: (2)	Relinquished By: (3)
G Van Deventer 2:30pm	Helen Shelton 6:00PM	
(Signature) (Time)	(Signature) (Time)	(Signature) (Time)
Gil Van Deventer 2-18-00	HELEN SHELTON 2/18/00	
(Printed Name) (Date)	(Printed Name) (Date)	(Printed Name) (Date)
TRW	TRACE ANALYSIS	
(Company)	(Company)	(Company)
Received By: (1)	**Received By: (2)**	**Received By: (3)**
Helen Shelton 2:30PM		Vicki Windham 11:30 AM
(Signature) (Time)	(Signature) (Time)	(Signature) (Time)
HELEN SHELTON 2/18/00		Vicki Windham 2-19-00
(Printed Name) (Date)	(Printed Name) (Date)	(Printed Name) (Date)
TRACE ANALYSIS		Trace Analysis
(Company)	(Company)	(Company)

24 samples - HS

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

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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 1foot 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, 1997BDM 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

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	08/19/99	Pump	Disposable bailer	8 gallons
MW-8	Monitoring	Not sampled due to PSH presence	NS	NS	NS	0 gallons
MW-9	Monitoring	Annual event	08/19/99	Pump	Disposable bailer	35 gallons
MW-10	Monitoring	Annual event	08/20/99	Pump	Disposable bailer	25 gallons
MW-11	Monitoring	Semi-annual event	02/15/99	Pump	Disposable bailer	30 gallons
		Annual event	08/18/99	Pump	Disposable bailer	35 gallons
MW-12	Monitoring	Semi-annual event	02/15/99	Pump	Disposable bailer	35 gallons
		Annual event	08/18/99	Pump	Disposable bailer	35 gallons
MW-13	Monitoring	Semi-annual event	02/15/99	Pump	Disposable bailer	40 gallons
		Annual event	08/18/99	Pump	Disposable bailer	35 gallons
MW-14	Monitoring	Annual event	08/19/99	Pump	Disposable bailer	35 gallons
MW-15	Monitoring	Not sampled due to PSH presence	NS	NS	NS	0 gallons
MW-16	Monitoring	Annual event	08/20/99	Pump	Disposable bailer	33 gallons
MW-17	Monitoring	Annual event	08/19/99	Pump	Disposable bailer	35 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.

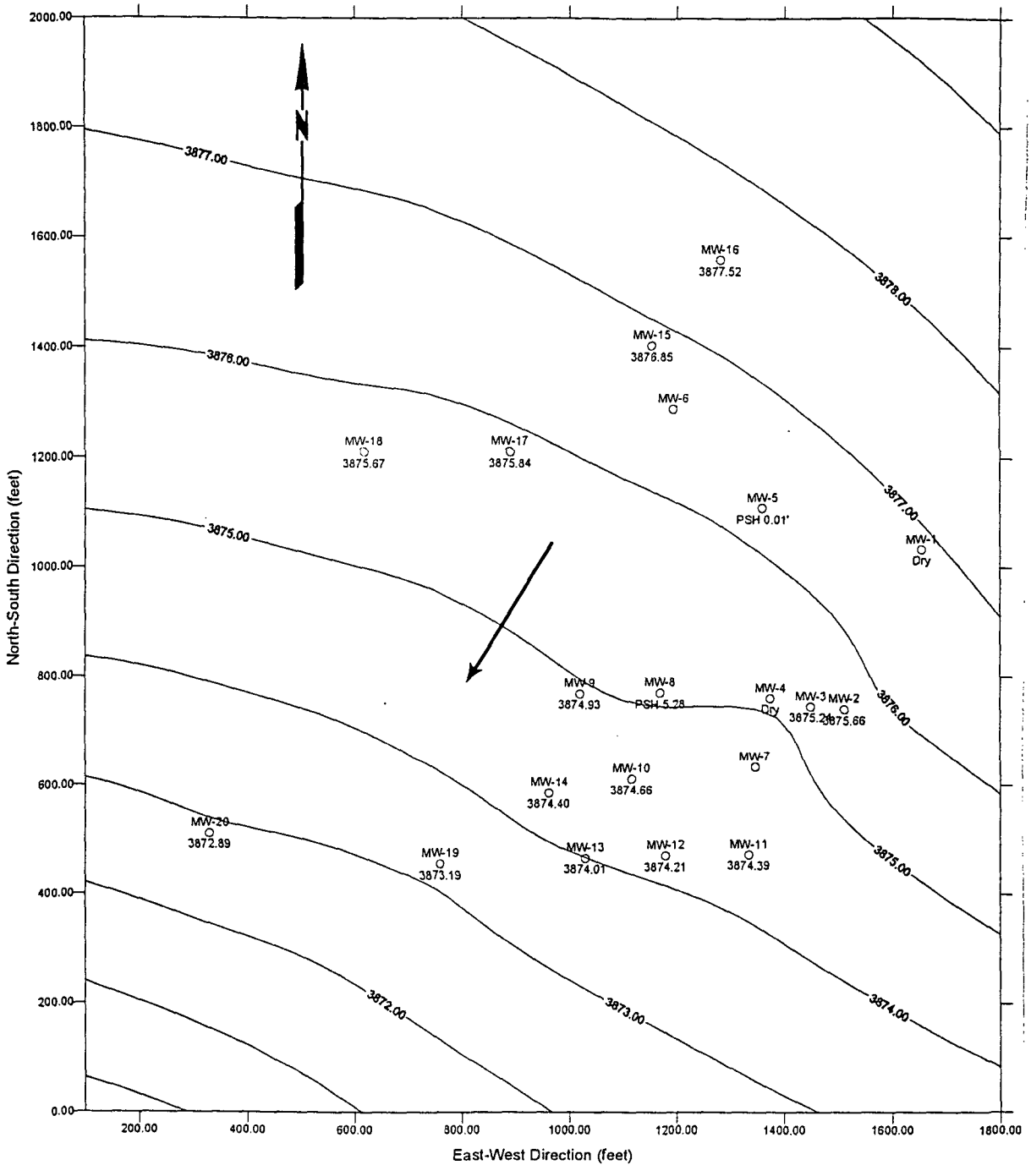
- The depth to the water table across the site varies from approximately 102 to 107 feet below ground surface
- The hydraulic gradient is approximately 0.004 feet/foot
- The direction of groundwater flow is to the southwest

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.

C:\A-PROJECTS\GPM\LEE PLANT\LEEGWMAP.XLS



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

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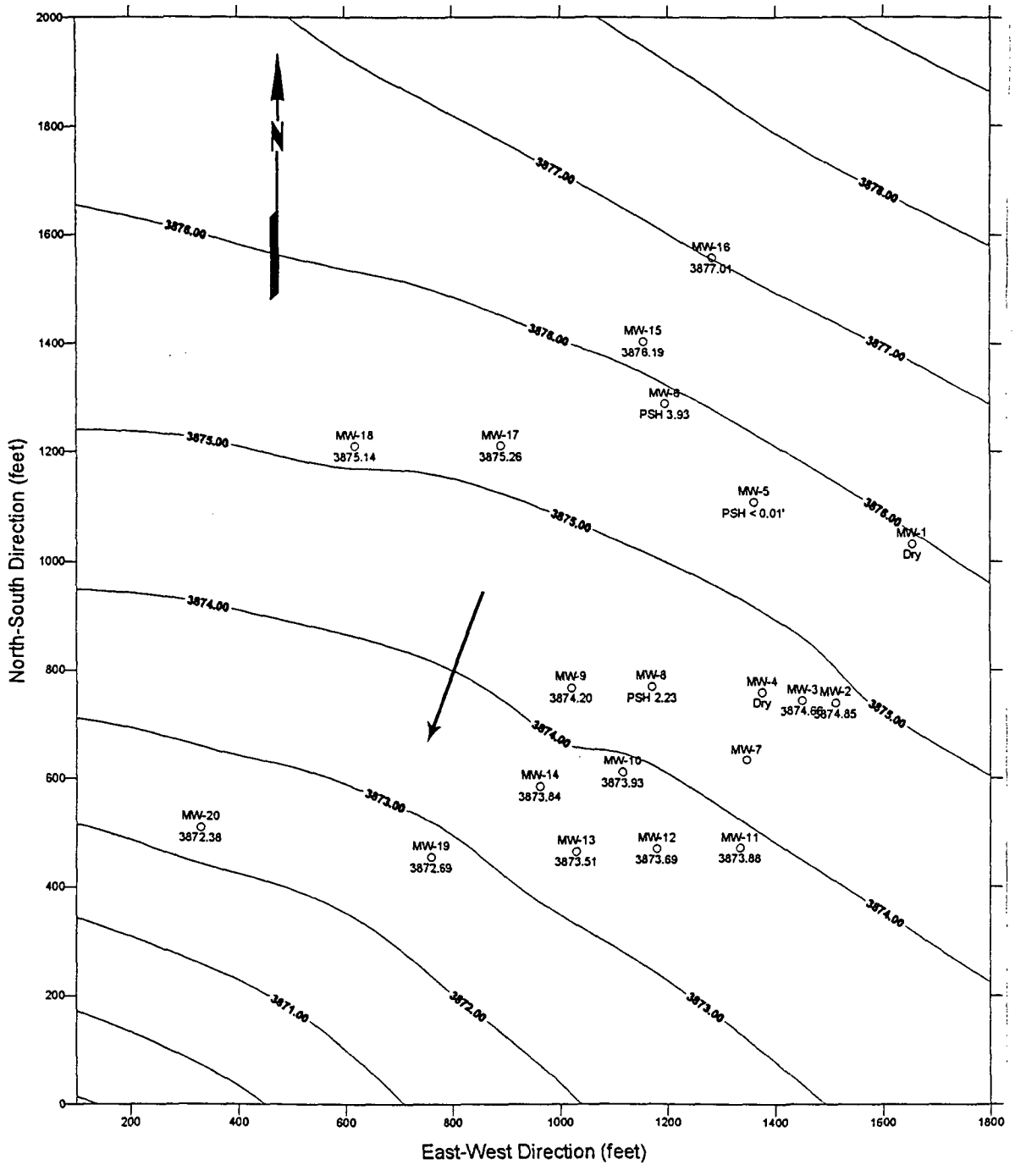


LEGEND

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

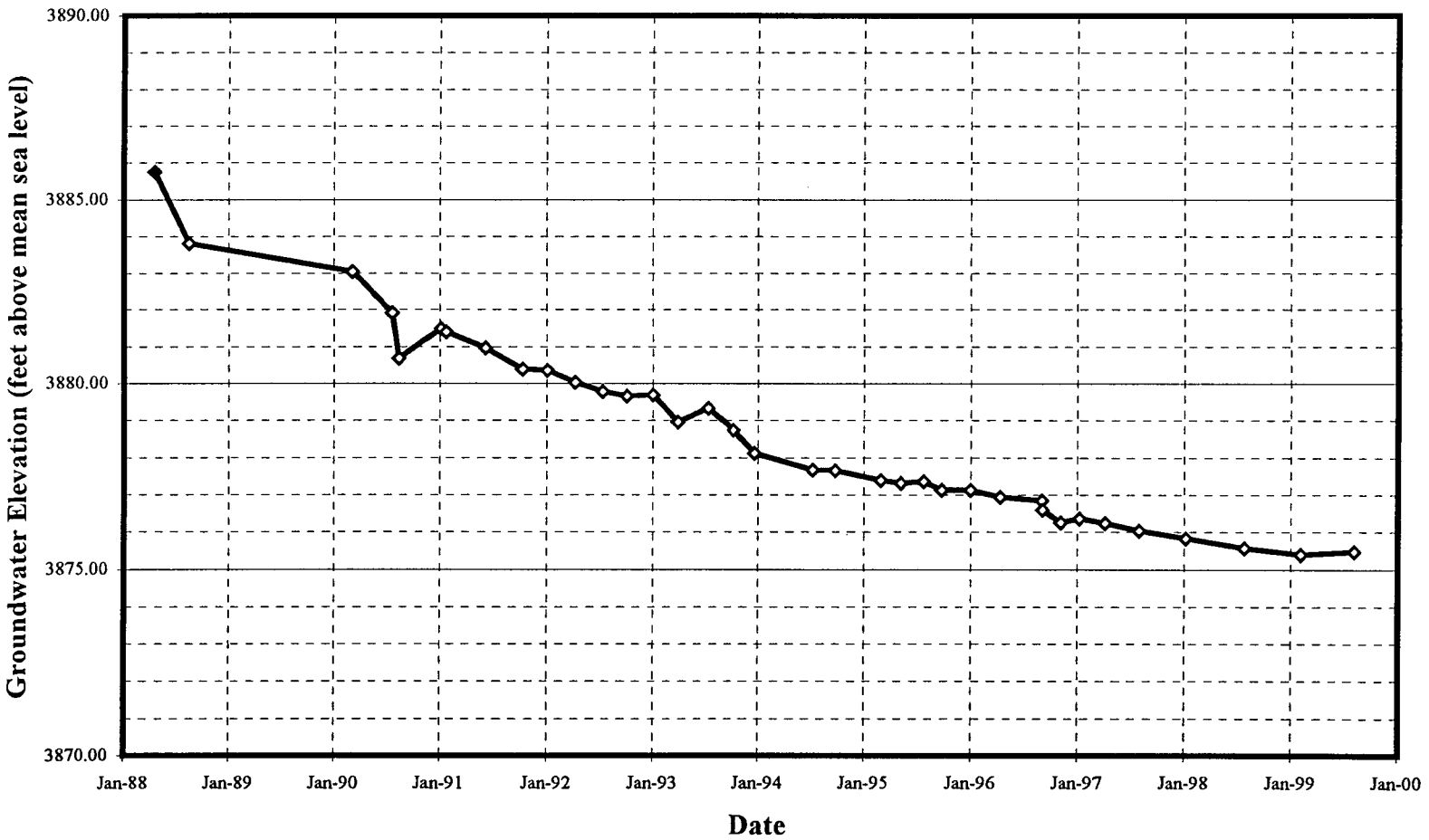


Figure 2b

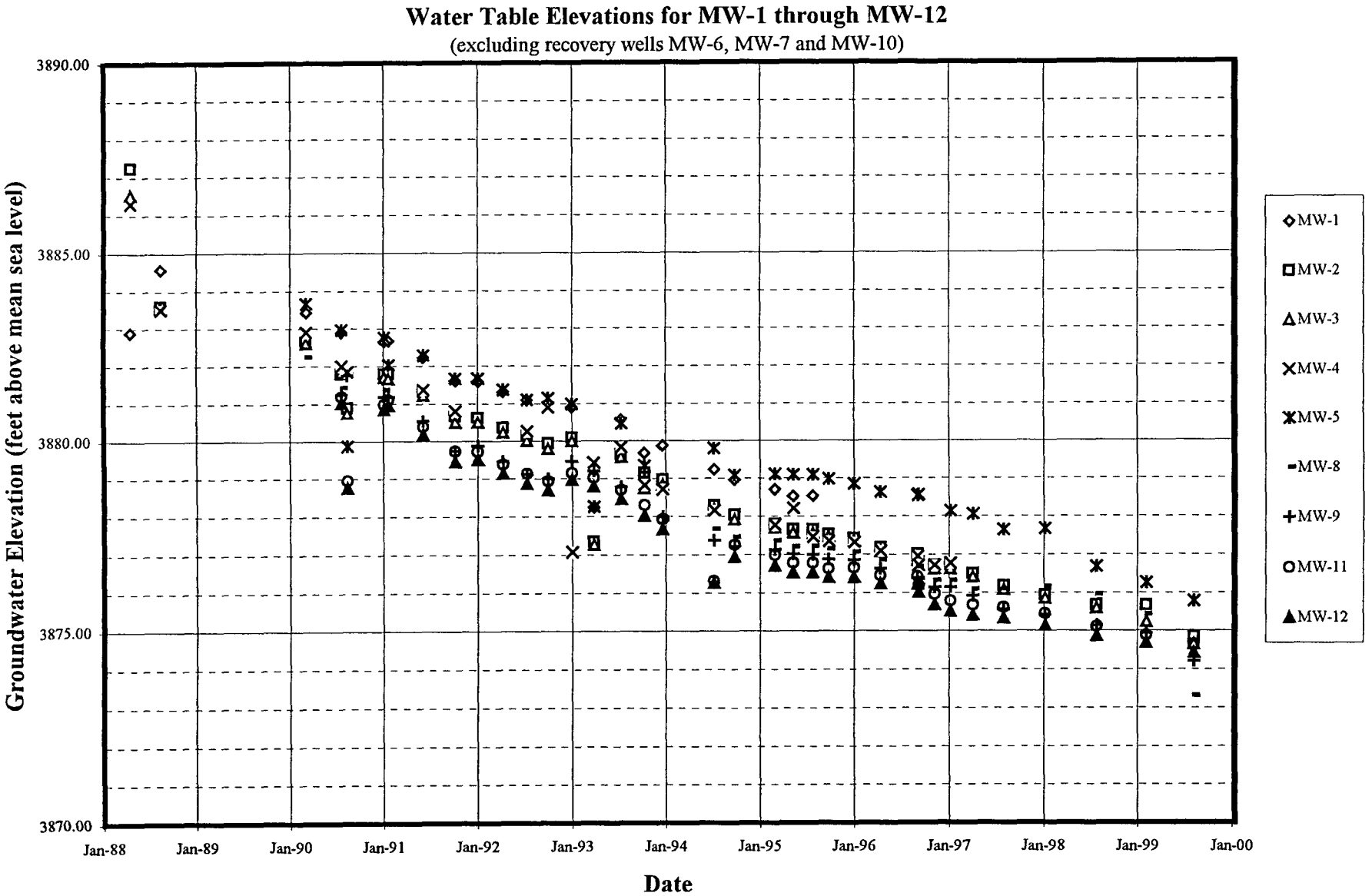
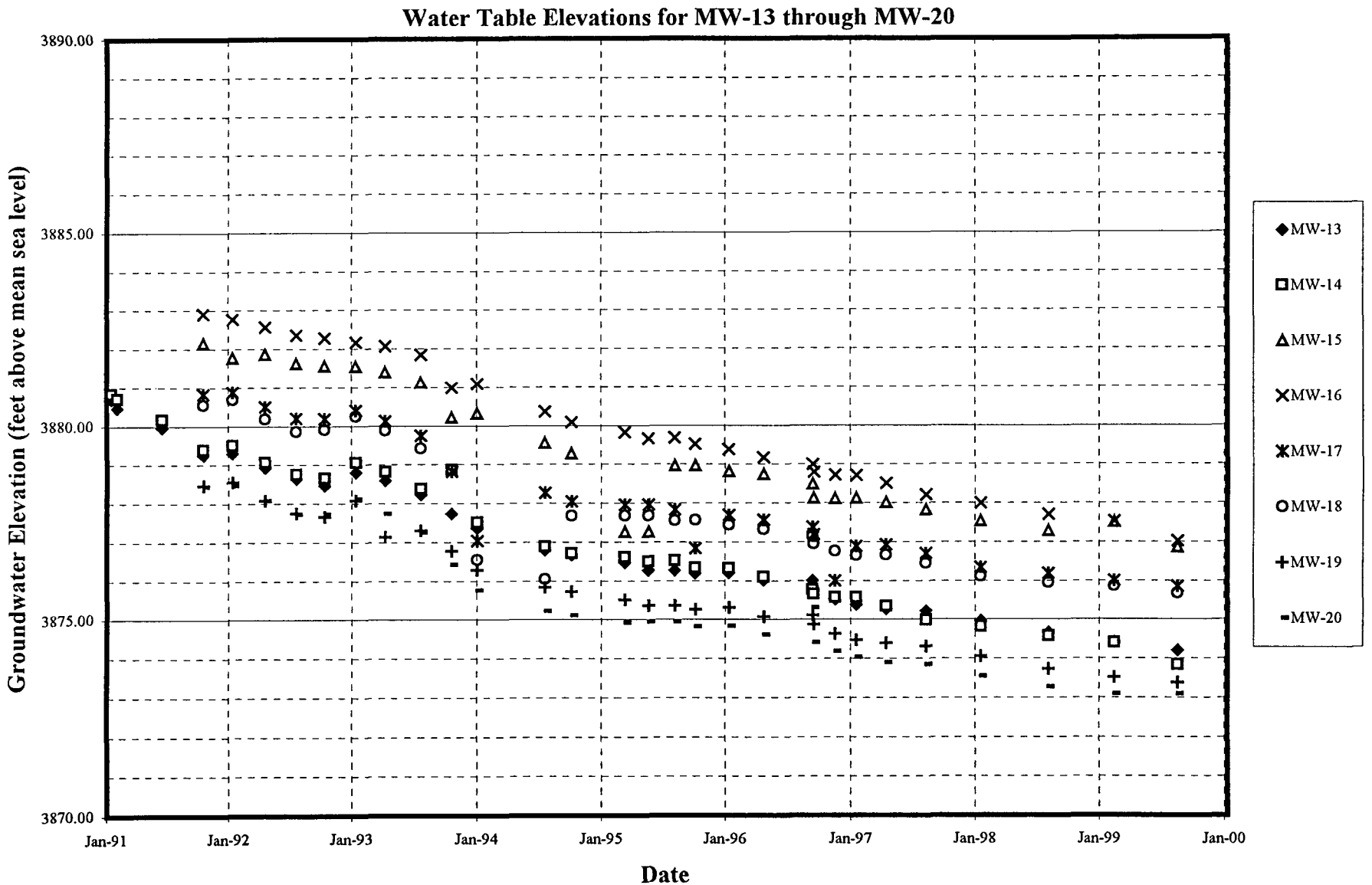

Water Table Elevations for MW-1 through MW-12
(excluding recovery wells MW-6, MW-7 and MW-10)
Groundwater Elevation (feet above mean sea level)
3890.00
3885.00
3880.00
3875.00
3870.00
Jan-88
Jan-89
Jan-90
Jan-91
Jan-92
Jan-93
Jan-94
Jan-95
Jan-96
Jan-97
Jan-98
Jan-99
Jan-00
Date
MW-1
MW-2
MW-3
MW-4
MW-5
MW-8
MW-9
MW-11
MW-12

Figure 2 c


Water Table Elevations for MW-13 through MW-20
Groundwater Elevation (feet above mean sea level)
3890.00
3885.00
3880.00
3875.00
3870.00
Jan-91
Jan-92
Jan-93
Jan-94
Jan-95
Jan-96
Jan-97
Jan-98
Jan-99
Jan-00
Date
MW-13
MW-14
MW-15
MW-16
MW-17
MW-18
MW-19
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
	08/18/99	<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
	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
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
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
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

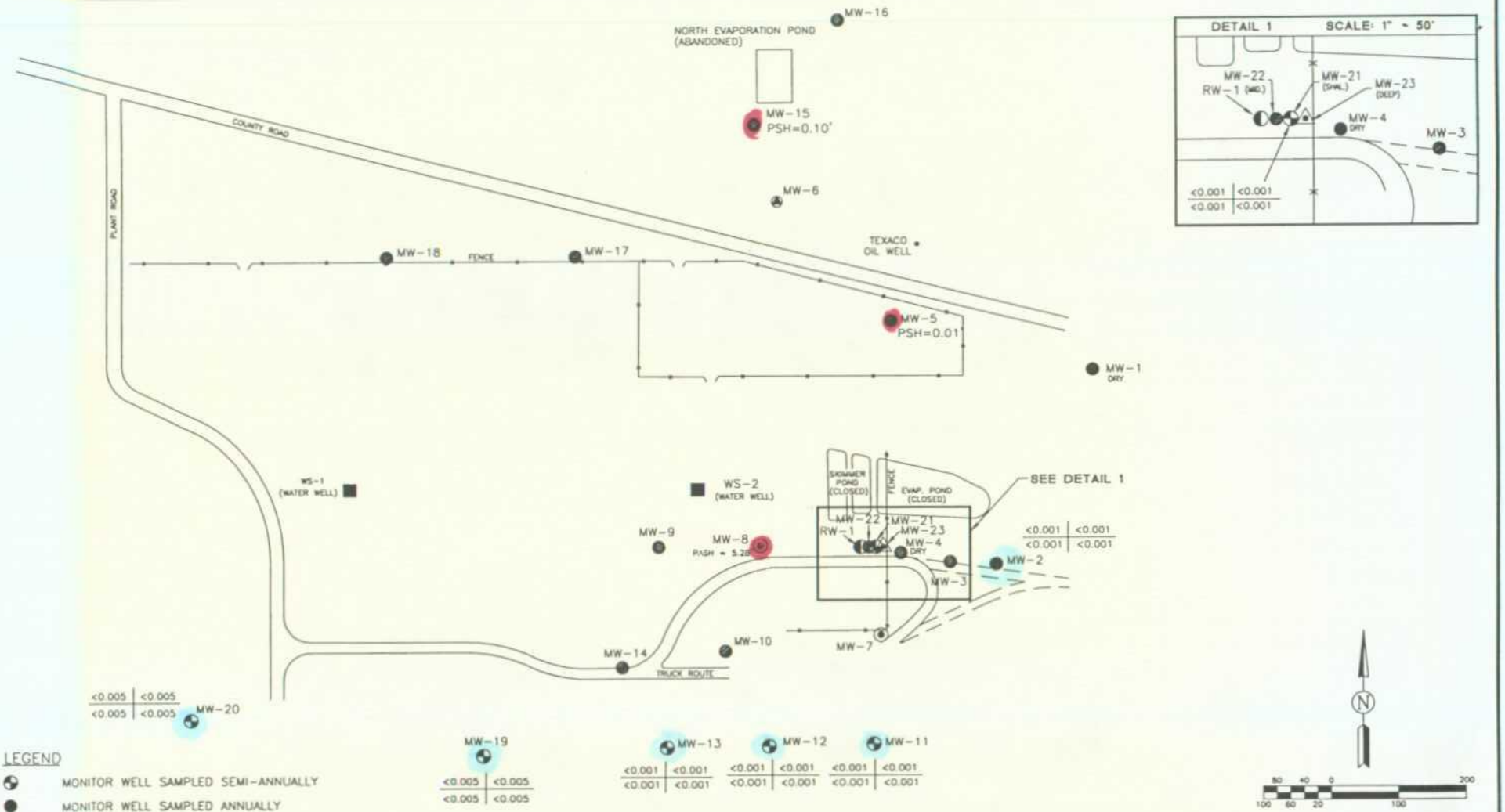
Table 3 (continued)
BTEX Analytical Results In Groundwater
GPM - Lee Plant

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
	08/19/99	<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.



DETAIL 1 SCALE: 1" = 50'

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 | T
E | X — B = BENZENE, T = TOLUENE, E = ETHYLBENZENE, X = TOTAL XYLENES } CONCENTRATIONS IN mg/L

PSH — PHASE-SEPARATED HYDROCARBONS (THICKNESS IN FEET)

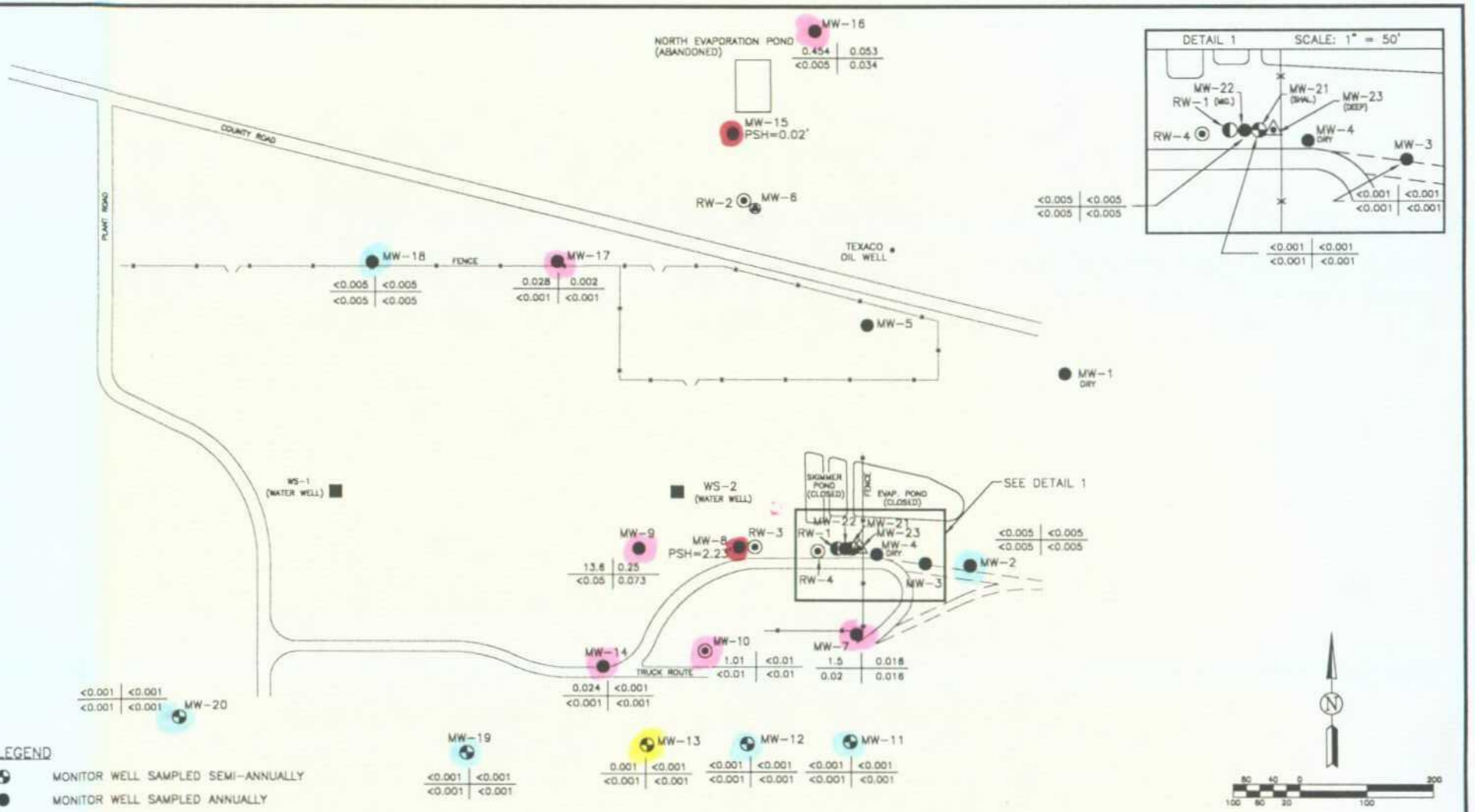
GROUNDWATER SAMPLES OBTAINED ON FEBRUARY 15, 1999.

TRW

FIGURE 3

BTEX CONCENTRATION MAP

CLIENT:	GPM GAS CORPORATION - LEE PLANT
DATE:	FEBRUARY 15, 1999
CHECKED BY:	GJV
DRAWN BY:	DAG
DWG. NO.	D:\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 | T
E | X

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

TRW

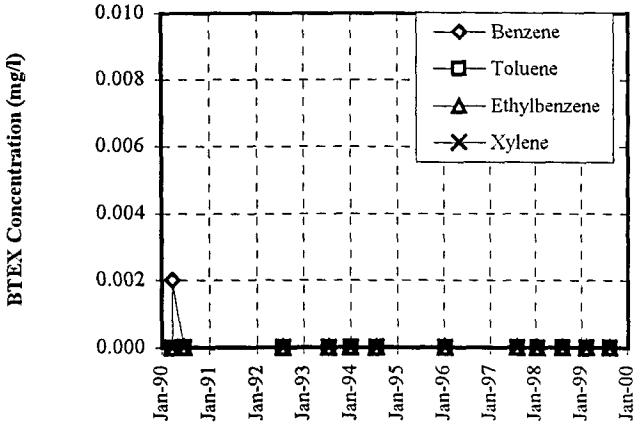
FIGURE 3b
BTEX CONCENTRATION MAP

CLIENT:	GPM GAS CORPORATION - LEE PLANT
DATE:	September 18-29, 1999
CHECKED BY:	GJV
DRAWN BY:	DAG
DWG. NO.	D:\P2341\BTEX0999.DWG

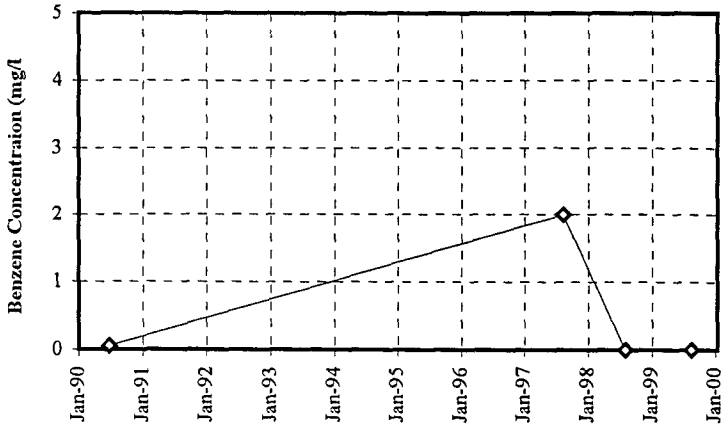
Figure 4
Hydrocarbon Concentrations Versus Time

(Central Area Wells)

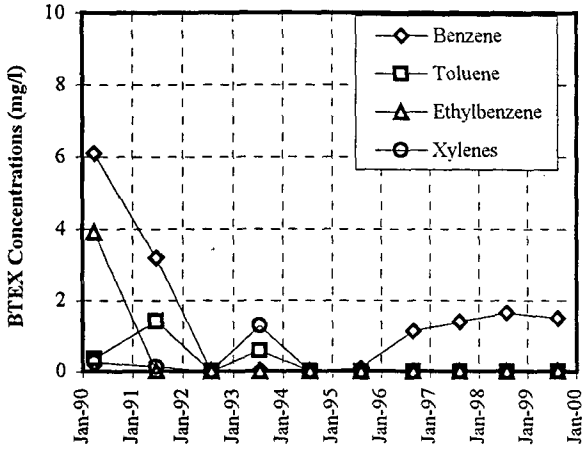
MW-2



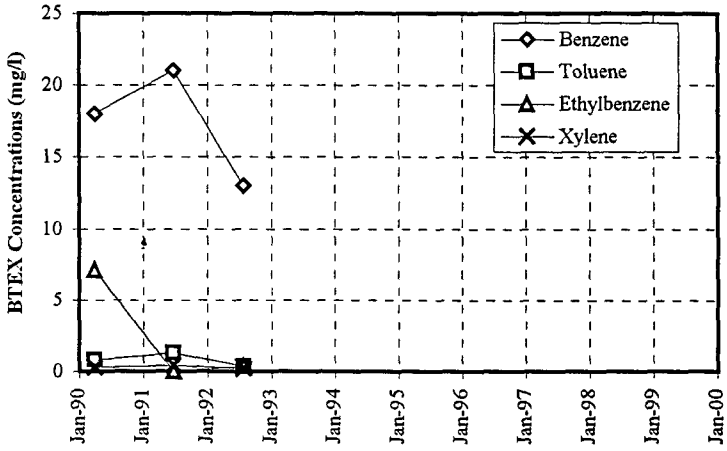
MW-3



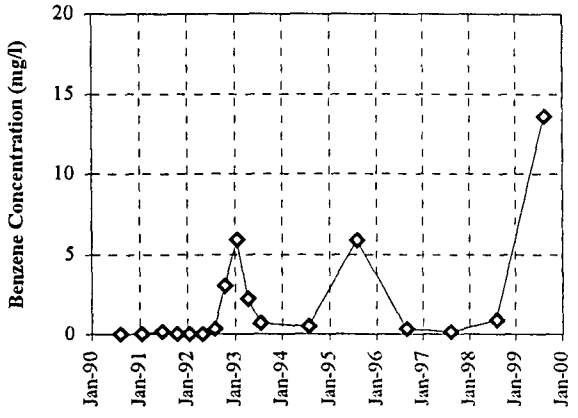
MW-7



MW-8



MW-9



MW-10

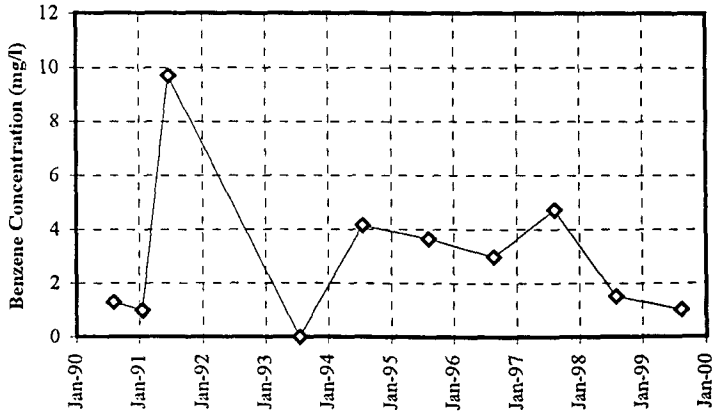
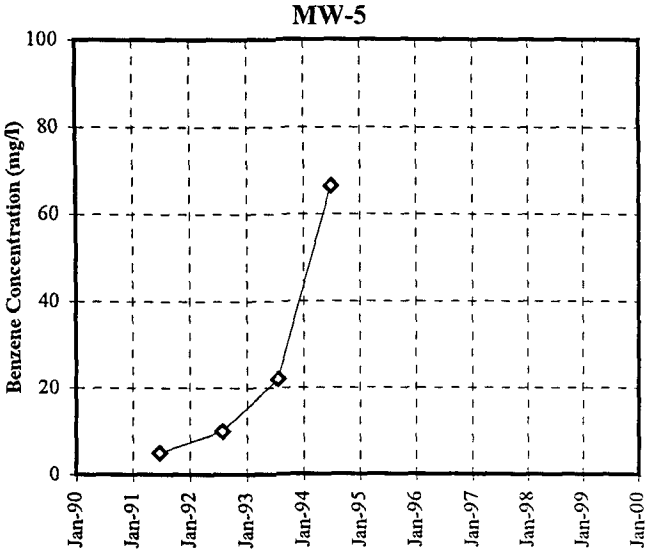
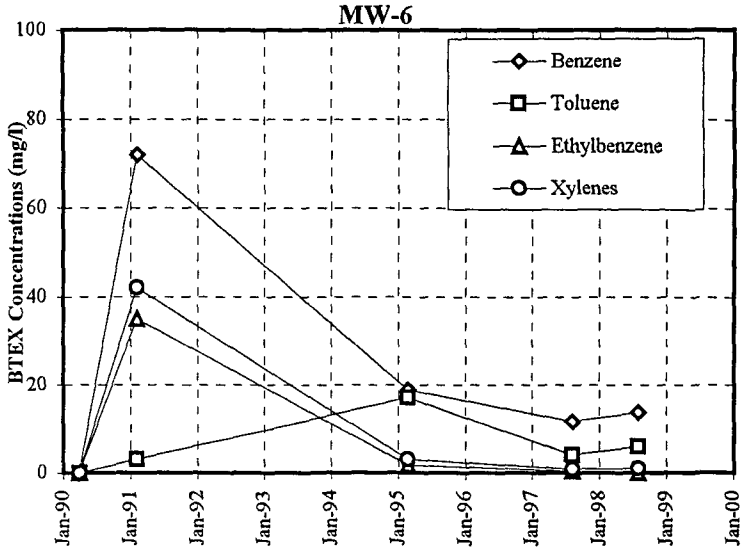
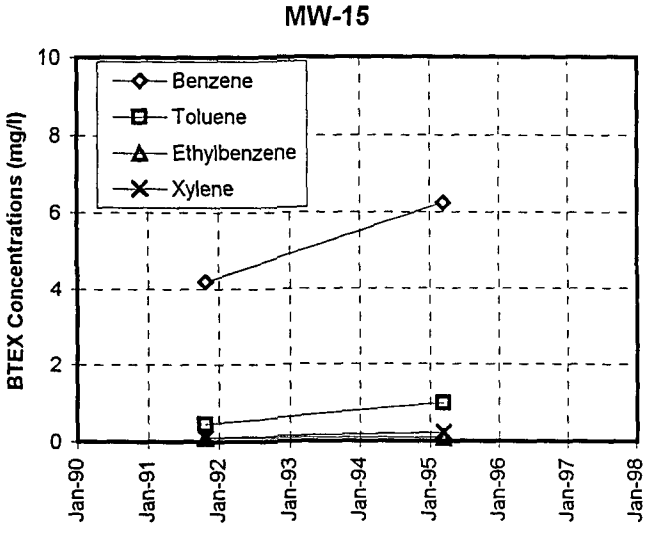


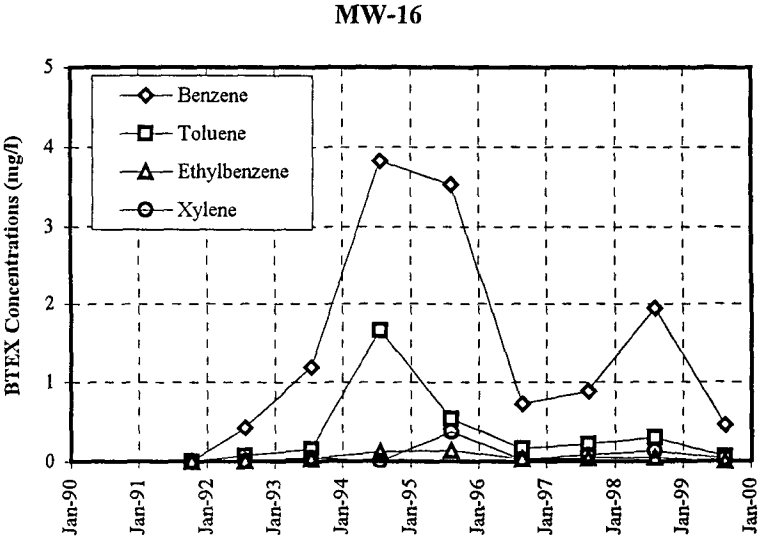
Figure 4
Hydrocarbon Concentrations Versus Time

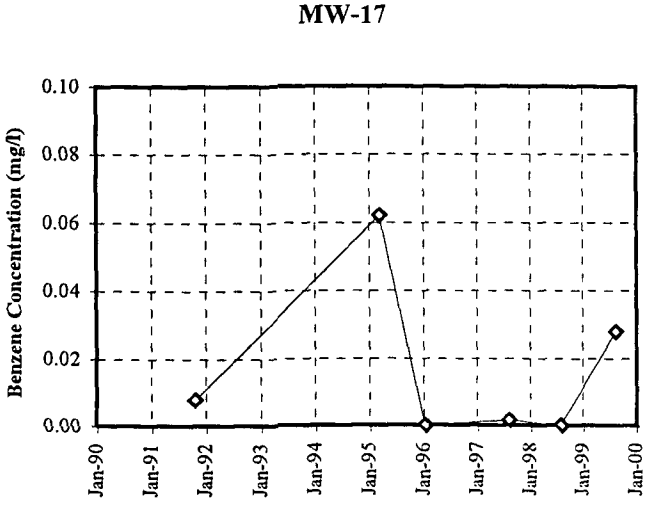
(North Area Wells)











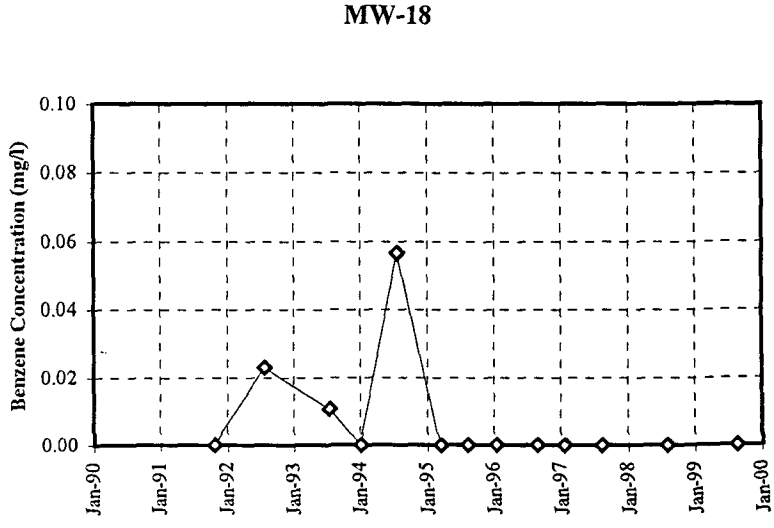


Figure 4
Hydrocarbon Concentrations Versus Time

(Central Area Wells)

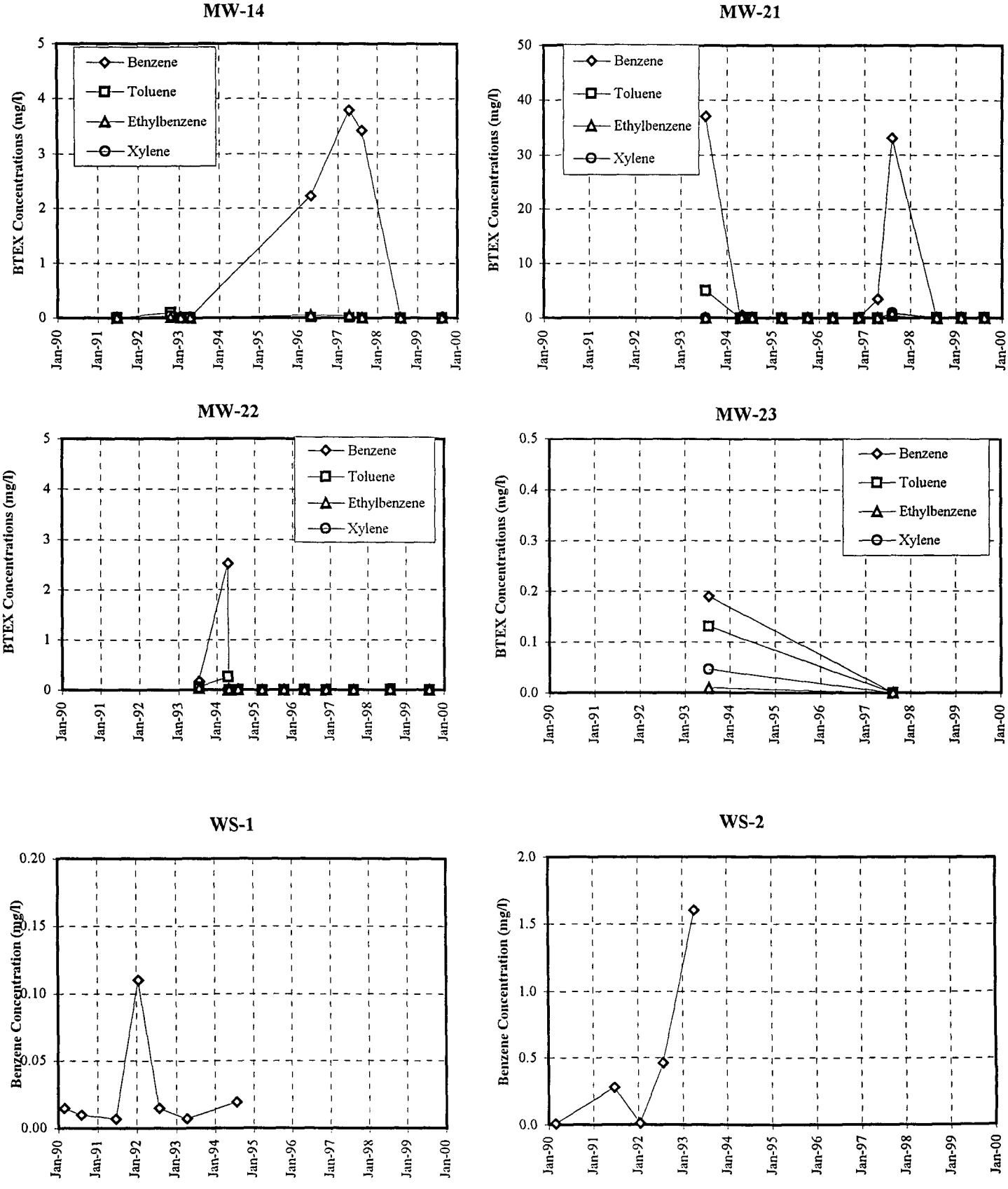
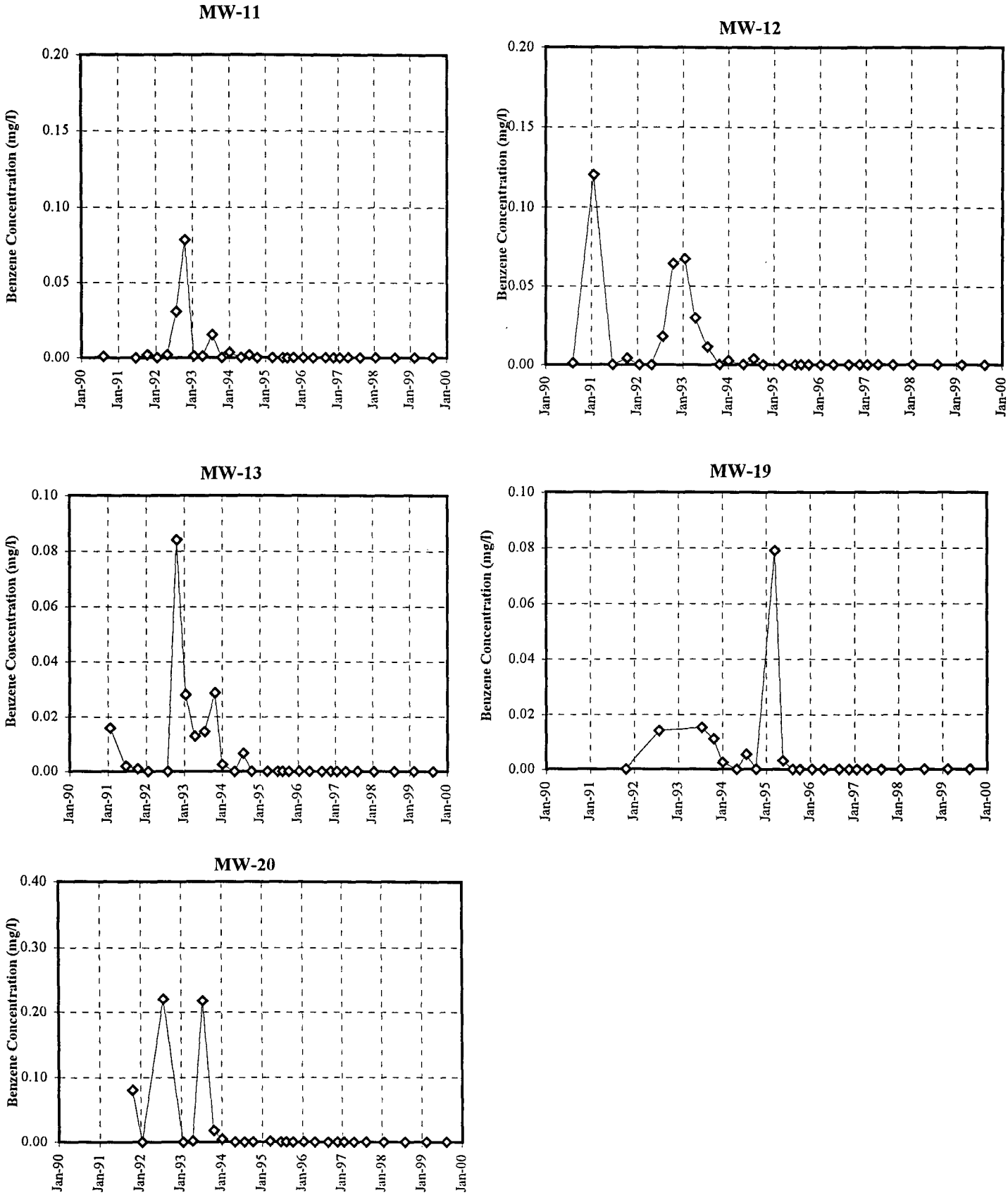


Figure 4
Hydrocarbon Concentrations Versus Time

(Downgradient - South Area Wells)



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.

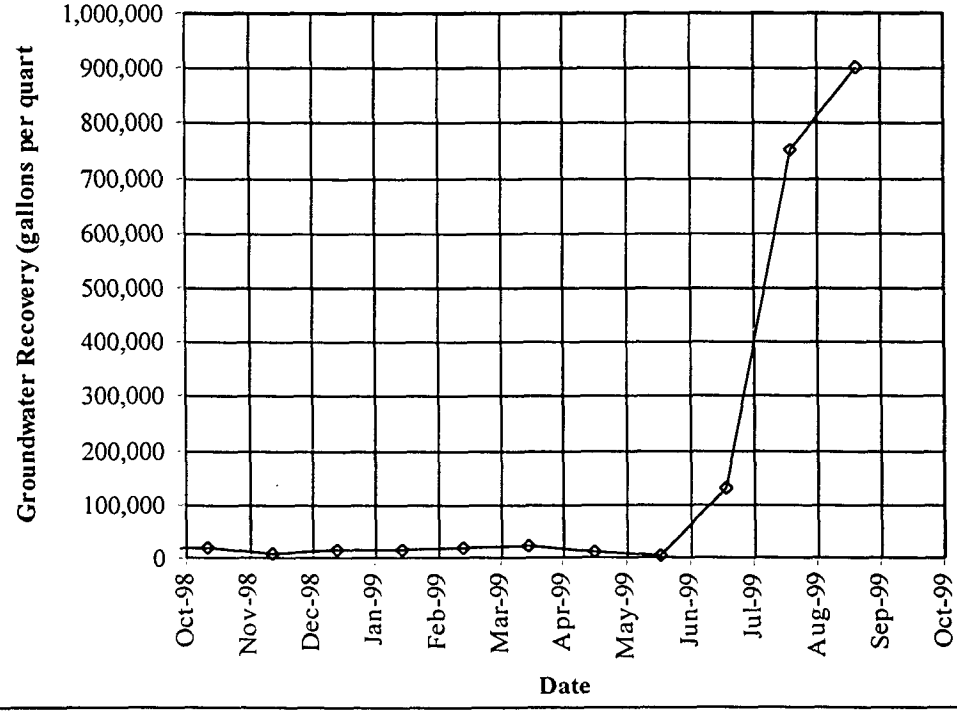
The groundwater recovery, air sparging, and vapor extraction systems have been effective in limiting the downgradient migration of the dissolved-phase hydrocarbon plume. Also, the groundwater recovery system, Xitech product recovery system, passive skimmer, and hand bailing techniques have been effective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

Table 4
Total Fluids Extraction Volumes for 1999
GPM - Lee Gas Plant

Month - Year	Gallons of Groundwater Recovered						
	RW-1	MW-6	MW-7	RW-2	RW-3	RW-4	Monthly Totals
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

Figure 5
Total Fluid Extraction Volumes for 1998 and 1999



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.

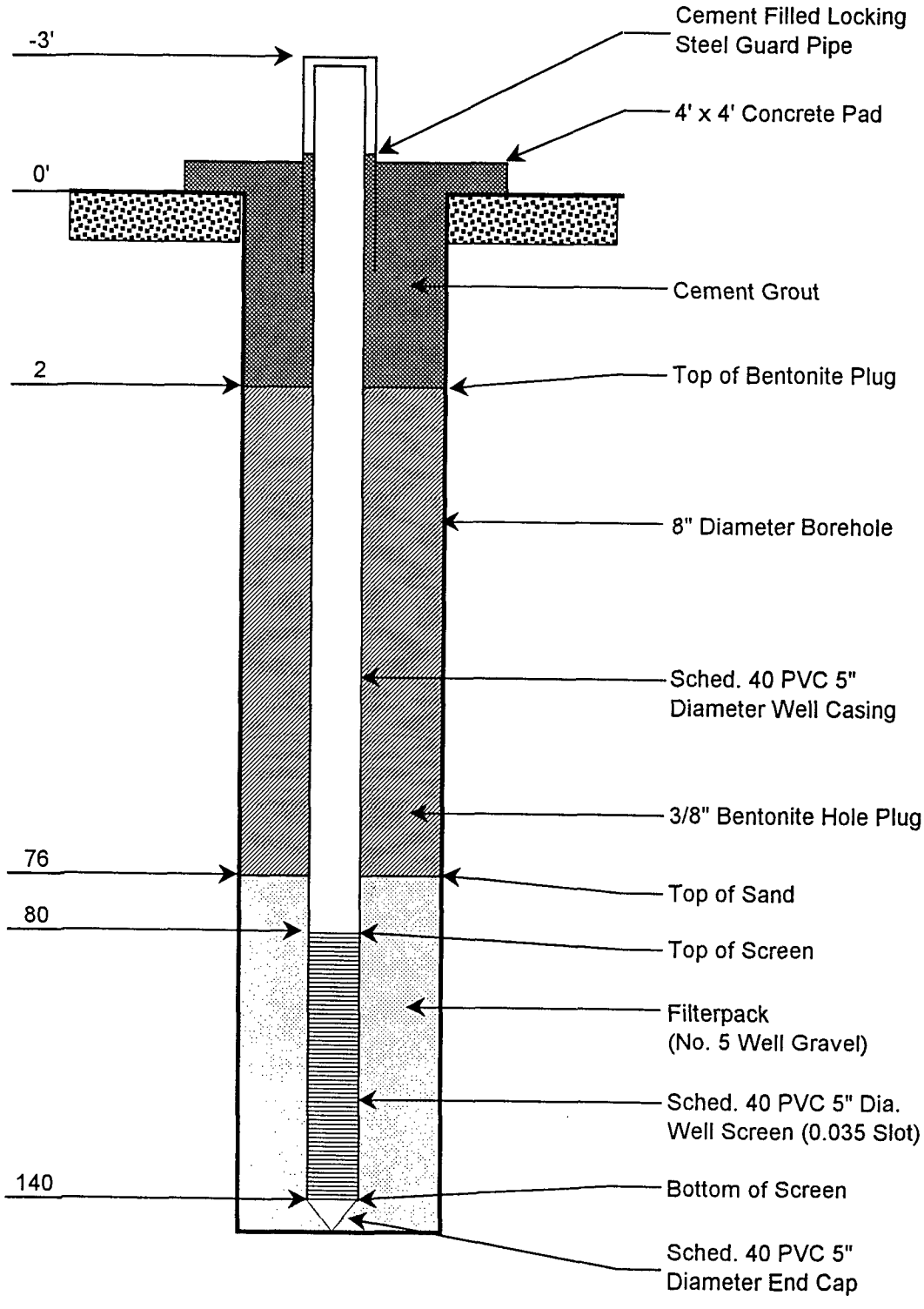
APPENDIX A

Recovery Well Construction Diagrams

and

Lithologic Logs

RECOVERY WELL CONSTRUCTION DIAGRAM (RW-2)

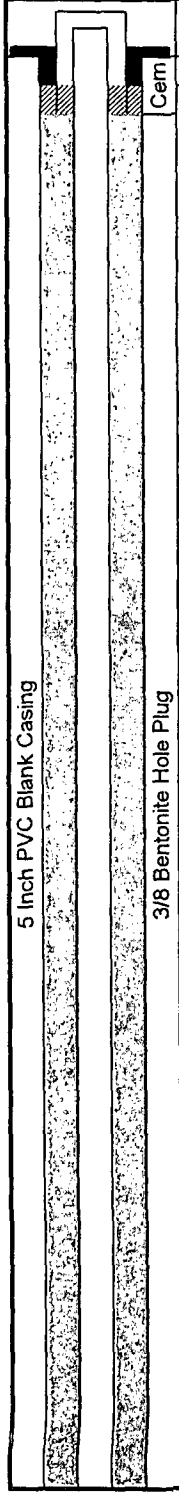


TRW Energy & Environmental Systems	SITE: GPM - Lee Gas Plant		**RW-2 Recovery Well Construction Diagram**
	DATE: 06/18/99	REV. NO.: 1	
	AUTHOR: GJV	DRAWN BY: GJV	
	CK'D BY: DTL	FILE: Well Bore Diagram	

LITHOLOGIC LOG (RECOVERY WELL)

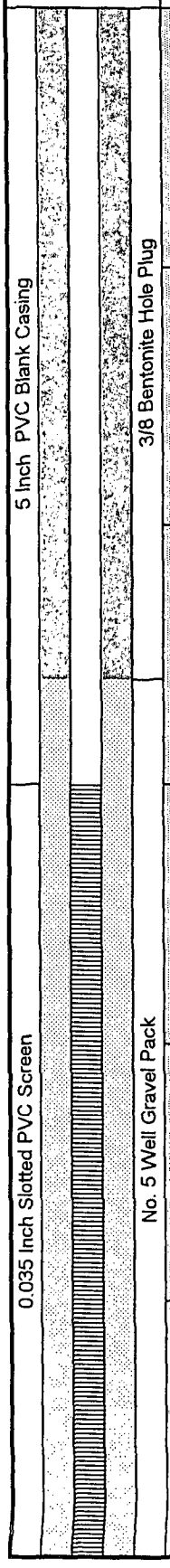
Energy & Environmental Systems

RECOVERY WELL NO.:	RW-2	TOTAL DEPTH:	140 Feet
SITE ID:	Lee Plant	CLIENT:	GPM Gas Corp.
SURFACE ELEVATION:	3980 FT AMSL	COUNTY:	Lea
CONTRACTOR:	Straub Corporation	STATE:	New Mexico
DRILLING METHOD:	Air/Mud Rotary	LOCATION:	SW/4 SE/4 S30-T17S-R35E
START DATE:	06/17/1999	FIELD REP.:	J. Fergerson
COMPLETION DATE:	06/18/1999	FILE NAME:	
COMMENTS:	Located approximately 10 feet northwest of MW-6.		



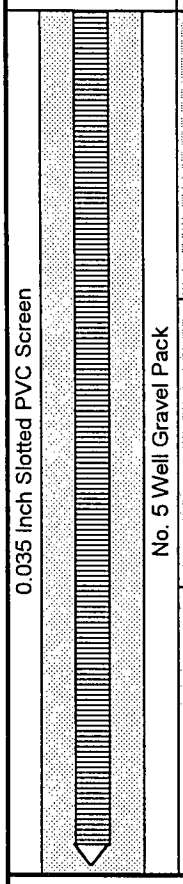
LITH.	SAMPLE USCS	FROM	TO	TIME	PID	DEPTH	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. DEATURES
	SM			1354			Sandy Silt, dk brown, moist, no odor, w/caliche fragments.
	CAL					5	Caliche, white-tan, no odor, w/silt and clay in matrix.
		10	11	1424	0.7	10	
	CAL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

RECOVERY WELL NO.: RW-2 TOTAL DEPTH: 140 Feet



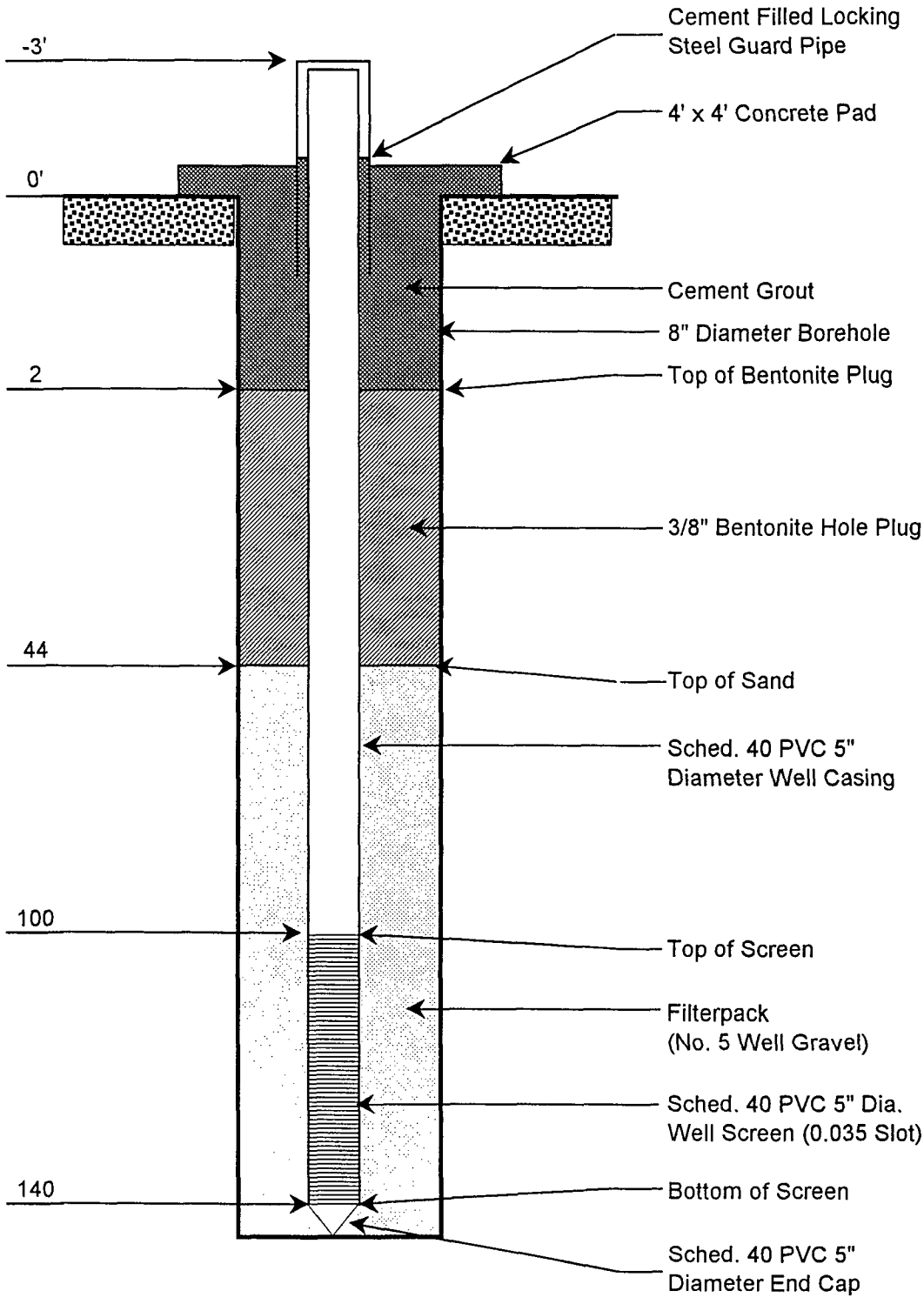
LITH.	SAMPLE USCS	FROM	TO	TIME	PID	DEPTH	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. DEATURES
	SW	50	51	1538		55	Silty sand, tan-lt brown, vf grain, w sorted, loosely consol, w/mod-well cemented sandstone interbedded.
	SW	60	61	1550		65	Silty sand, tan-brown, vf grain, w sorted, unconsol, w/mod-well cemented sandstone.
	SW	70	71	1601		75	Silty sand, tan-brown, vf grain, w sorted, unconsol, w/mod-well cemented sandstone.
	SW	80	81	1609		85	Silty sand, tan-brown, vf grain, w sorted, unconsol, w/mod-well cemented sandstone.
	SW	90	91	1620		95	Silty sand, tan-brown, vf grain, w sorted, unconsol, w/mod-well cemented sandstone. Detected strong hydrocarbon odor.
	SW	100	101	1633		105	Silty sand, tan-brown, vf grain, w sorted, unconsol, w/mod-well cemented sandstone.
				1641		110	

RECOVERY WELL NO.: RW-2 TOTAL DEPTH: 140 Feet



LITH.	SAMPLE USCS	FROM	TO	TIME	PID	DEPTH	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. DEATURES
		110	111				Silty sand, tan-brown, vf grain, w sorted, unconsol, w/mod cemented sandstone interbedded.
	SW					115	
						120	
		120	121	1648			Silty sand, tan-brown, vf grain, w sorted, unconsol, w/mod cemented sandstone interbedded.
	SW					125	
						130	
		130	131	1705			Silty sand, tan-brown, vf grain, w sorted, unconsol, w/mod cemented sandstone interbedded.
	SW					135	
		139	140	1231		140	TOTAL DEPTH 140 FEET

RECOVERY WELL CONSTRUCTION DIAGRAM (RW-3)

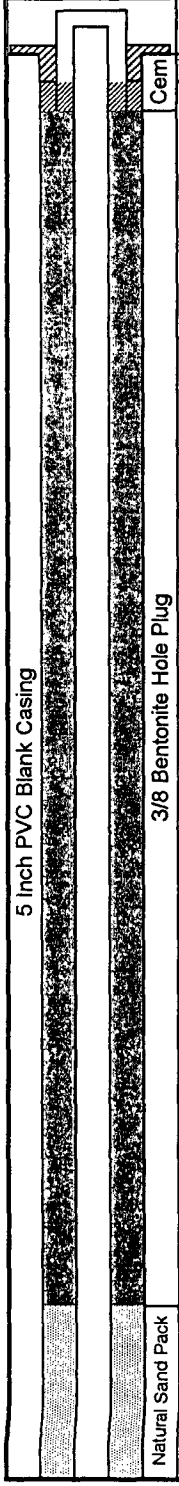


TRW Energy & Environmental Systems	SITE: GPM - Lee Gas Plant		**RW-3 Recovery Well Construction Diagram**
	DATE: 06/16/99	REV. NO.: 1	
	AUTHOR: GJV	DRAWN BY: GJV	
	CK'D BY: DTL	FILE: Well Bore Diagram	

LITHOLOGIC LOG (RECOVERY WELL)

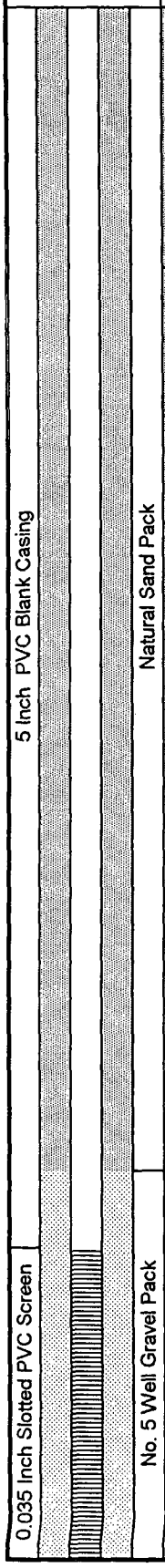
Energy & Environmental Systems

RECOVERY WELL NO.:	RW-3	TOTAL DEPTH:	140 Feet
SITE ID:	Lee Plant	CLIENT:	GPM Gas Corp.
SURFACE ELEVATION:	3979 FT AMSL	COUNTY:	Lea
CONTRACTOR:	Straub Corporation	STATE:	New Mexico
DRILLING METHOD:	Air/Mud Rotary	LOCATION:	SW/4 SE/4 S30-T17S-R35E
START DATE:	06/15/1999	FIELD REP.:	J. Fergerson
COMPLETION DATE:	06/16/1999	FILE NAME:	
COMMENTS:	Located approximately 15 feet east of MW-8.		



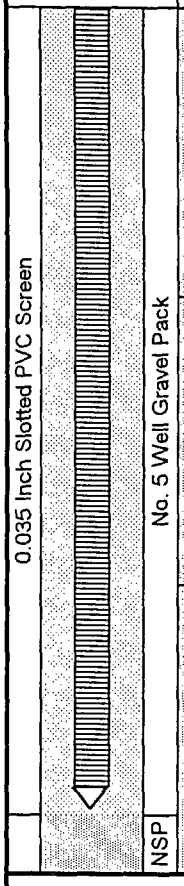
LITH.	SAMPLE USCS	FROM	TO	TIME	PID	DEPTH	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. DEATURES
	SM			1142			Sandy Silt, dk brown, moist, no odor, w/caliche fragments.
	CAL					5	Caliche, tan-lt brown, sl odor, w/silt in matrix.
						10	
	CAL	10	11	1155	9.0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

RECOVERY WELL NO.: RW-3 TOTAL DEPTH: 140 Feet



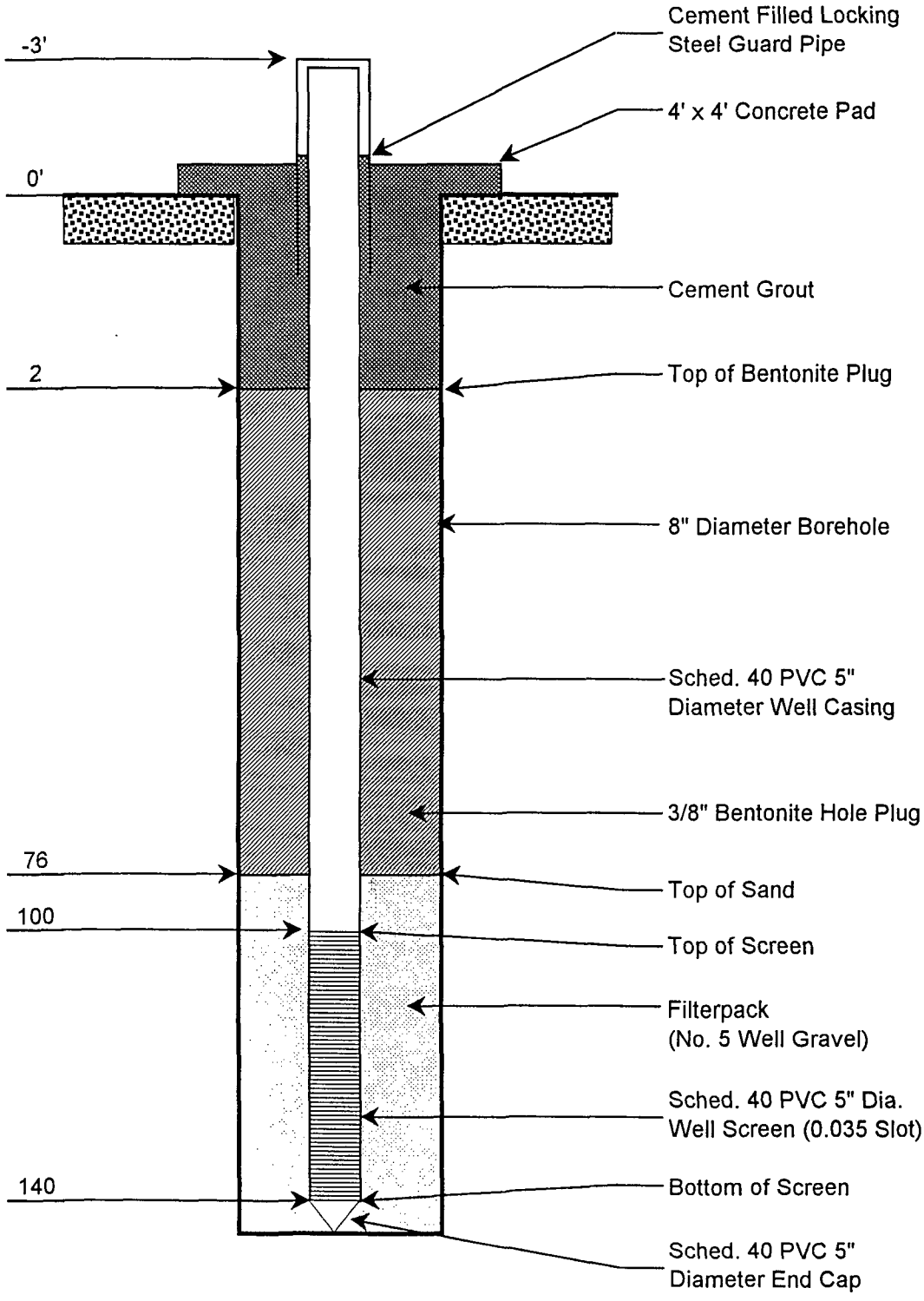
LITH.	SAMPLE USCS	FROM	TO	TIME	PID	DEPTH	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. DEATURES
				1428			Silty sand, tan-brown, vf grain, w sorted, unconsol, sl odor, w/mod-well cemented sandstone interbedded.
	SW					55	
				1440		60	
							Silty sand, tan-brown, vf grain, w sorted, unconsol, sl odor, w/mod cemented sandstone interbedded.
	SW					65	
				1450		70	
							Silty sand, tan-brown, vf grain, w sorted, unconsol, sl odor, w/mod cemented sandstone interbedded.
	SW					75	
				1455		80	
							Silty sand, tan-brown, vf grain, w sorted, unconsol, sl odor, w/mod cemented sandstone interbedded.
	SW					85	
				1621		90	
							Silty sand, tan-brown, vf grain, w sorted, unconsol, sl odor, w/mod cemented sandstone interbedded.
	SW					95	
				1627		100	
							Silty sand, tan-brown, vf grain, w sorted, unconsol, sl odor, w/modl cemented sandstone interbedded.
	SW					105	
				1638		110	Moderate hydrocarbon odor detected while drilling.

RECOVERY WELL NO.: RW-3 TOTAL DEPTH: 140 Feet



LITH.	SAMPLE USCS	FROM	TO	TIME	PID	DEPTH	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. DEATURES
				1642			Silty sand, tan-brown, vf grain, w sorted, unconsol, w/10% clay in matrix, and mod cemented sandstone interbedded.
	SW					115	
				1646		120	
							Silty sand, tan-brown, vf grain, w sorted, unconsol, w/10% clay in matrix, and mod cemented sandstone interbedded.
	SW					125	
				1656		130	
							Silty sand, tan-brown, vf grain, w sorted, unconsol, w/10% clay in matrix, and mod cemented sandstone interbedded.
	SW					135	
							TOTAL DEPTH OF WELL 138 FEET
				1703		140	TOTAL DEPTH OF BORING 140 FEET

RECOVERY WELL CONSTRUCTION DIAGRAM (RW-4)

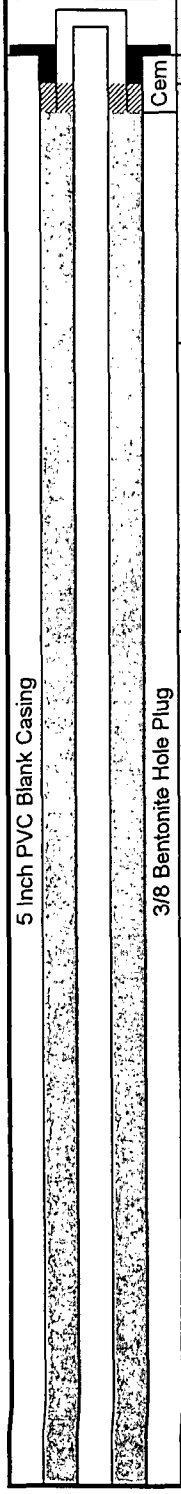


TRW Energy & Environmental Systems	SITE: GPM - Lee Gas Plant		**RW-4 Recovery Well Construction Diagram**
	DATE: 06/17/99	REV. NO.: 1	
	AUTHOR: GJV	DRAWN BY: GJV	
	CK'D BY: DTL	FILE: Well Bore Diagram	

LITHOLOGIC LOG (RECOVERY WELL)

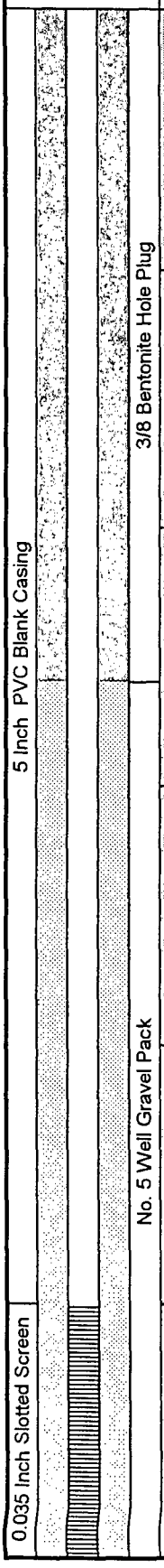
Energy & Environmental Systems

RECOVERY WELL NO.:	RW-4	TOTAL DEPTH:	140 Feet
SITE ID:	Lee Plant	CLIENT:	GPM Gas Corp.
SURFACE ELEVATION:	3978 FT AMSL	COUNTY:	Lea
CONTRACTOR:	Straub Corporation	STATE:	New Mexico
DRILLING METHOD:	Air/Mud Rotary	LOCATION:	SW/4 SE/4 S30-T17S-R35E
START DATE:	06/16/1999	FIELD REP.:	J. Fergerson
COMPLETION DATE:	06/17/1999	FILE NAME:	
COMMENTS:	Located approximately 10 feet west of VE unit.		



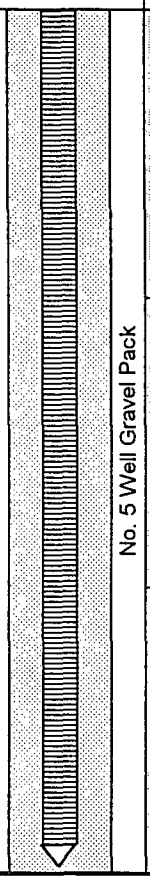
LITH.	SAMPLE USCS	FROM	TO	TIME	PID	DEPTH	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. DEATURES
	SM			1135			Sandy Silt, dk brown, moist, no odor, w/caliche fragments.
	CAL					5	Caliche, white-tan-lt brown, sl odor, w/silt in matrix.
						10	
	CAL	10	11	1145	1.5	15	Caliche, white-tan-lt gray, sl odor, w/silt in matrix.
						20	Inititated mud rotary drilling operations.
	SW	20	21	1250		25	Silty sand, tan-reddish brown, vf grain, w sorted, loosely consol, no odor, w/caliche and mod-well cemented sandstone interbedded.
				1450		30	
	SW					35	Silty sand, tan-reddish brown, vf grain, w sorted, loosely consol, w/mod-well cemented sandstone interbedded.
				1609		40	
	SW					45	Silty sand, tan-reddish brown, vf grain, w sorted, loosely consol, w/mod-well cemented sandstone interbedded.
				1627		50	

RECOVERY WELL NO.: RW-4 TOTAL DEPTH: 140 Feet



LITH.	SAMPLE USCS	FROM	TO	TIME	PID	DEPTH	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. DEATURES
				1627			Silty sand, tan-brown, vf grain, w sorted, unconsol, w/mod-well cemented sandstone interbedded.
	SW					55	
				1725		60	
							Silty sand, tan-brown, vf grain, w sorted, unconsol, w/mod-w/mod cemented sandstone interbedded.
	SW					65	
				1735		70	
							Silty sand, tan-brown, vf grain, w sorted, unconsol, w/mod-w/mod cemented sandstone interbedded.
	SW					75	
				1741		80	
							Silty sand, tan-brown, vf grain, w sorted, unconsol, w/mod-w/mod cemented sandstone interbedded.
	SW					85	
				1755		90	
							Silty sand, tan-brown, vf grain, w sorted, unconsol, w/mod-w/mod cemented sandstone interbedded.
	SW					95	
				1759		100	
							Silty sand, tan-brown, vf grain, w sorted, unconsol, w/mod-w/modl cemented sandstone interbedded.
	SW					105	
				1810		110	

RECOVERY WELL NO.: RW-4 TOTAL DEPTH: 140 Feet



LITH.	SAMPLE USCS	FROM	TO	TIME	PID	DEPTH	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. DEATURES
				1810			Silty sand, tan-yellow/orange-brown, vf grain, w sorted, unconsol, w/mod-well cemented sandstone interbedded.
	SW					115	
				1818		120	
							Silty sand, tan-yellow/orange-brown, vf grain, w sorted, matrix, and mod cemented sandstone interbedded.
	SW					125	
				1827		130	
							Silty sand, tan-yellow/orange-brown, vf grain, w sorted, matrix, and mod cemented sandstone interbedded.
	SW					135	
				1835		140	TOTAL DEPTH 140 FEET

APPENDIX B

Laboratory Analytical Reports

and

Chain of Custody Documentation

TRACEANALYSIS, 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

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

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 BTEX (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			<0.001	<0.001	<0.001	<0.001	
Reporting Limit			0.001	0.001	0.001	0.001	
QC			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)
BTEX	EPA 5030	2/17/99	EPA 8021B	2/17/99	RC	0.100 ea	0.1 ea

Director, Dr. Blair Leftwich

2-24-99
Date

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

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

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 BTEX (mg/L)
119033	MW-20	Water	<0.005	<0.005	<0.005	<0.005	<0.005
Method Blank			<0.001	<0.001	<0.001	<0.001	
Reporting Limit			0.001	0.001	0.001	0.001	
QC			0.093	0.092	0.094	0.277	
RPD			8	7	7	8	
% Extraction Accuracy			108	109	108	110	
% Instrument Accuracy			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

2-23-99
Date

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 W. Wall, Suite 1818
Midland, TX 79701

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

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 BTEX (mg/m3)
T119043	99021561840 VE	14,600	848	750	31	216	1,845
QC	Quality Control	109	94	94	92	268	
Reporting Limit		100	1	1	1	1	
Method Blank		<100	<1	<1	<1	<1	
RPD		5	2	2	0	1	
% Instrument Accuracy		109	94	94	92	89	

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

BS

Director, Dr. Blair Leftwich

2-26-99

Date

277/278

13298.

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

Chain of Custody

Date 2/15/99 Page 1 Of 1

Lab Name Trace Analysis Inc.
Address 6701 Aberdeen Ave.
Lubbock, TX 79424
Telephone (800) 378-1296

Samplers (SIGNATURES)

Sample Number	Matrix	Location	Halogenated Volatiles 601/8010	Aromatic Volatiles 602/8020 BTEX	Phenols, Sub Phenols 604/8040	Pesticides/PCB 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 TVHC	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)					Number of Containers
990215 1100	Water	MW-20		✓				119033																					2
990215 1205	Water	MW-19		✓						34																		MS 02/15/99	2
990215 1610	Water	MW-13		✓						35																			2
990215 1440	Water	MW-2		✓						36																			2
990215 1700	Water	Duplicate		✓						37																			2
990215 1705	Water	MW-12		✓						38																			2
990215 1810	Water	MW-21		✓						39																			2
990215 1830	Water	MW-11		✓						40																			2
990215 1920	Water	Rinsate		✓	119041	Trip Blanks (505A & 505B) - BTEX (8020)																						119042	2
990215 1840	Air	VE		✓						119043	✓																		2

Analysis Request

Project Information	Sample Receipt
Project GPM-Lee Gas Plant	Total No. of Containers
Project Director G. Van Deventer	Chain of Custody Seals
Charge Code No. LEEGWR-20-3000	Rec'd Good Condition/Cold
Shipping ID. No. TNM&O	Conforms to Record
Via:	Lab No.

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

Relinquished By 1.	Relinquished By 2.	Relinquished By 3.
(Signature) Gil VanDeventer 5:30p (Time)	(Signature) (Time)	(Signature) (Time)
(Printed Name) Gil VanDeventer 2-16-99 (Date)	(Printed Name) (Date)	(Printed Name) (Date)
(Company) TRW Inc.	(Company)	(Company)
Received By 1.	**Received By 2.**	**Received By (Laboratory) 3.**
(Signature) (Time)	(Signature) (Time)	(Signature) Vicki Windham (Time) 9:15
(Printed Name) (Date)	(Printed Name) (Date)	(Printed Name) Trace Analysis (Date) 2-17-99
(Company)	(Company)	(Laboratory)

Distribution: White, Canary-Laboratory • Pink, BDM

TRW043A.XLS (689)

Bus 159 384 459 3 10 2/18

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
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.

Dr. Blair Leftwich, Director

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

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

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

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

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

	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

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

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

990 8212

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

№ 13442

Chain of Custody

Date 8-20-99 Page 2 of 2

Lab Name: Trace Analysis Inc
Address: 6701 Aberdeen Av. Ste 9
Lubbock, Tx 79424
Telephone: 806/794-1296

Samplers (SIGNATURES) John Ferguson

Sample Identification	Matrix	Date	Time	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						Number of Containers
				Analysis Request																			
MW-22	Water	8-19-99	1250	✓																13046	7		2
MW-21	Water	8-19-99	1400	✓																	468		2
MW-9	Water	8-19-99	1950	✓																	469		2
MW-14	Water	8-19-99	2100	✓																	470		2
MW-16	Water	8-20-99	0930	✓																	471		2
MW-10	Water	8-20-99	1110	✓																	472		2
Duplicate	Water	8-2099	1200	✓																	473		2
Rinsate	Water	8-20-99	1000	✓																	474		2
Trip Blank(597A&B)				0																	475		2
																					47		

Project Information	Sample Receipt
Project Name: GPM Gas Corp	Total Contaiiners:
Project Location: Lee Gas Plant	COC Seals:
Project Manager: Gil Van Deventer	Rec'd Good Cond/Cold:
Cost Center No.: LEE GWR-20-300	Conforms to Records:
Shipping ID No.:	Lab No.:
P O No.:	

Special Instructions/Comments:
Invoice directly to GPM (Mel Driver)
Carrier: TNM&O # 932228 2731
Temp: 5°

Relinquished By: (1)	Relinquished By: (2)	Relinquished By: (3)
Gil Van Deventer 3:30pm		
(Signature) (Time)	(Signature) (Time)	(Signature) (Time)
Gil Van Deventer 8-20-99		
(Printed Name) (Date)	(Printed Name) (Date)	(Printed Name) (Date)
TRW Inc.		
(Company)	(Company)	(Company)
Received By: (1)	**Received By: (2)**	**Received By: (3)**
12:22		
(Signature) (Time)	(Signature) (Time)	(Signature) (Time)
8/21/99		
(Printed Name) (Date)	(Printed Name) (Date)	(Printed Name) (Date)
J. Taylor		
(Company)	(Company)	(Company)
Trace Analysis		

Distribution: White, Canary-Laboratory / Pink-TRW

9/1/

99 082112

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

№ 13441

Chain of Custody

Date 8-20-99 Page 1 of 2

Lab Name: Trace Analysis Inc.
Address: 6701 Aberdeen Ave Ste 9
Lubbock Tx 79424
Telephone: 806/794-1296

Samplers (SIGNATURES)

Sample Identification	Matrix	Date	Time	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						Number of Containers
MW-20	Water	8-18-99	1010	✓																	130457		2
MW-19	Water	8-18-99	1110	✓																	458		2
MW-13	Water	8-18-99	1215	✓																	459		2
MW-12	Water	8-18-99	1320	✓																	460		2
MW-11	Water	8-18-99	1955	✓																	461		2
MW-3	Water	8-19-99	0840	✓																	462		2
MW-2	Water	8-19-99	0900	✓																	463		2
MW-7	Water	8-19-99	0920	✓																	464		2
MW-18	Water	8-19-99	1030	✓																	465		2
MW-17	Water	8-19-99	1120	✓																	466		2

Analysis Request

Project Information

Project Name: GPM Gas Corp
Project Location: Lee Gas Plant
Project Manager: Gil Van Deventer
Cost Center No.: LEE GWR-20-300
Shipping ID No.:
P O No.:

Sample Receipt

Total Containers:
COC Seals:
Rec'd Good Cond/Cold:
Conforms to Records:
Lab No.:

Special Instructions/Comments: Invoice GPM directly (Mel Driver)
Carrier TNM&O # 902278 2731
TEMP: 5°

Relinquished By: (1)	Relinquished By: (2)	Relinquished By: (3)
Gil Van Deventer 3:30pm		
(Signature) (Time)	(Signature) (Time)	(Signature) (Time)
Gil Van Deventer 8-20-99		
(Printed Name) (Date)	(Printed Name) (Date)	(Printed Name) (Date)
TRW Inc.		
(Company)	(Company)	(Company)
Received By: (1)	**Received By: (2)**	**Received By: (3)**
12:30pm		
(Signature) (Time)	(Signature) (Time)	(Signature) (Time)
8/21/99		
(Printed Name) (Date)	(Printed Name) (Date)	(Printed Name) (Date)
J Taylor		
(Company)	(Company)	(Company)
Trace Analysis		

Distribution: White, Canary-Laboratory / Pink-TRW

Q1

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

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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Midland, Texas 79701
(915) 682-0008
FAX (915) 682-0028

SUBMITTED BY:

Gilbert J. Van Deventer, REM
Project Manager

DATE: 11/24/98

Dale T. Littlejohn
Quality Assurance Officer

DATE: 11/30/98

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FIGURES

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APPENDICES

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 1foot 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.

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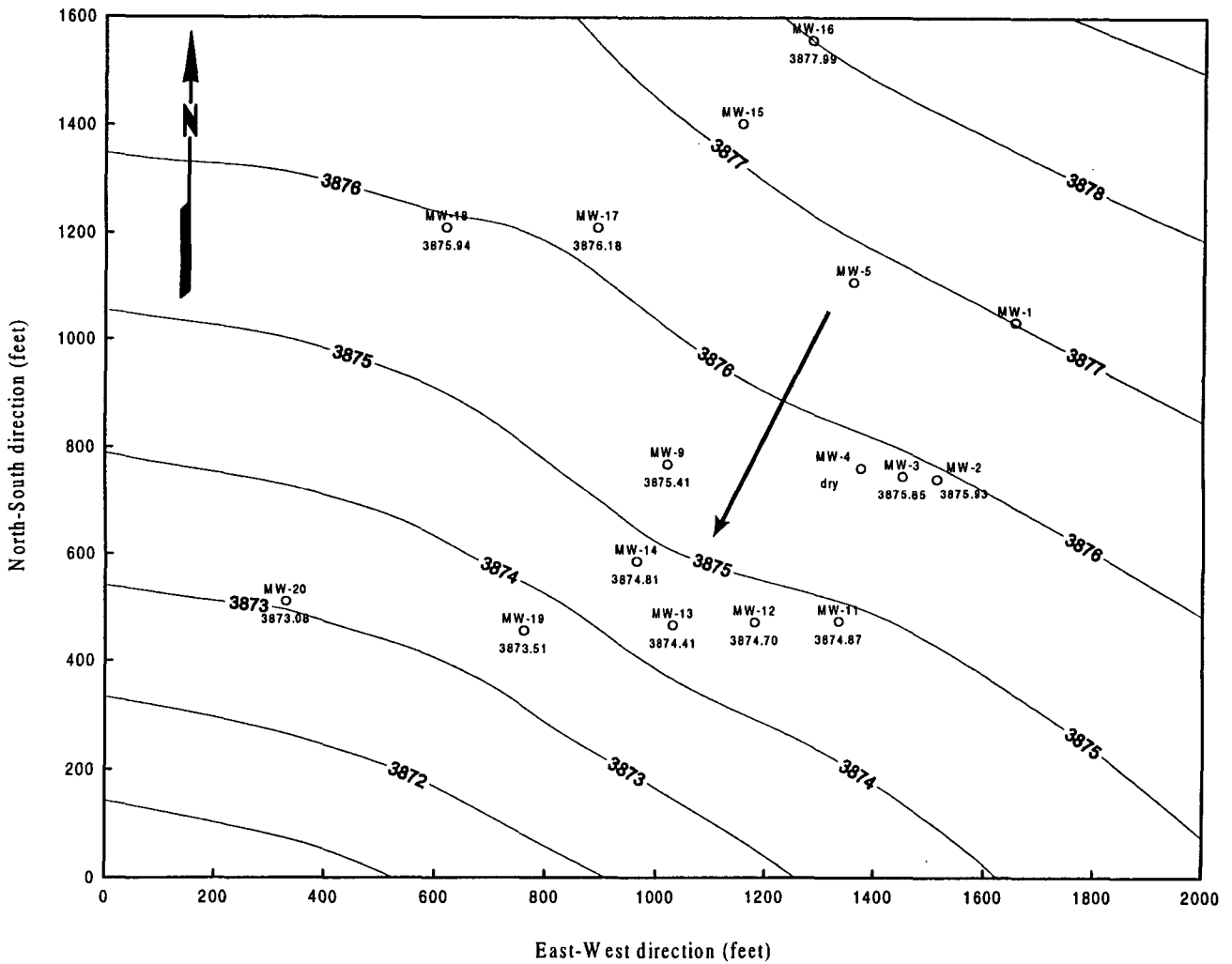

Measurements Obtained on 01/19/98 Contour Interval = 1.00 feet Hydraulic Gradient = 0.004 ft/ft (SW) S:/PROJECTS/3023/LEEGW/Jan98.SRF	TRW	SITE: GPM - LEE PLANT DATE: 1/19/98 REV. NO. 1 AUTHOR: GJV DRN BY: JH CK'D BY: DTL SCALE: 1" = 300'.	**FIGURE 1a** **WATER TABLE** **ELEVATION MAP**

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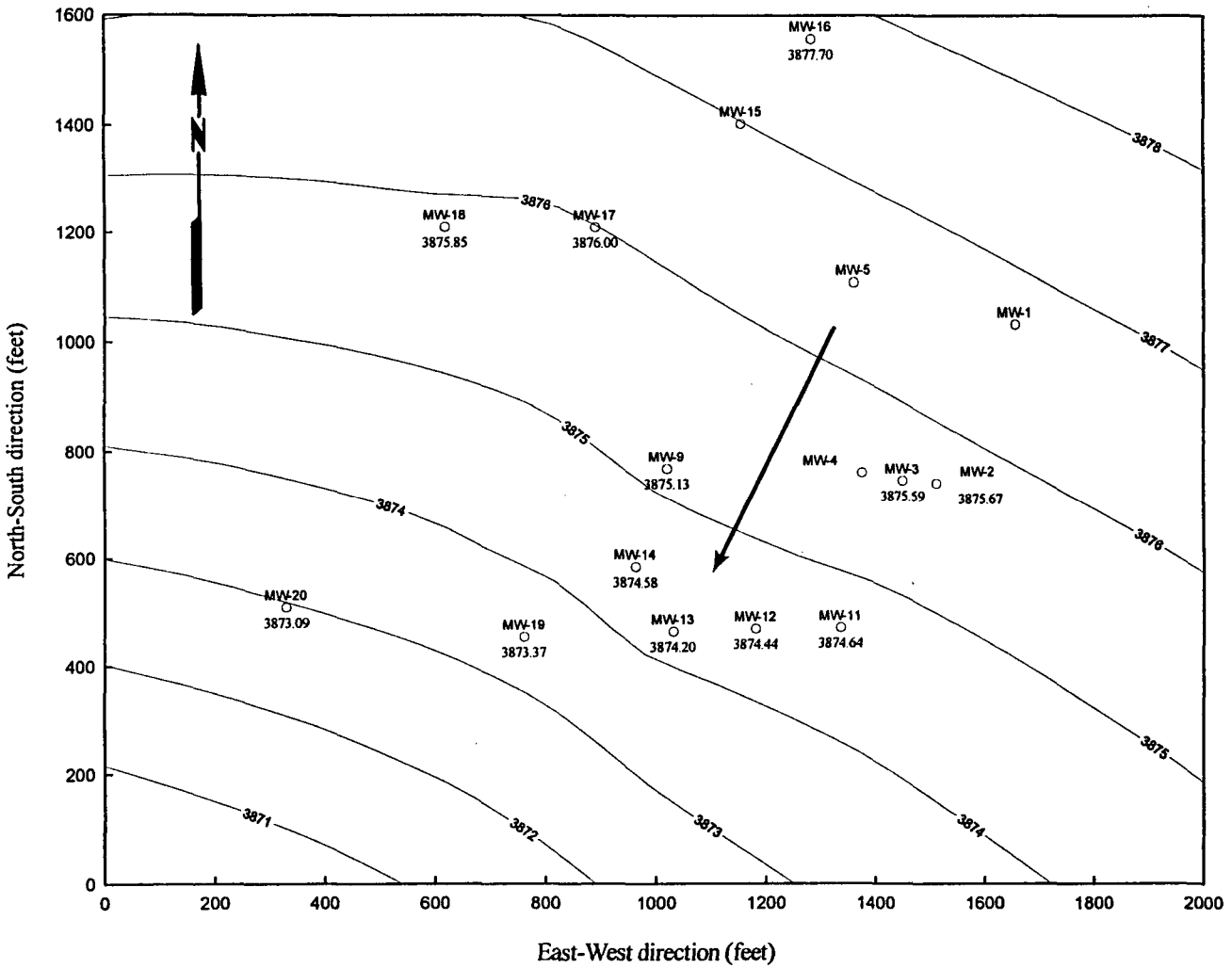


Measurements Obtained on 08/03/98 Contour Interval = 1.00 feet *Hydraulic Gradient = 0.004 ft/ft (SW)* S:/PROJECTS/3023/LEEGW/aug98.SRF	TRW	SITE: GPM - LEE PLANT DATE: 8/3/98 REV. NO. 1 AUTHOR: GJV DRN BY: JH CK'D BY: DTL SCALE: 1" = 300'.	**FIGURE 1b** **WATER TABLE ELEVATION MAP**

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

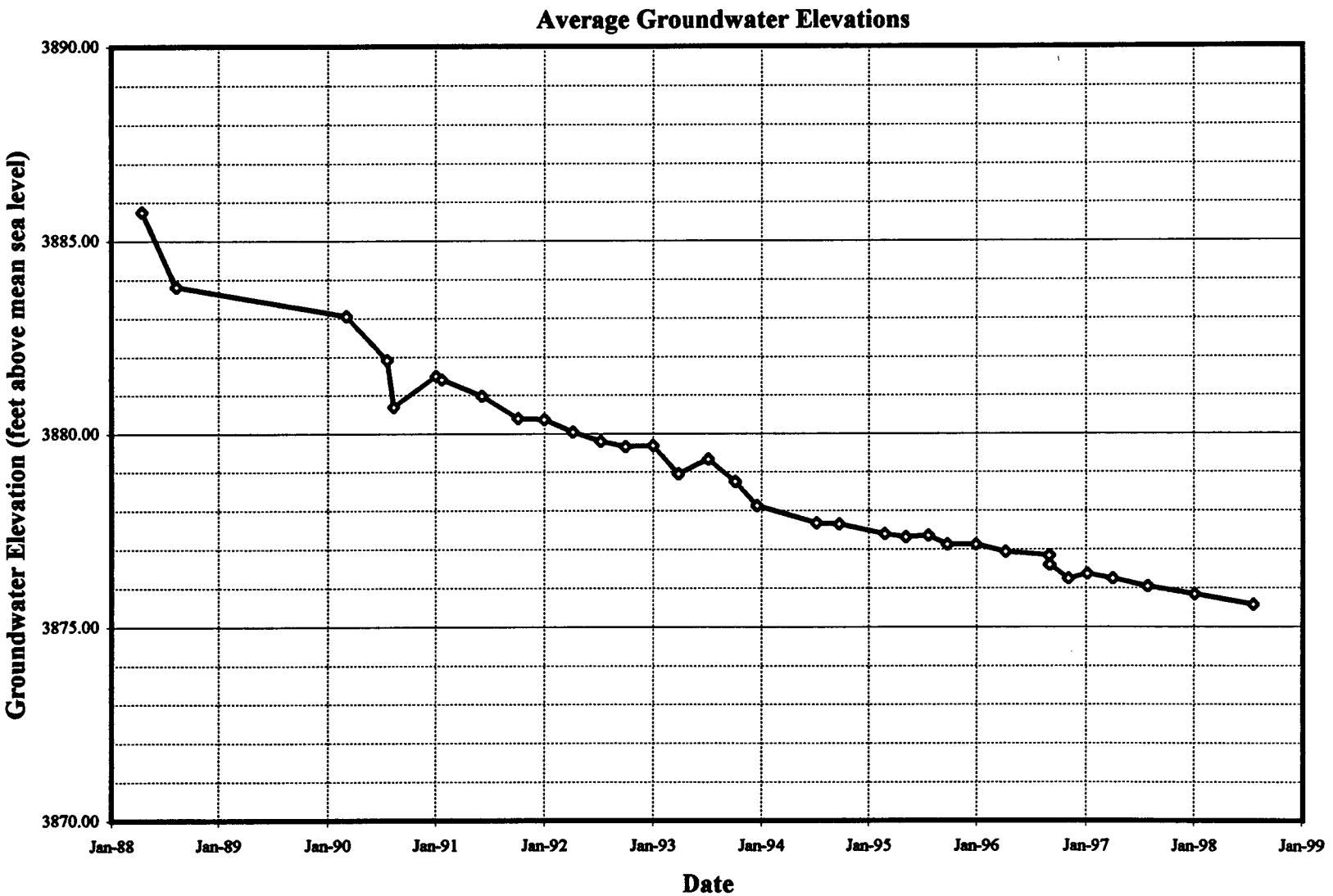

Average Groundwater Elevations
Groundwater Elevation (feet above mean sea level)
3890.00
3885.00
3880.00
3875.00
3870.00
Jan-88
Jan-89
Jan-90
Jan-91
Jan-92
Jan-93
Jan-94
Jan-95
Jan-96
Jan-97
Jan-98
Jan-99
Date

Figure 2b

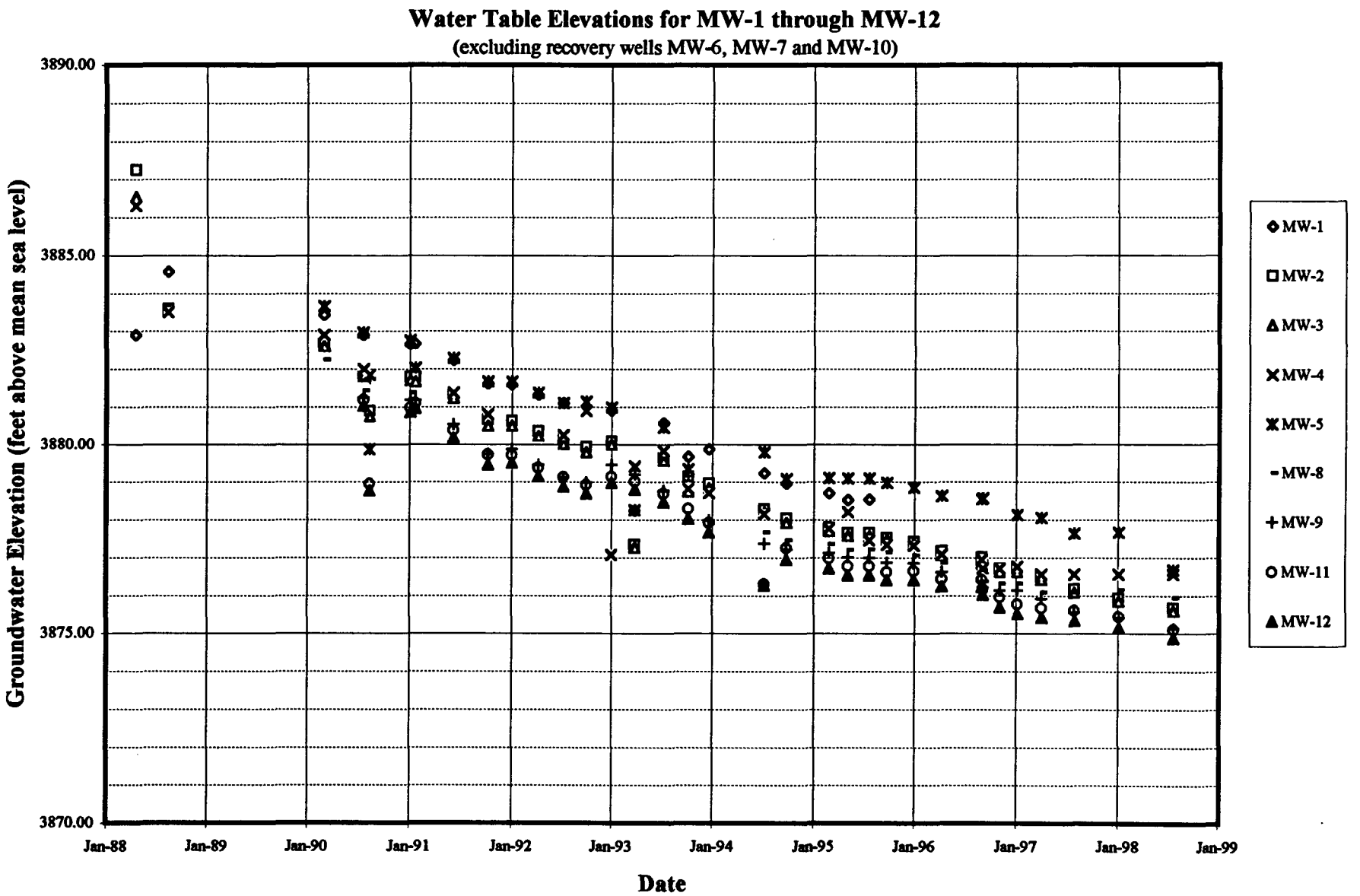
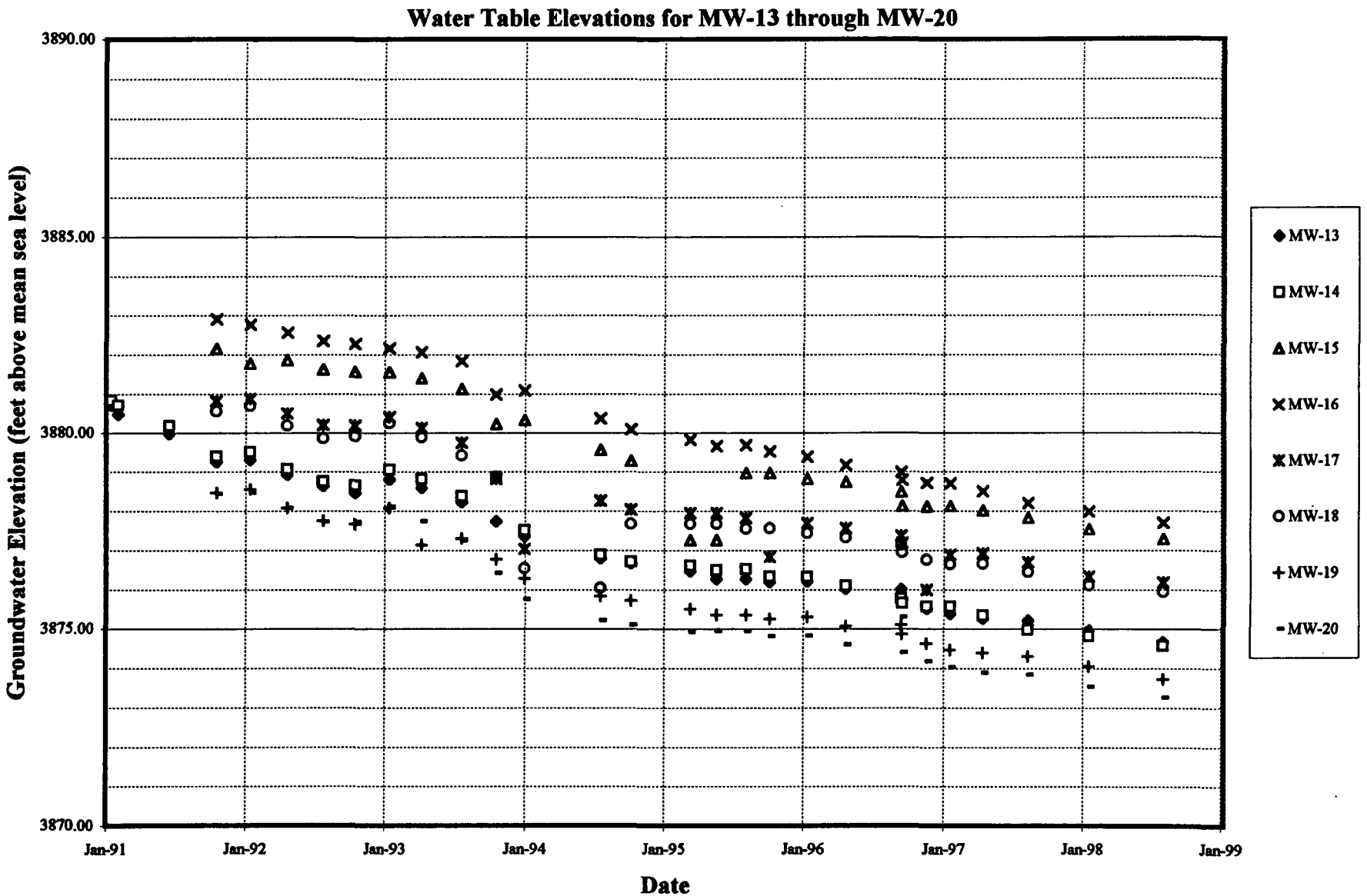

Water Table Elevations for MW-1 through MW-12
(excluding recovery wells MW-6, MW-7 and MW-10)
Groundwater Elevation (feet above mean sea level)
3890.00
3885.00
3880.00
3875.00
3870.00
Jan-88
Jan-89
Jan-90
Jan-91
Jan-92
Jan-93
Jan-94
Jan-95
Jan-96
Jan-97
Jan-98
Jan-99
Date
MW-1
MW-2
MW-3
MW-4
MW-5
MW-8
MW-9
MW-11
MW-12

Figure 2 c


Water Table Elevations for MW-13 through MW-20
Groundwater Elevation (feet above mean sea level)
3890.00
3885.00
3880.00
3875.00
3870.00
Jan-91
Jan-92
Jan-93
Jan-94
Jan-95
Jan-96
Jan-97
Jan-98
Jan-99
Date
MW-13
MW-14
MW-15
MW-16
MW-17
MW-18
MW-19
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 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

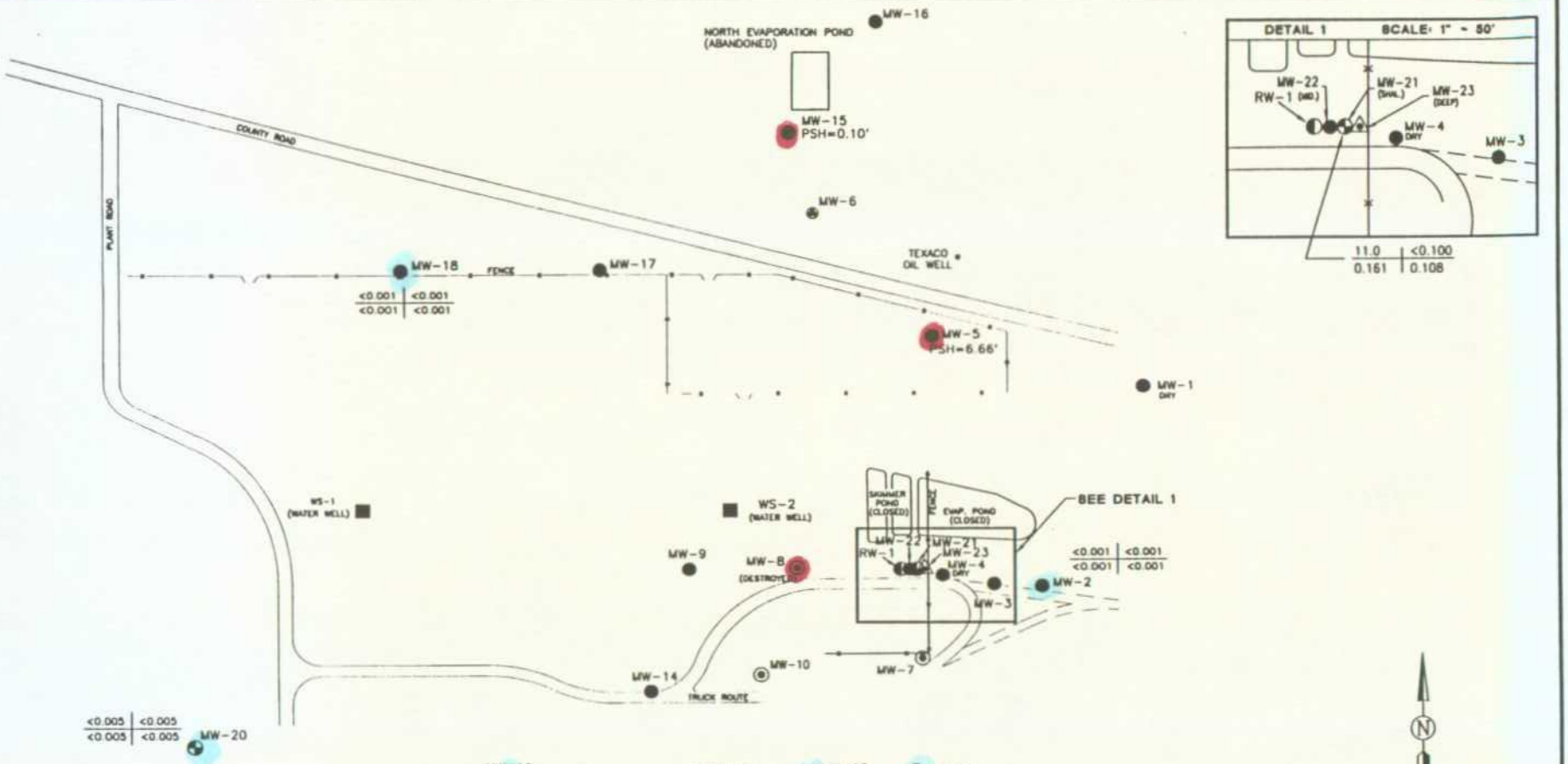
Monitoring Well	Date Sampled	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Xylenes (mg/l)
MW-20	10/29/91	**0.080**	0.041	0.003	0.003
	1/23/92	<0.001	<0.001	<0.001	<0.001
	7/30/92	**0.22**	0.076	0.006	0.006
	1/20/93	<0.001	<0.001	<0.001	<0.001
	4/15/93	0.001	<0.001	<0.001	0.002
	7/20/93	**0.217**	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**
	1/20/98	**11.0**	<0.100	<0.100	<0.100
	8/6/98	<0.001	<0.001	<0.001	<0.001
MW-22	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
	8/13/97	0.002	0.001	<0.001	<0.001
	8/6/98	<0.001	0.006	<0.001	<0.001
MW-23	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.



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 | T
E | X

B = BENZENE
T = TOLUENE
E = ETHYLBENZENE
X = TOTAL XYLENES
} CONCENTRATIONS IN mg/L

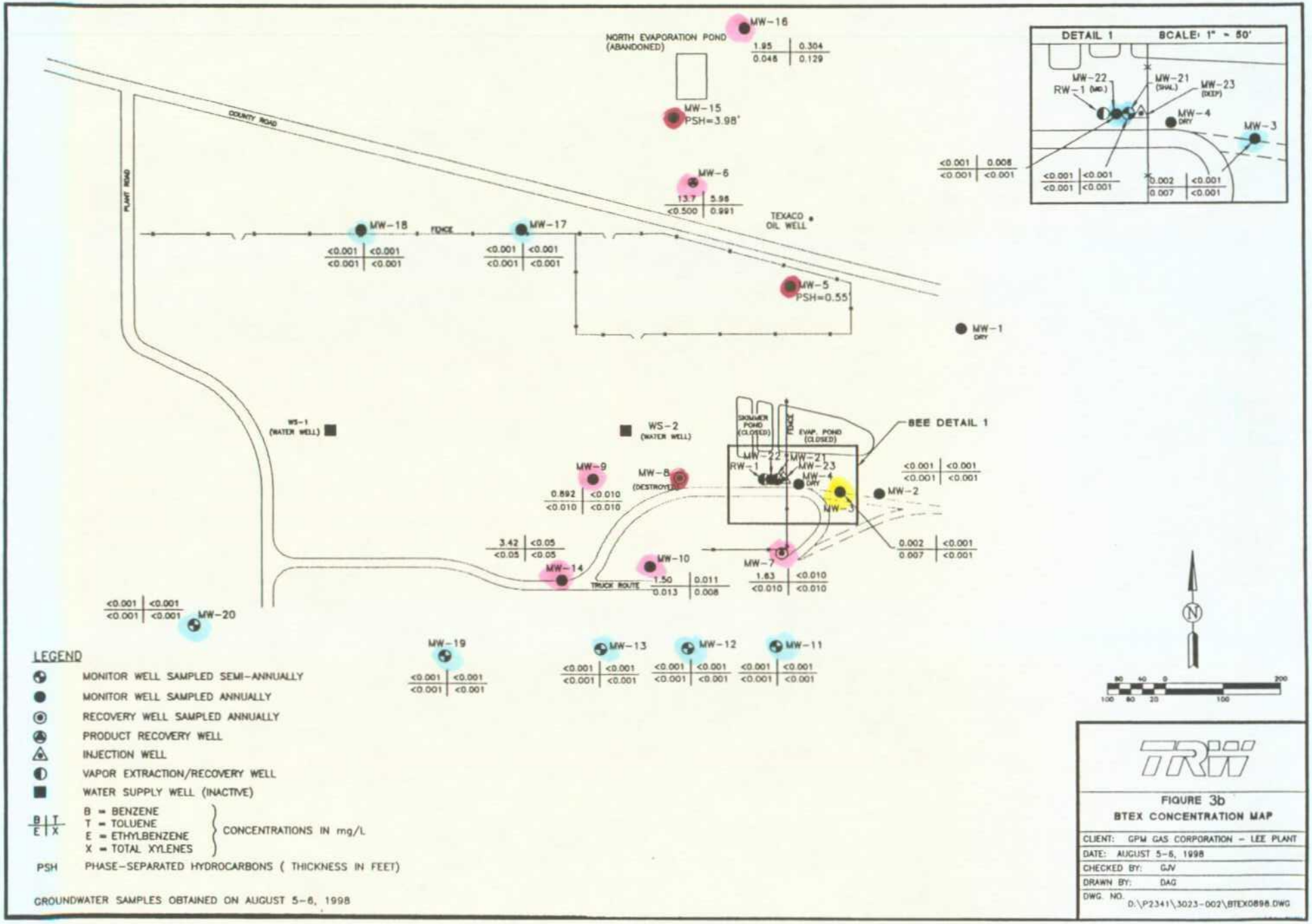
PSH PHASE-SEPARATED HYDROCARBONS (THICKNESS IN FEET)

GROUNDWATER SAMPLES OBTAINED ON JANUARY 19 and 20, 1998.

BDM

FIGURE 3a
BTEX CONCENTRATION MAP

CLIENT:	GPM GAS CORPORATION - LEE PLANT
DATE:	JANUARY 19 and 20, 1998
CHECKED BY:	GJV
DRAWN BY:	DAG
DWG. NO.	D:\P2341\BTEXD198.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 | T
E | X — B = BENZENE, T = TOLUENE, E = ETHYLBENZENE, X = TOTAL XYLENES } CONCENTRATIONS IN mg/L

PSH — PHASE-SEPARATED HYDROCARBONS (THICKNESS IN FEET)

GROUNDWATER SAMPLES OBTAINED ON AUGUST 5-6, 1998

TRW

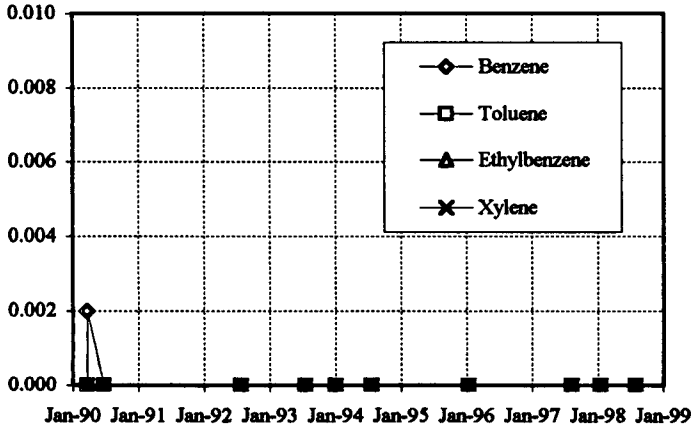
FIGURE 3b
BTEX CONCENTRATION MAP

CLIENT:	GPM GAS CORPORATION - LEE PLANT
DATE:	AUGUST 5-6, 1998
CHECKED BY:	GJV
DRAWN BY:	DAG
DWG. NO.	D:\P2341\3023-002\BTEX0898.DWG

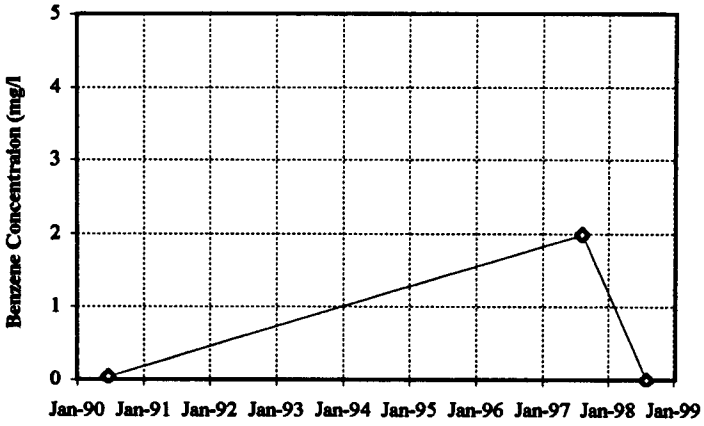
Figure 4a
Hydrocarbon Concentrations Versus Time

(Central Area Wells)

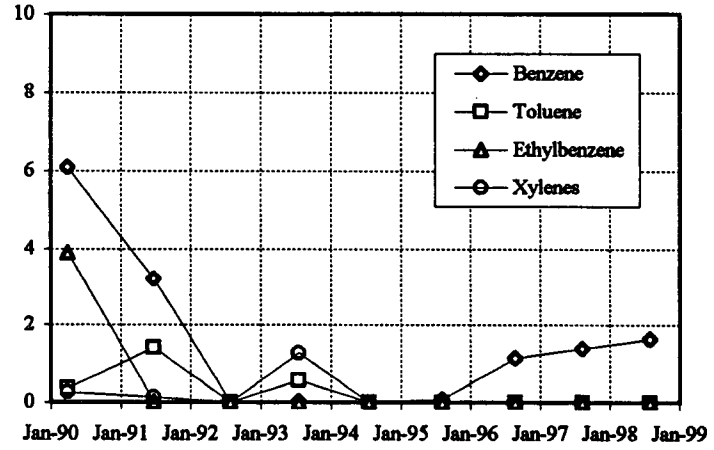
MW-2



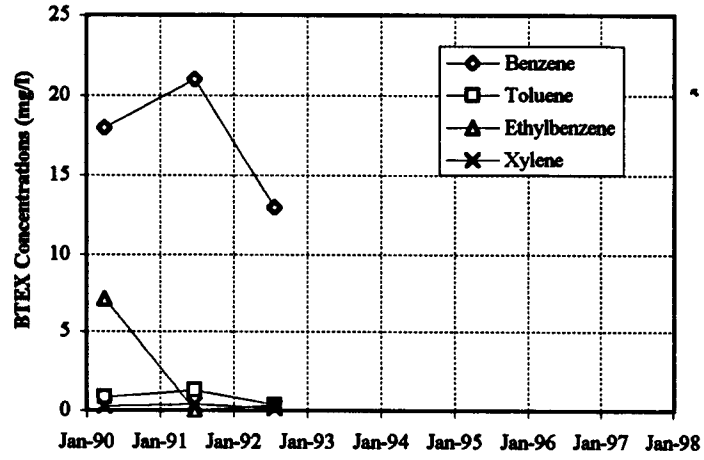
MW-3



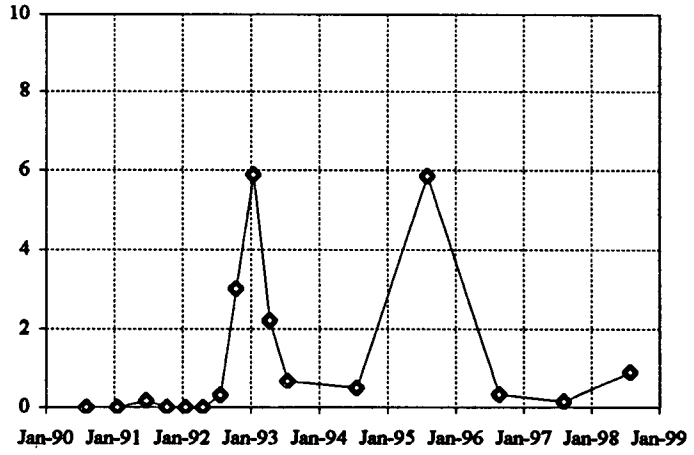
MW-7



MW-8



MW-9



MW-10

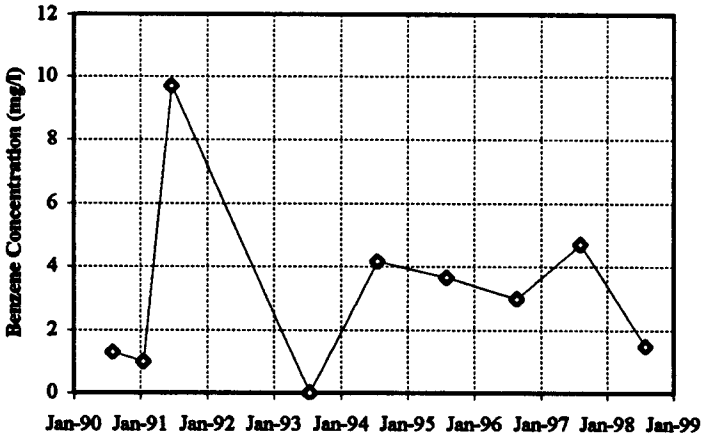


Figure 4a
Hydrocarbon Concentrations Versus Time

(Central Area Wells)

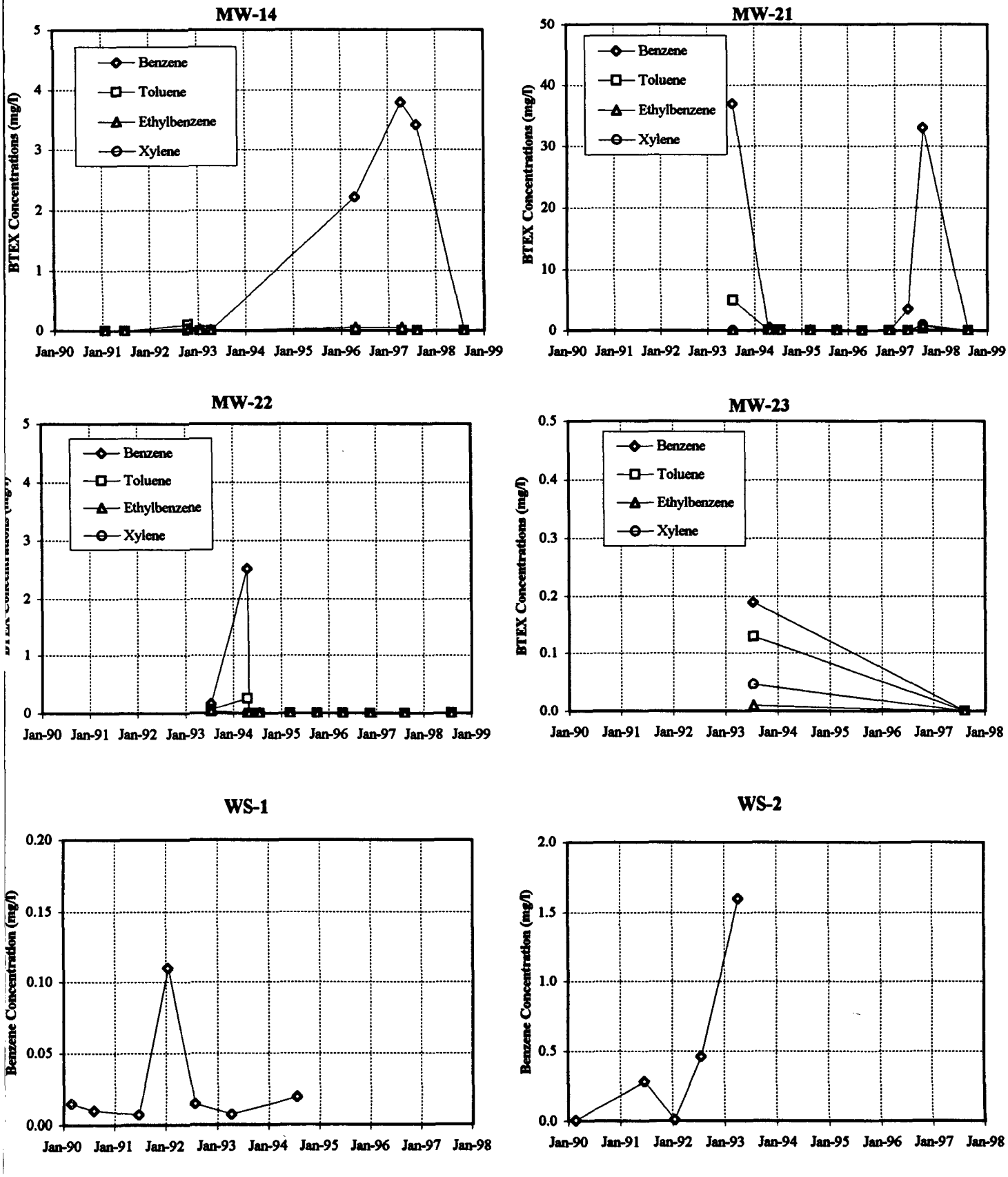
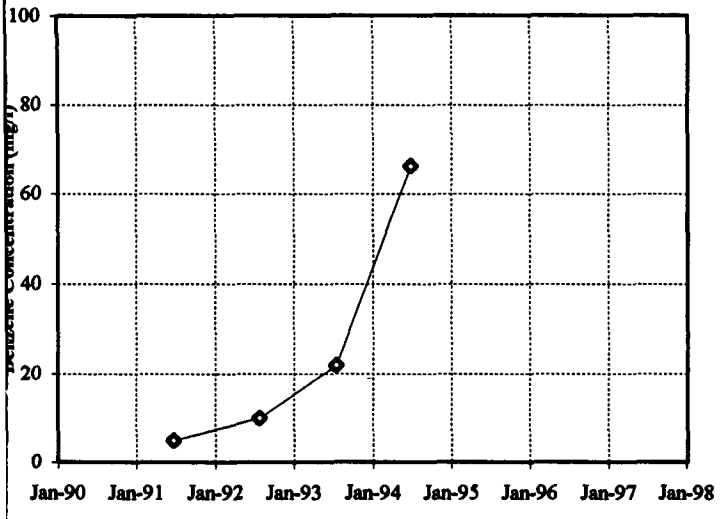


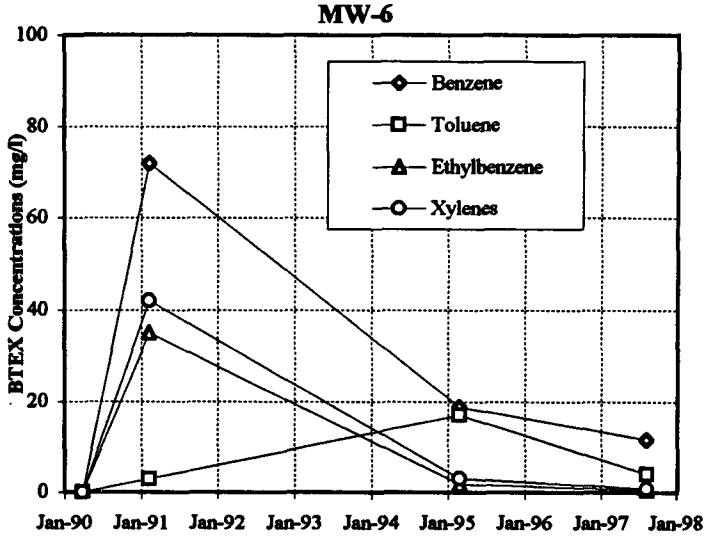
Figure 4b
Hydrocarbon Concentrations Versus Time

(North Area Wells)

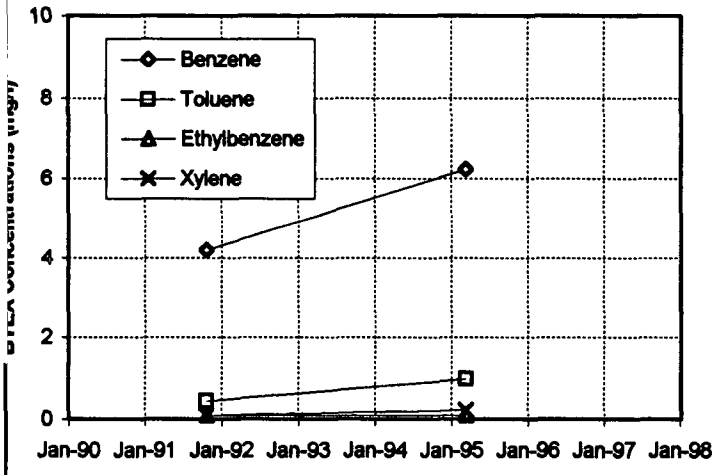
MW-5



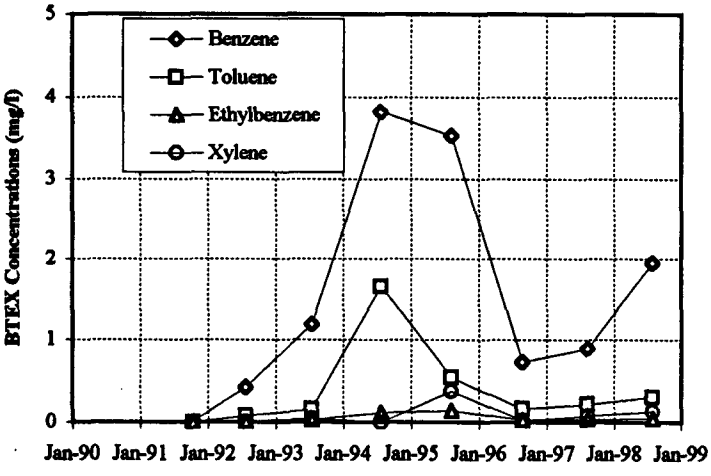
MW-6



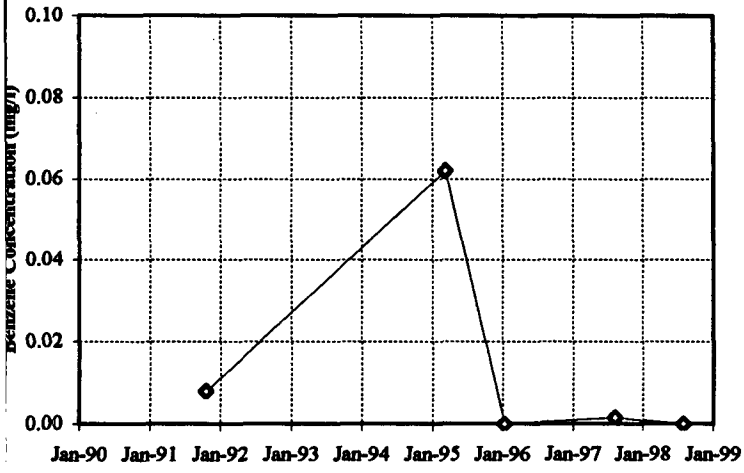
MW-15



MW-16



MW-17



MW-18

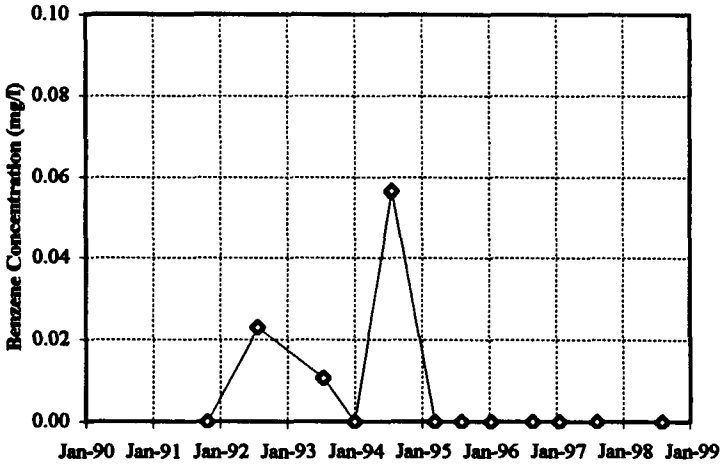
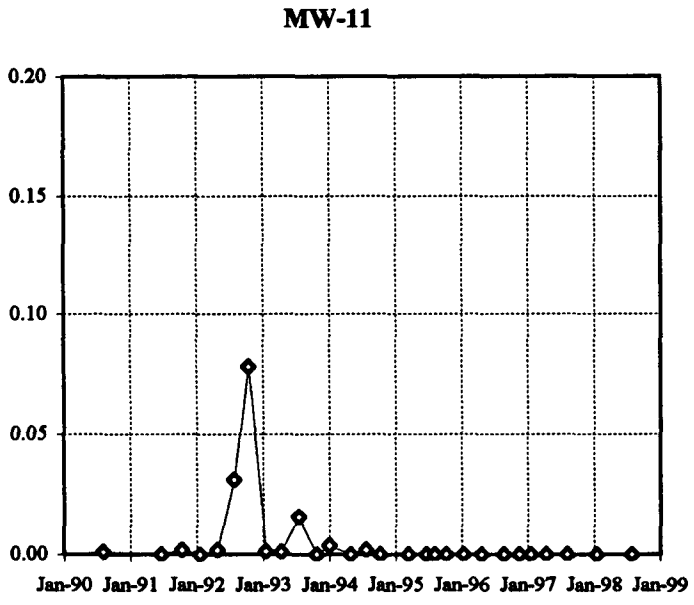
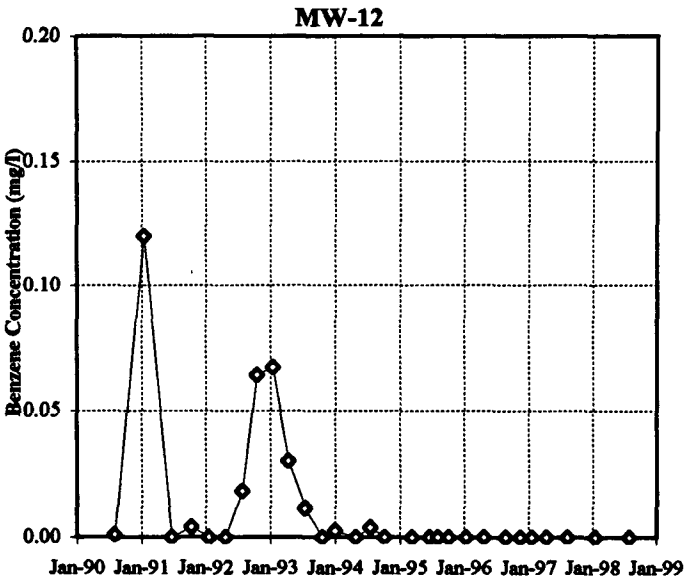
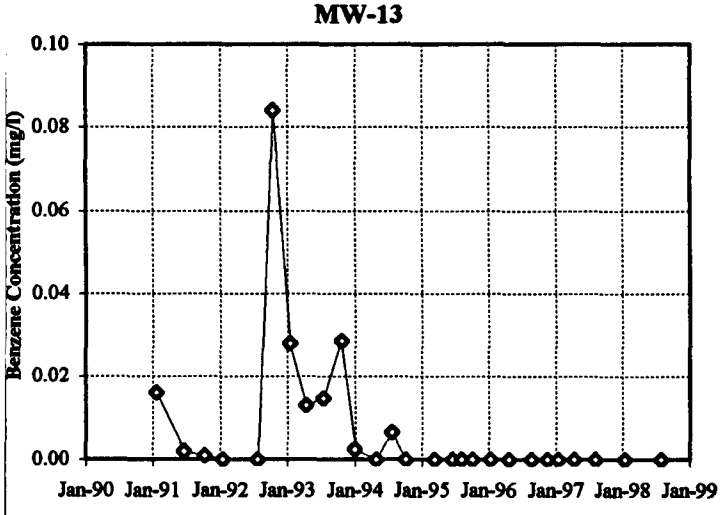


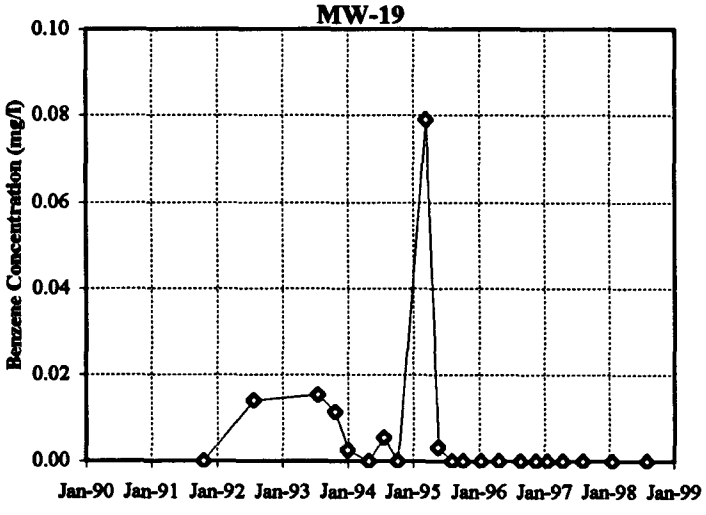
Figure 4c
Hydrocarbon Concentrations Versus Time

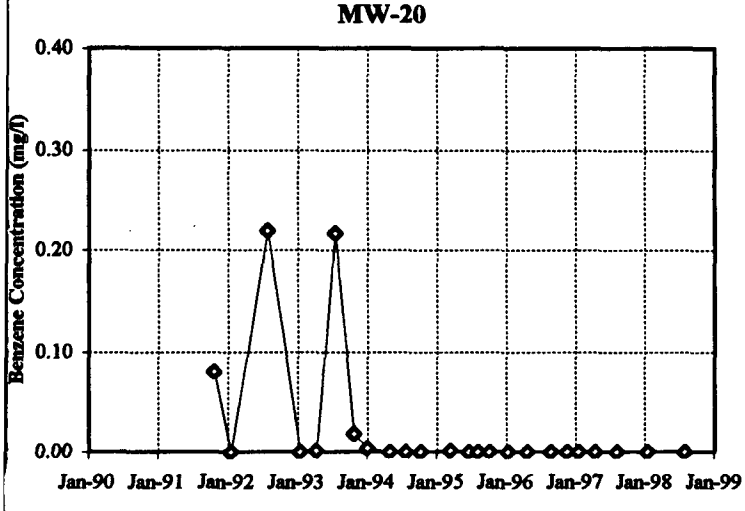
(Downgradient - South Area Wells)











6.0 Remediation System Performance

The remediation system at the Lee Gas Plant consists of 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.

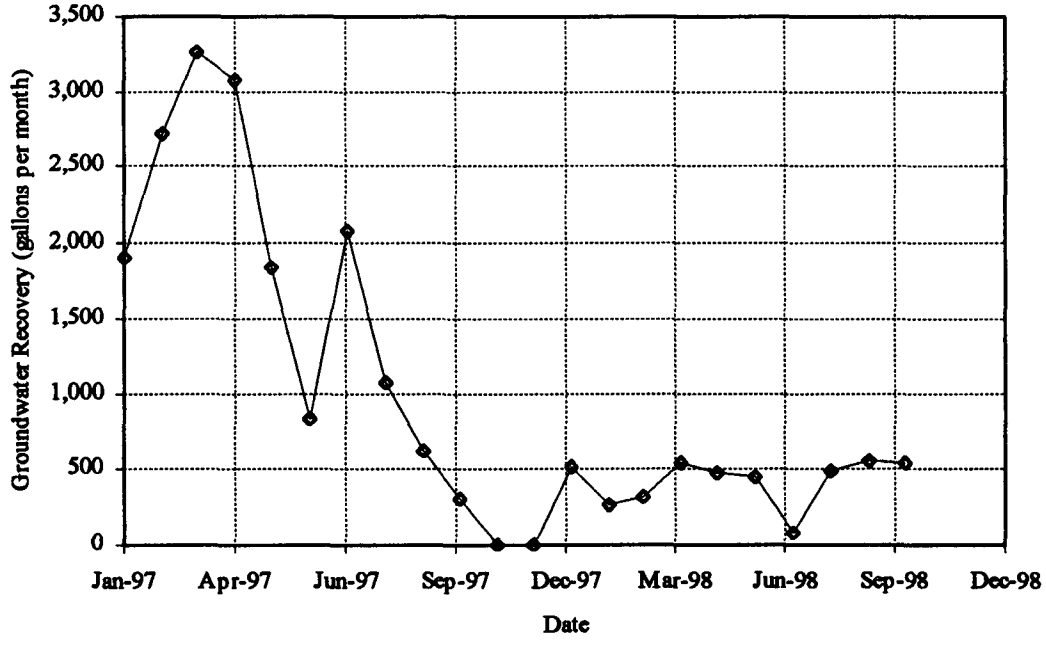
The groundwater recovery, air sparging, and vapor extraction systems have been effective in limiting the downgradient migration of the dissolved-phase hydrocarbon plume. Also, the groundwater recovery system, Xitech product recovery system, passive skimmer, and hand bailing techniques have been effective 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 occassional malfunction of digital meters.

Figure 5
Total Fluid Extraction Volumes for 1997 and 1998
GPM - Lee Plant



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 1foot 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 BTEX (mg/L)
104469	98 08 05 1030 MW-20	Water	<0.001	<0.001	<0.001	<0.001	<0.001
104470	98 08 05 1210 MW-19	Water	<0.001	<0.001	<0.001	<0.001	<0.001
104471	98 08 05 1350 MW-13	Water	<0.001	<0.001	<0.001	<0.001	<0.001
104472	98 08 05 1445 MW-12	Water	<0.001	<0.001	<0.001	<0.001	<0.001
104473	98 08 05 1555 MW-2	Water	<0.001	<0.001	<0.001	<0.001	<0.001
104474	98 08 05 1600 MW-11	Water	<0.001	<0.001	<0.001	<0.001	<0.001
104475	98 08 05 1650 MW-3	Water	0.002	<0.001	0.007	<0.001	0.009
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			0	0	1	0	
% Extraction Accuracy			103	100	100	107	
% Instrument Accuracy			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 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 - 8/6/98
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 BTEX (mg/L)
104477	98 08 05 1800 MW-7	Water	1.63	<0.010	<0.010	<0.010	1.63
104482	98 08 06 1355 MW-9	Water	0.892	<0.010	<0.010	<0.010	0.892
Method Blank			<0.001	<0.001	<0.001	<0.001	
Reporting Limit			0.001	0.001	0.001	0.001	
QC			0.100	0.097	0.099	0.308	
RPD			0	0	0	0	
% Extraction Accuracy			107	104	106	113	
% Instrument Accuracy			100	97	99	103	

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

Director, Dr. Blair Leftwich

8-18-98
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 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 - 8/6/98
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 BTEX (mg/L)
104476	98 08 05 1810 MW-18	Water	<0.001	<0.001	<0.001	<0.001	<0.001
104478	98 08 05 1745 MW-6	Water	13.7	5.96	<0.500	0.991	20.7
104479	98 08 06 0830 MW-17	Water	<0.001	<0.001	<0.001	<0.001	<0.001
104480	98 08 06 1050 MW-22	Water	<0.001	0.006	<0.001	<0.001	0.006
104481	98 08 06 1330 MW-21	Water	<0.001	<0.001	<0.001	<0.001	<0.001
104483	98 08 06 1200 Duplicate	Water	0.003	<0.001	<0.001	<0.001	0.003
104484	98 08 06 1500 MW-14	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			0	0	1	0	
% Extraction Accuracy			103	100	100	107	
% Instrument Accuracy			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

8-18-98
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 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: 8/6/98
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 BTEX (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

Director, Dr. Blair Leftwich

8-18-98
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 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: 8/6/98
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 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	
Reporting Limit			0.001	0.001	0.001	0.001	
QC			0.093	0.089	0.091	0.279	
RPD			7	6	6	6	
% Extraction Accuracy			100	97	97	103	
% Instrument Accuracy			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

8-18-98
Date

BDM

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

Δ 104479 from MW 7 → MW 17
per Gil V.D. 8-18-98

155

13238

Chain of Custody

Date 8-6-98 Page 2 Of 2

Lab Name Trace Analysis
Address 6701 Aberdeen
Lubbock, Tx 79424
Telephone (806) 794-1296

Samplers (SIGNATURES) Gil VanDeventer John Taylor

	Sample Number	Matrix	Location	Halogenated Volatiles 601/8010	Aromatic Volatiles 602/8020 BTEX	Phenols, Sub Phenols 604/8040	Pesticides/PCB 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	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)					Number of Containers
79	98 08 06 0830	Water	MW-17 MW→ 8-18-98		√																								2
80	98 08 06 1050	Water	MW-22		√																								2
81	98 08 06 1330	Water	MW-21		√																								2
82	98 08 06 1355	Water	MW-9		√																								2
83	98 08 06 1200	Water	Duplicate		√																								2
84	98 08 06 1500	Water	MW-14		√																								2
85	98 08 06 1745	Water	MW-16		√																								2
86	98 08 06 1930	Water	MW-10		√																								2
87	98 08 06 1900	Water	Rinsate/6		√																								2
88			Trip Blank		√																								2

Analysis Request

Project Information

Project: GPM-Lee Plant
Project Director: G. VanDeventer
Charge Code No.: LEEGWR-20-300
Shipping ID. No.:
Via: Greyhound

Sample Receipt

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

Special Instructions/Comments: Bill GPM direct (Mel Driver)

	Relinquished By	Received By
1.	Gil VanDeventer 6:30pm (Signature) (Time)	Debra Shelton 6:45PM (Signature) (Time)
	G. Van Deventer 8/7/98 (Printed Name) (Date)	HELEN SHELTON 8/7/98 (Printed Name) (Date)
	TRW (BOM) (Company)	TRACE ANALYSIS (Company)
2.	Debra Shelton 6:45PM (Signature) (Time)	(Signature) (Time)
	HELEN SHELTON 8/7/98 (Printed Name) (Date)	(Printed Name) (Date)
	TRACE ANALYSIS (Company)	(Company)
3.	(Signature) (Time)	(Signature) (Time)
	(Printed Name) (Date)	James Taylor 8/8/98 (Printed Name) (Date)
	(Company)	Trace Analysis (Laboratory)

Distribution: White, Canary-Laboratory • Pink, BDM

1-C

BDM

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

155

13237

Chain of Custody

Date 8/5/98 Page 1 Of 2

Lab Name Trace Analysis Inc.
Address 6701 Aberdeen
Lubbock, Tx 79424
Telephone 806/794-1296

Samplers (SIGNATURES) Gil Van Deventer John Teague

Analysis Request

Sample Number	Matrix	Location	Aromatic Volatiles 602/8020 BTEX	Number of Containers
104469 9808051030	Water	MW-20	✓	2
70 98080512 10	Water	MW-19	✓	2
71 98080513 50	Water	MW-13	✓	2
72 98080514 45	Water	MW-12	✓	2
73 98080515 55	Water	MW-2	✓	2
74 98080516 00	Water	MW-11	✓	2
75 98080516 50	Water	MW-3	✓	2
76 98080518 10	Water	MW-18	✓	2
77 98080518 00	Water	MW-7	✓	2
78 98080517 45	Water	MW-6	✓	2

Halogenated Volatiles 601/8010 · Phenols, Sub Phenols 604/8040 · Pesticides/PCB 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 · 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)

Project Information	Sample Receipt
Project GPM-Lee Plant	Total No. of Containers
Project Director G. VanDeventer	Chain of Custody Seals
Charge Code No. LEEGWR-20-300	Rec'd Good Condition/Cold
Shipping ID. No.	Conforms to Record
Via: Greyhound	Lab No.

Special Instructions/Comments: Send invoice to GPM-
(Mel Driver)

Relinquished By 1.	Relinquished By 2.	Relinquished By 3.
Gil Van Dnt 6:30pm (Signature) (Time)	Helen Shelton 6:45PM (Signature) (Time)	(Signature) (Time)
Gil Van Deventer 8/7/98 (Printed Name) (Date)	HELEN SHELTON (Printed Name) (Date)	(Printed Name) (Date)
TRW (BDM) (Company)	TRACE ANALYSIS (Company)	(Company)
Received By 1.	**Received By 2.**	**Received By (Laboratory) 3.**
Helen Shelton 6:30 PM (Signature) (Time)	(Signature) (Time)	(Signature) (Time)
HELEN SHELTON 8/7/98 (Printed Name) (Date)	(Printed Name) (Date)	James Taylor 8/8/98 (Printed Name) (Date)
TRACE ANALYSIS (Company)	(Company)	Trace Analysis (Laboratory)

8/8

Distribution: White, Canary-Laboratory • Pink, BDM

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

13116

Chain of Custody

Date 1-21-98 Page 1 Of 1

Lab Name Trace Analysis
Address 670 I Aberdeen
Lubbock, Tx 79424
Telephone 800 378 1298

Samplers (SIGNATURES) Job Ferguson

Analysis Request

Sample Number	Matrix	Location	Halogenated Volatiles 601/8010	~~Aromatic Volatiles 602/8020~~ BTEX	Phenols, Sub Phenols 604/8040	Pesticides/PCB 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	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)	Number of Containers
9801191610	Water	MW-11		✓				99705																	2
9801200930	Water	MW-12		✓				99706																	2
9801201045	Water	MW-13		✓				99707																	2
9801201133	Water	MW-19		✓				99708																	2
9801201229	Water	MW-20		✓				99709																	2
9801201335	Water	MW-21		✓				99710																	2
9801201350	Water	MW-21D		✓				99711																	2
9801201400	Water	MW-2		✓				99712																	2
9801201425	Water	Rinsate		✓				99713																	2
	Water	Trip Blank		✓				99714																	2

Project Information
Project GPM-Lee Plant
Project Director G. Van Devender
Charge Code No. LEEGWR-20-300
Shipping ID. No.
Via:

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

Relinquished By 1. (Signature) Gil Van Dvr (Time) 1530; (Printed Name) Gil Van Devender (Date) 1/21/98; (Company) BDM International

Relinquished By 2. (Signature) (Time); (Printed Name) (Date); (Company)

Relinquished By 3. (Signature) (Time); (Printed Name) (Date); (Company)

Received By 1. (Signature) (Time); (Printed Name) (Date); (Company)

Received By 2. (Signature) (Time); (Printed Name) (Date); (Company)

Received By (Laboratory) 3. (Signature) Vicki Windham (Time) 9:40 AM; (Printed Name) Vicki Windham (Date) 1-22-98; (Laboratory) Trace Analysis

Special Instructions/Comments: Direct bill to GPM (Mel Driver)
GPM Proj. No. LEE GWR-20-300

Distribution: White, Canary-Laboratory • Pink, BDM

-(498) RAMA ATXNE XLS   Bus 901837. ~~78~~ 7082   2°

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

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

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

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	
REPORTING LIMIT		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

1-27-98
Date

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

NOVEMBER 20, 1997

Prepared For:

GPM Gas Corporation
4044 Penbrook
Odessa, Texas 79762

Prepared By:

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.
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SUBMITTED BY:

Gilbert J. Van Deventer, REM
Project Manager

DATE: 11-20-97

REVIEWED BY:

for Michael W. Selke, RG
Senior Program Director

DATE: 11-20-97

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FIGURES

TABLES

APPENDICES

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 Inchcape 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.

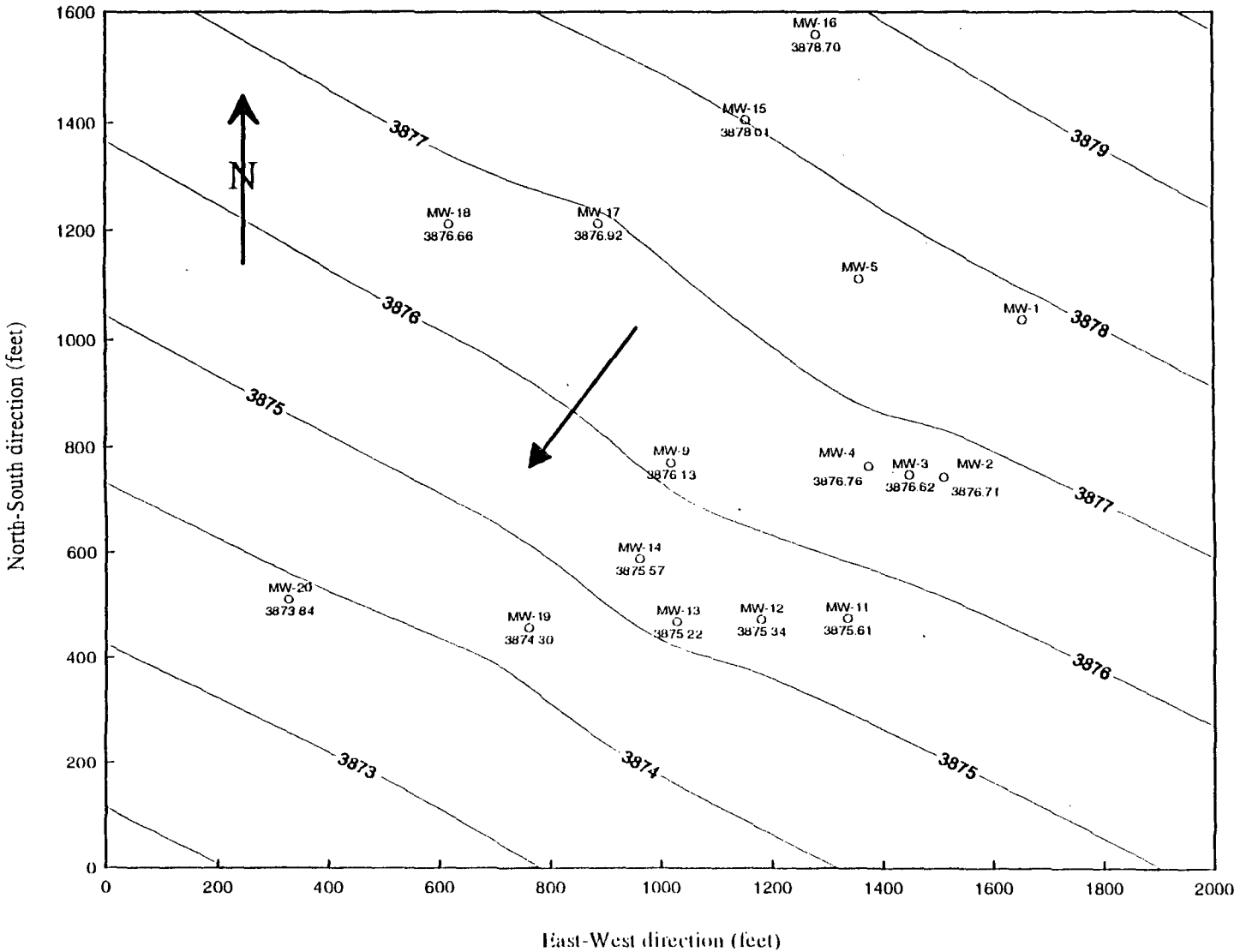
- The depth to the water table across the site varies from approximately 100 to 105 feet below ground surface
- The hydraulic gradient is approximately 0.004 feet/foot
- The direction of groundwater flow is to the southwest

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.

D:\3023\LEE\GWMAP



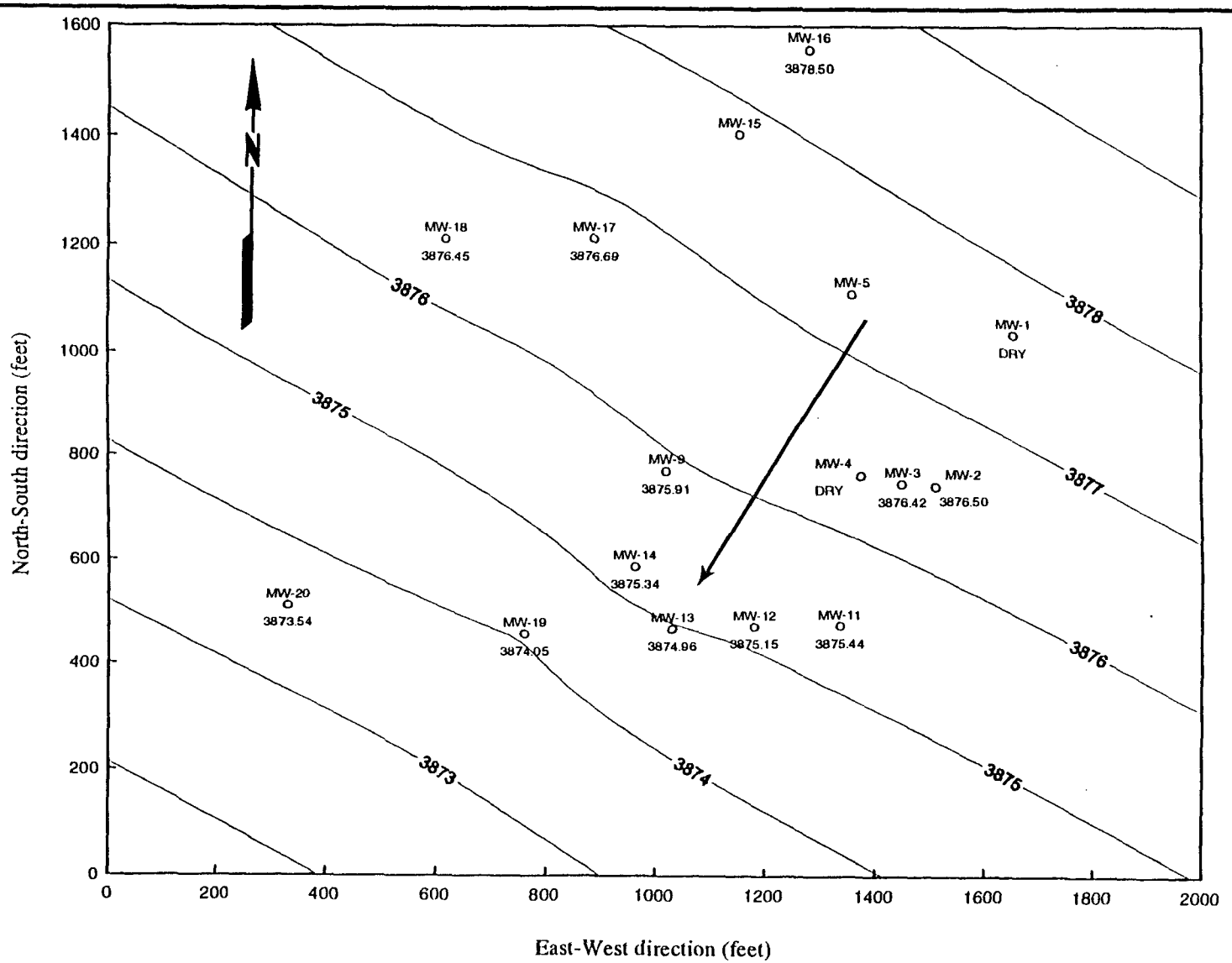
Measurements Obtained on 1/21/97
Contour Interval = 1.00 feet
Hydraulic Gradient = 0.0037 ft/ft (SW)

BDM

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

D:\13023\LEEGWMAP



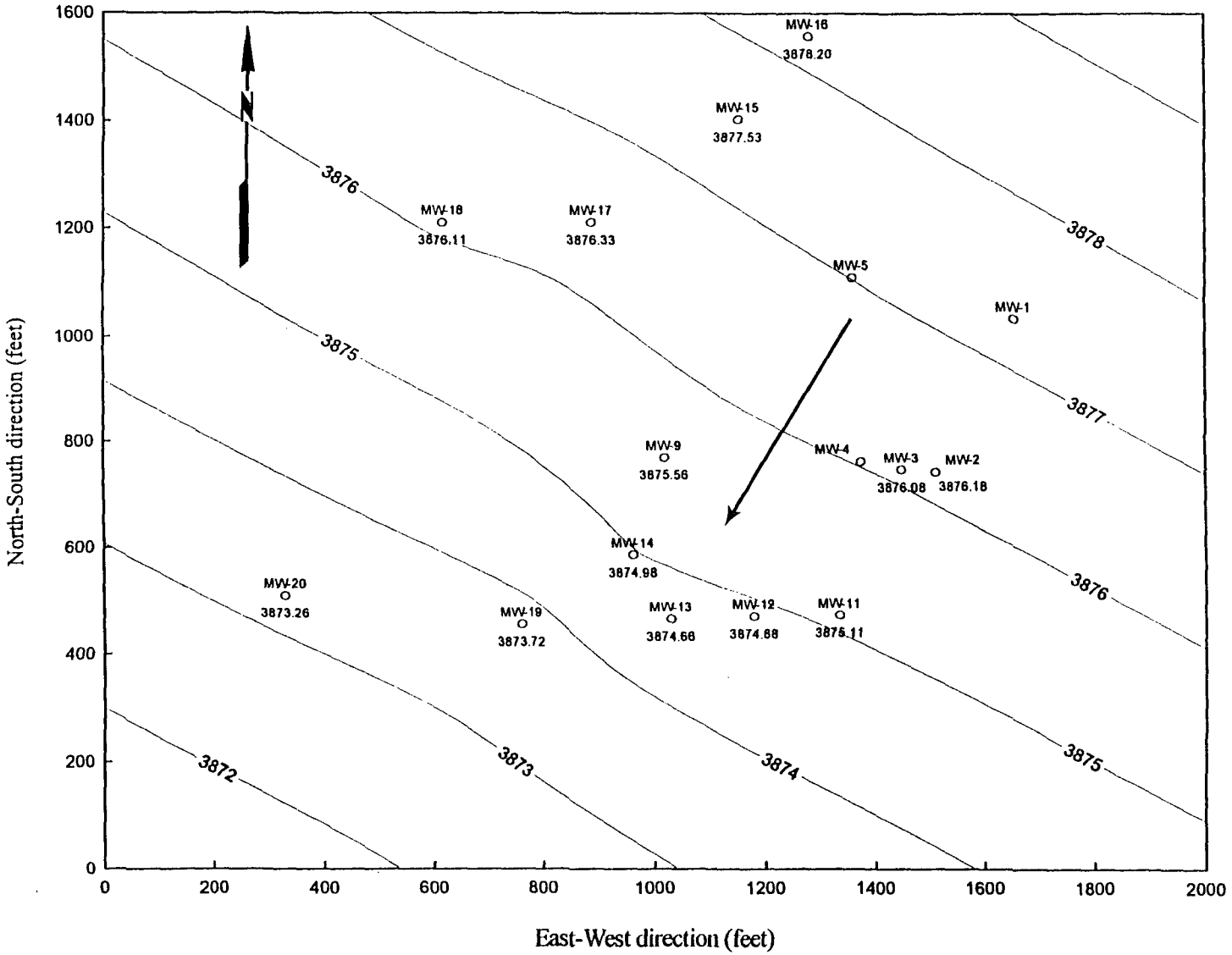
Measurements Obtained on 4/17/97
Contour Interval = 1.00 feet
Hydraulic Gradient = 0.004 ft/ft (SW)

BDM

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

FIGURE 1b
WATER TABLE ELEVATION MAP

D:\3023\LEEGWMAP



Measurements Obtained on 8/12/97
Contour Interval = 1.00 feet
Hydraulic Gradient = 0.004 ft/ft (SW)

BDM

SITE:	GPM - LEE PLANT		
DATE:	8/12/97	REV. NO.	1
AUTHOR:	GJV	DRN BY:	JH
CK'D BY:	MWS	SCALE:	1" = 300'.

FIGURE 1c
WATER TABLE ELEVATION MAP

Figure 2a

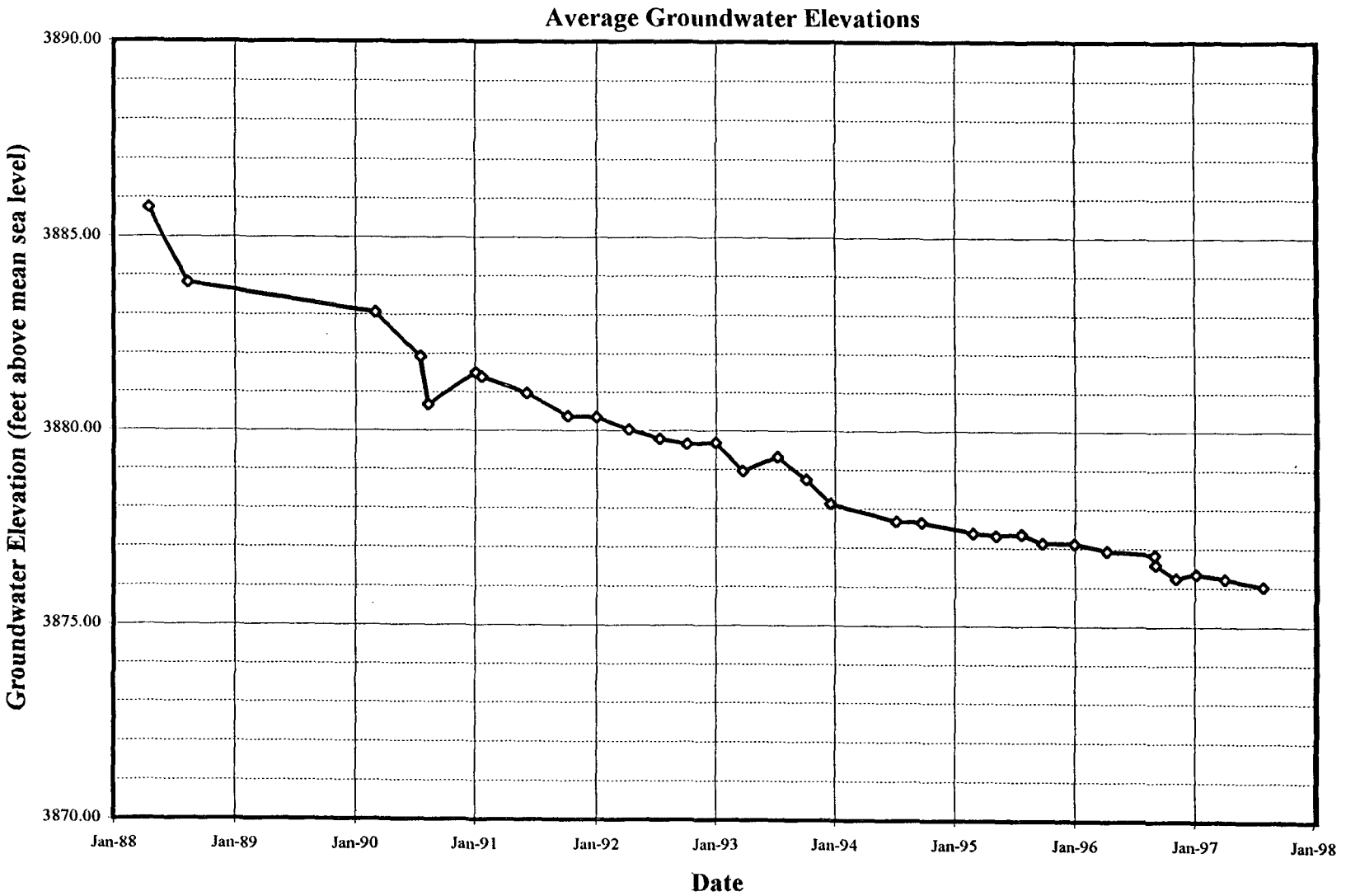

Average Groundwater Elevations
Groundwater Elevation (feet above mean sea level)
3890.00
3885.00
3880.00
3875.00
3870.00
Jan-88
Jan-89
Jan-90
Jan-91
Jan-92
Jan-93
Jan-94
Jan-95
Jan-96
Jan-97
Jan-98
Date

Figure 2b

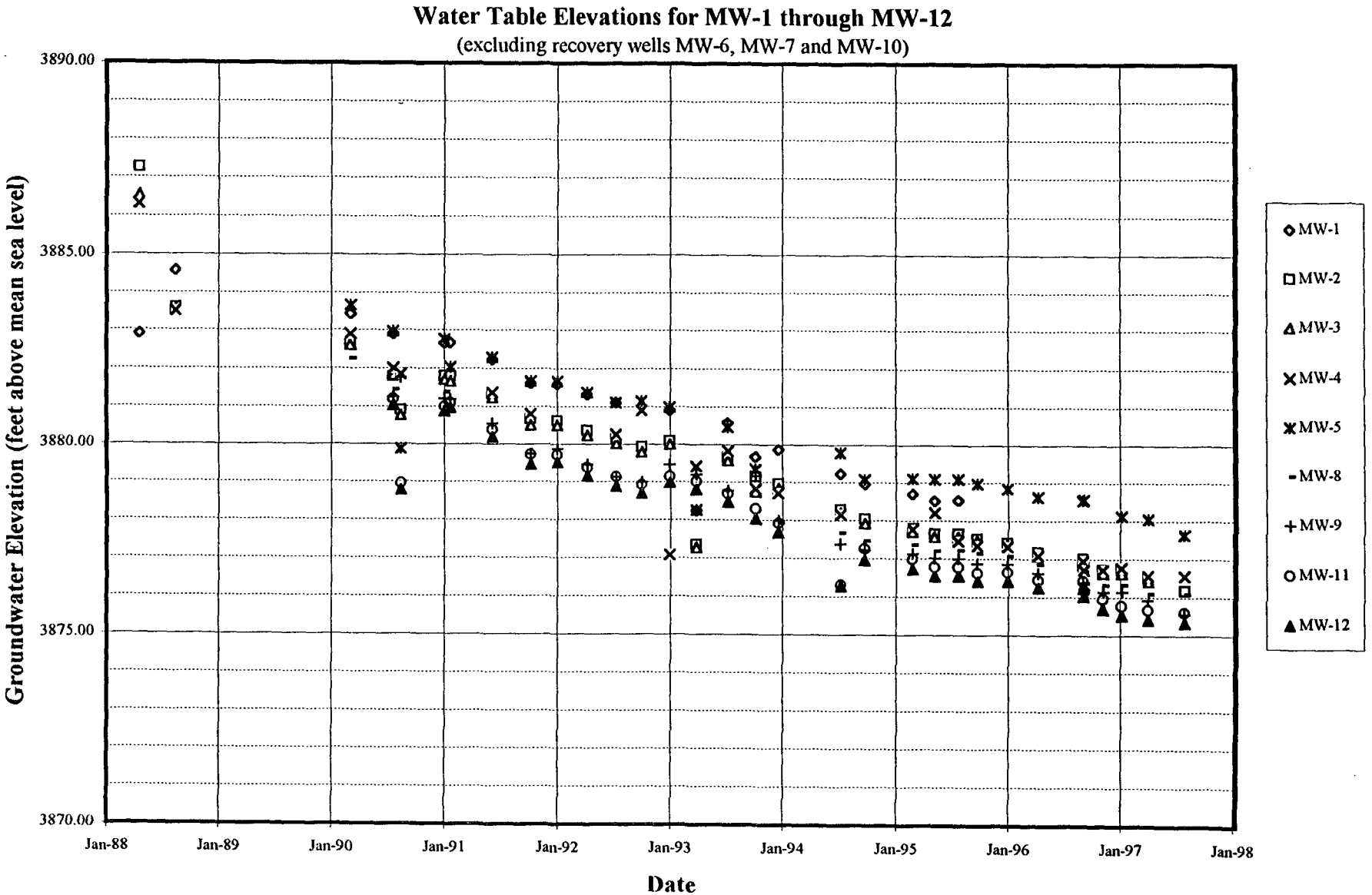
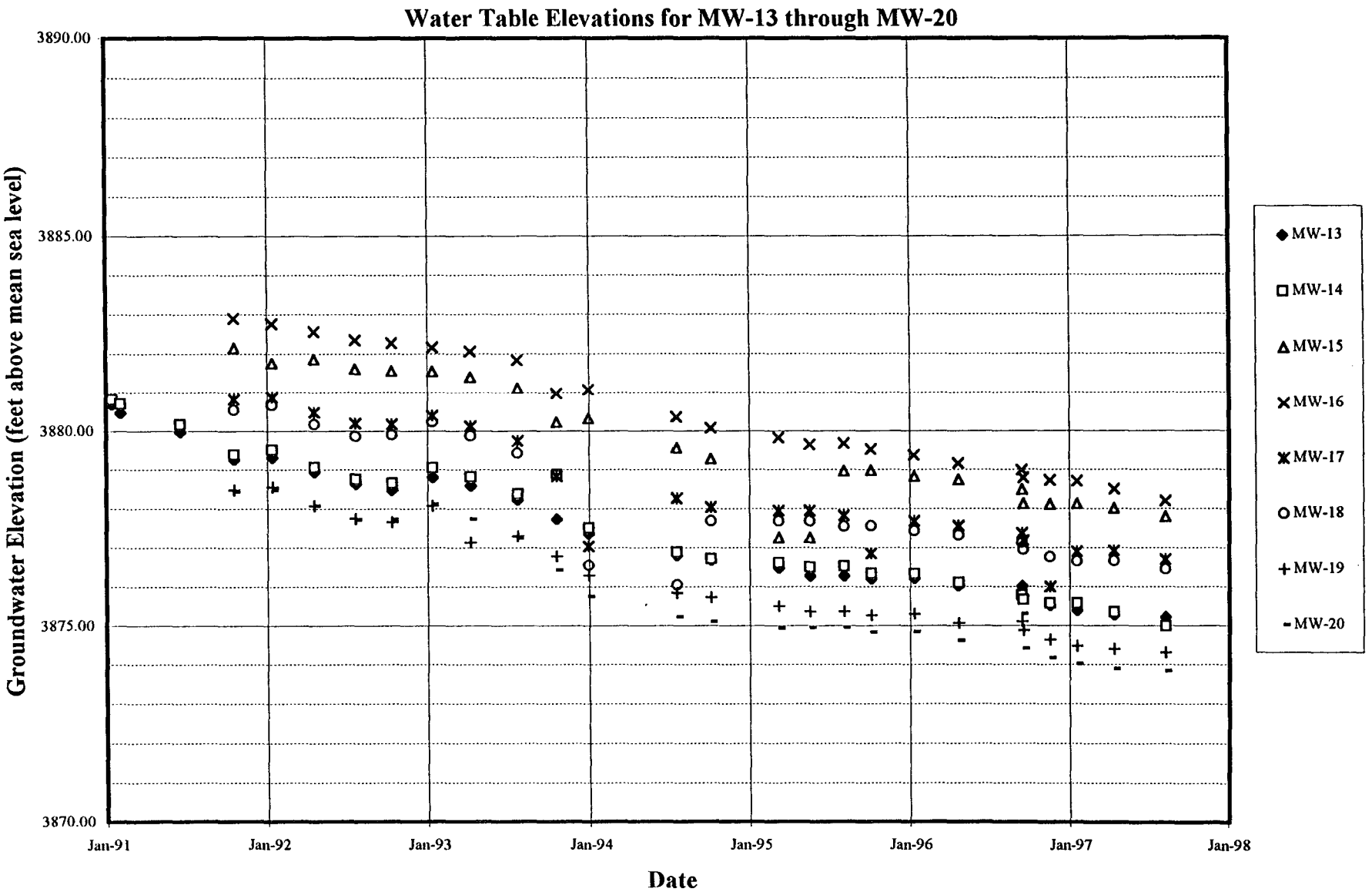

Water Table Elevations for MW-1 through MW-12
(excluding recovery wells MW-6, MW-7 and MW-10)
Groundwater Elevation (feet above mean sea level)
3890.00
3885.00
3880.00
3875.00
3870.00
Jan-88
Jan-89
Jan-90
Jan-91
Jan-92
Jan-93
Jan-94
Jan-95
Jan-96
Jan-97
Jan-98
Date
MW-1
MW-2
MW-3
MW-4
MW-5
MW-8
MW-9
MW-11
MW-12

Figure 2 c


Water Table Elevations for MW-13 through MW-20
Groundwater Elevation (feet above mean sea level)
3890.00
3885.00
3880.00
3875.00
3870.00
Jan-91
Jan-92
Jan-93
Jan-94
Jan-95
Jan-96
Jan-97
Jan-98
Date
MW-13
MW-14
MW-15
MW-16
MW-17
MW-18
MW-19
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

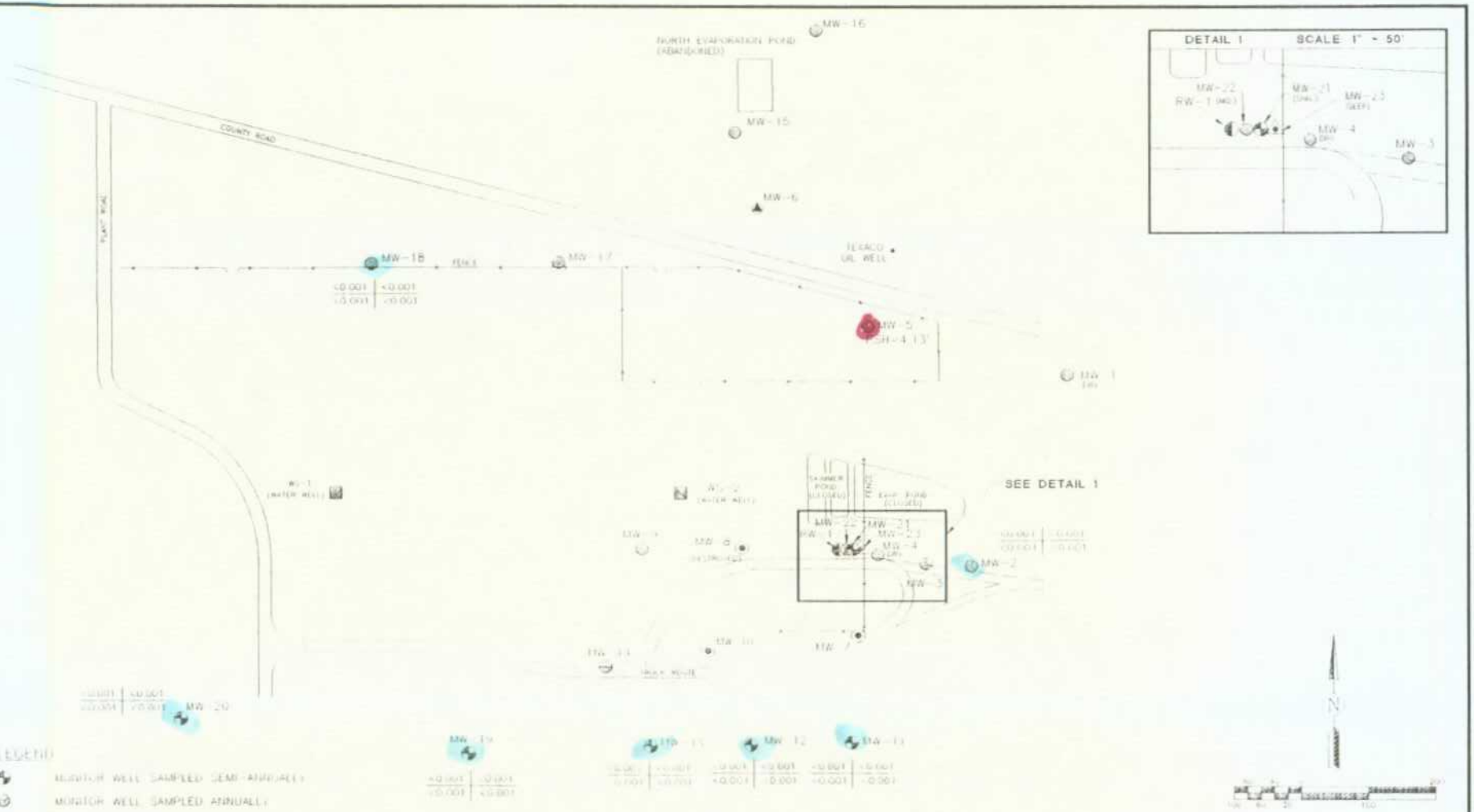
Monitoring Well	Date Sampled	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Xylenes (mg/l)
MW-20	11/20/96	<0.001	<0.001	<0.001	<0.001
	1/21/97	<0.001	<0.001	<0.001	<0.001
	4/17/97	<0.001	<0.001	<0.001	<0.001
	8/12/97	<0.001	<0.001	<0.001	<0.001
MW-21	7/20/93	**37**	**5**	**<2**	**<6**
	4/23/94	0.007	<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
	8/13/97	**33**	0.31	0.73	**0.90**
MW-22	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
	8/13/97	0.002	0.001	<0.001	<0.001
MW-23	7/20/93	**0.190**	0.130	0.010	0.046
	8/13/97	<0.001	<0.001	<0.001	<0.001
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.

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

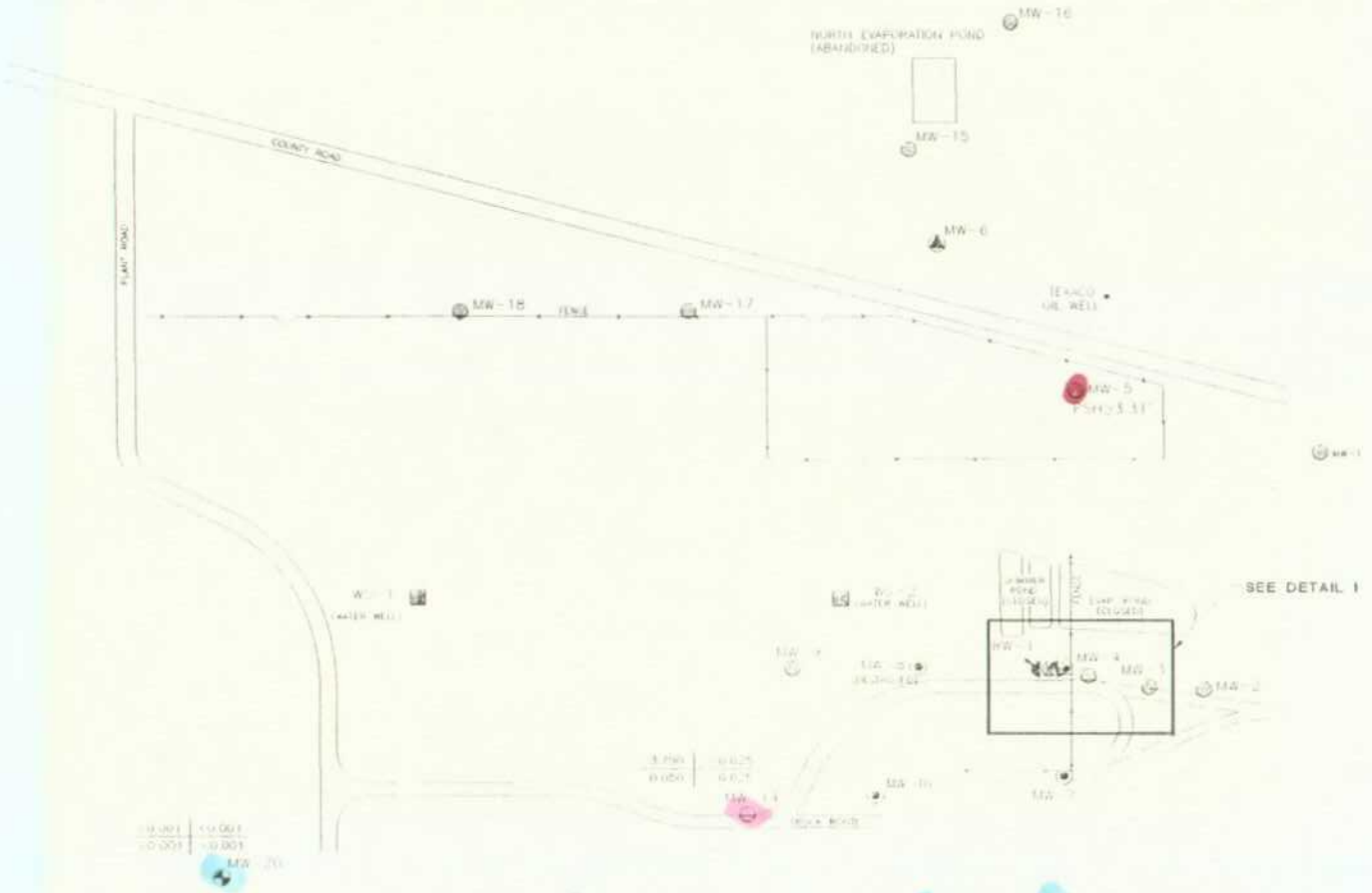
Monitoring Well	Date Sampled	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Xylenes (mg/l)
MW-17	10/27/91	0.008	0.002	<0.001	<0.001
	3/16/95	**0.062**	0.020	0.004	0.010
	1/16/96	<0.001	<0.001	<0.001	<0.001
	8/13/97	0.002	<0.001	<0.001	<0.001
MW-18	10/28/91	<0.001	0.001	<0.001	<0.001
	7/30/92	**0.023**	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

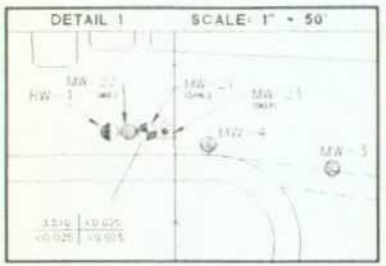


BDM

FIGURE 3a
BTEX CONCENTRATION MAP

CLIENT:	GPM GAS CORPORATION - LEE PLANT
DATE:	JANUARY 21, 1997
CHECKED BY:	GJV
DRAWN BY:	DAD
DWG. NO:	G:\P2341\9123\dwg\BTEX973A.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 | T
E | X

B = BENZENE
T = TOLUENE
E = ETHYLBENZENE
X = TOTAL XYLENES
} CONCENTRATIONS IN mg/L

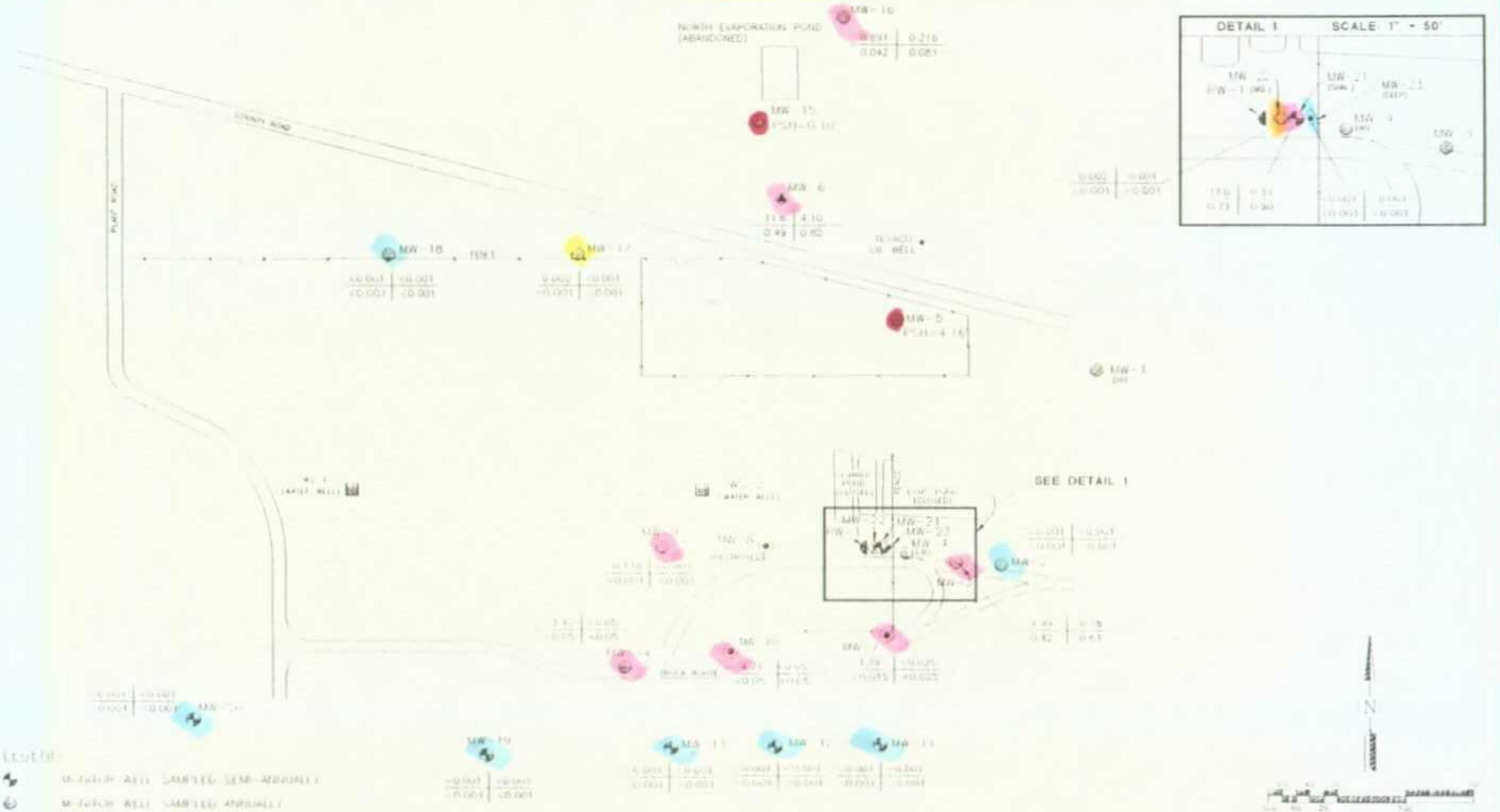
PSH PHASE SEPARATED HYDROCARBONS (THICKNESS IN FEET)

GROUNDWATER SAMPLES OBTAINED ON APRIL 17,1997.

BDM

FIGURE 3b
BTEX CONCENTRATION MAP

CLIENT:	GPM GAS CORPORATION - LEE PLANT
DATE:	APRIL 17, 1997
CHECKED BY:	GW
DRAWN BY:	DAD
DWG. NO.	D:\P2341\3023-002\BTEX1797.DWG



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 / T / E / X — B = BENZENE, T = TOLUENE, E = ETHYLBENZENE, X = TOTAL XYLENES } CONCENTRATIONS IN mg/l

PSH — PHASE-SEPARATED HYDROCARBONS (THICKNESS IN FEET)

GROUNDWATER SAMPLES OBTAINED ON AUGUST 12-13, 1997.

BDM

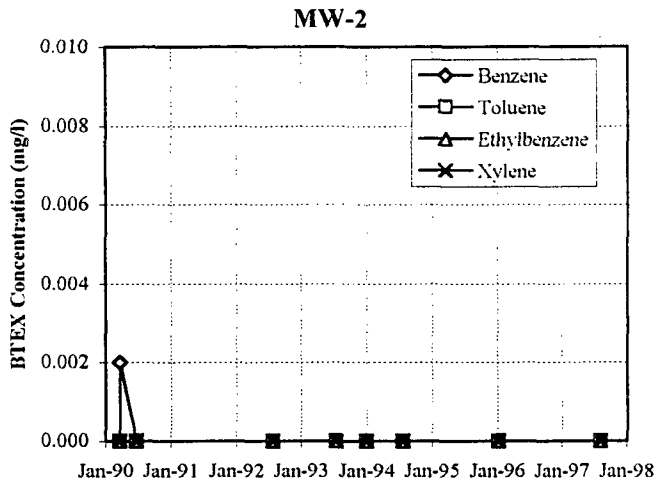
FIGURE 3c

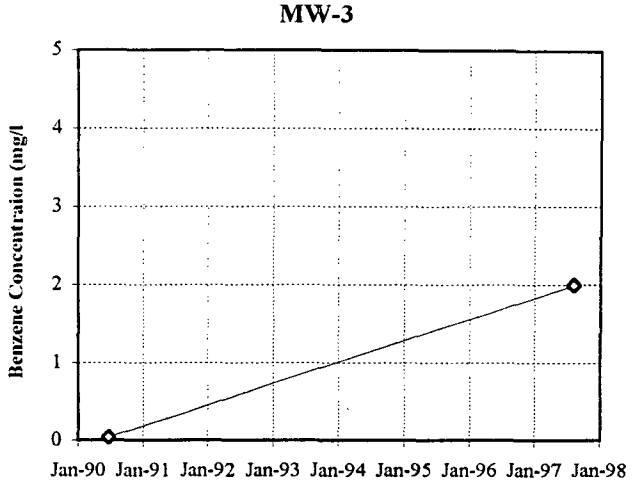
BTEX CONCENTRATION MAP

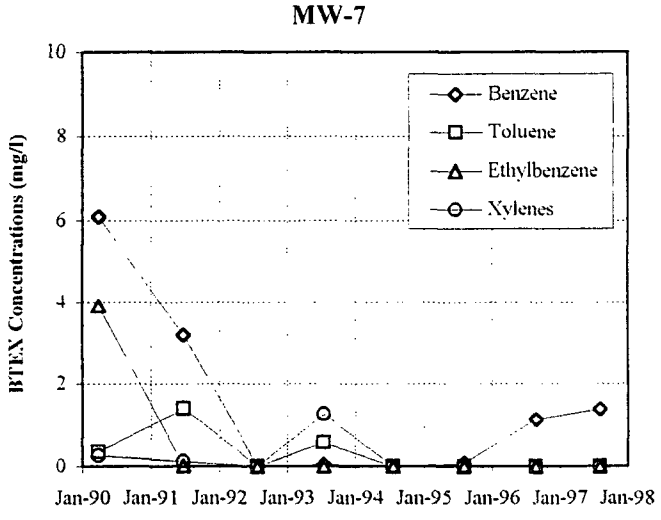
CLIENT	UPM-KAUKAS CORPORATION - LEE PLANT
DATE	AUGUST 12-13, 1997
CHECKED BY	GW
DRAWN BY	DAG
DWG. NO.	D:\P2341\5023-042.BTE\btex97.DWG

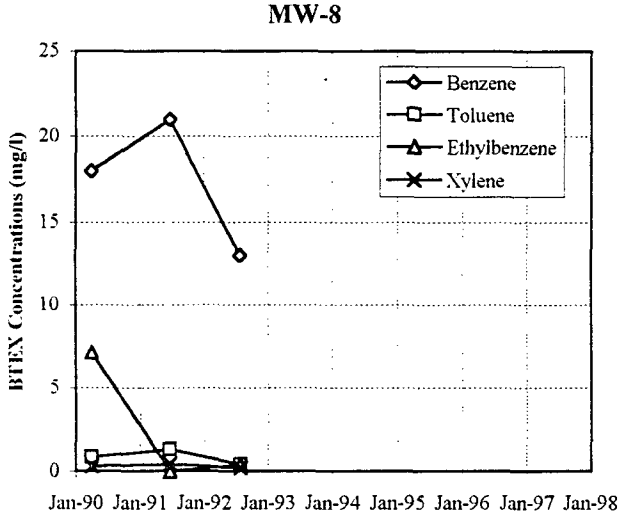
Figure 4a
Hydrocarbon Concentrations Versus Time

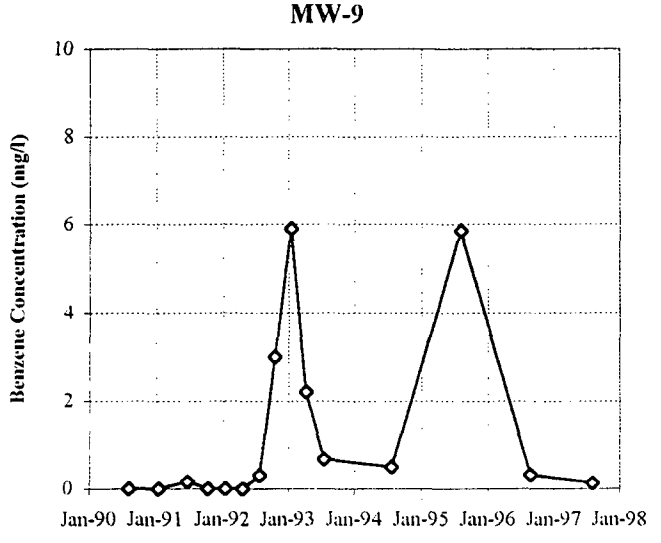
(Central Area Wells)











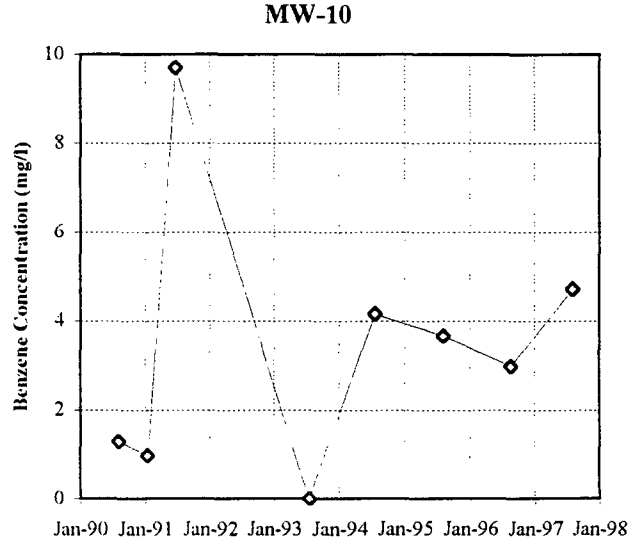


Figure 4a
Hydrocarbon Concentrations Versus Time

(Central Area Wells)

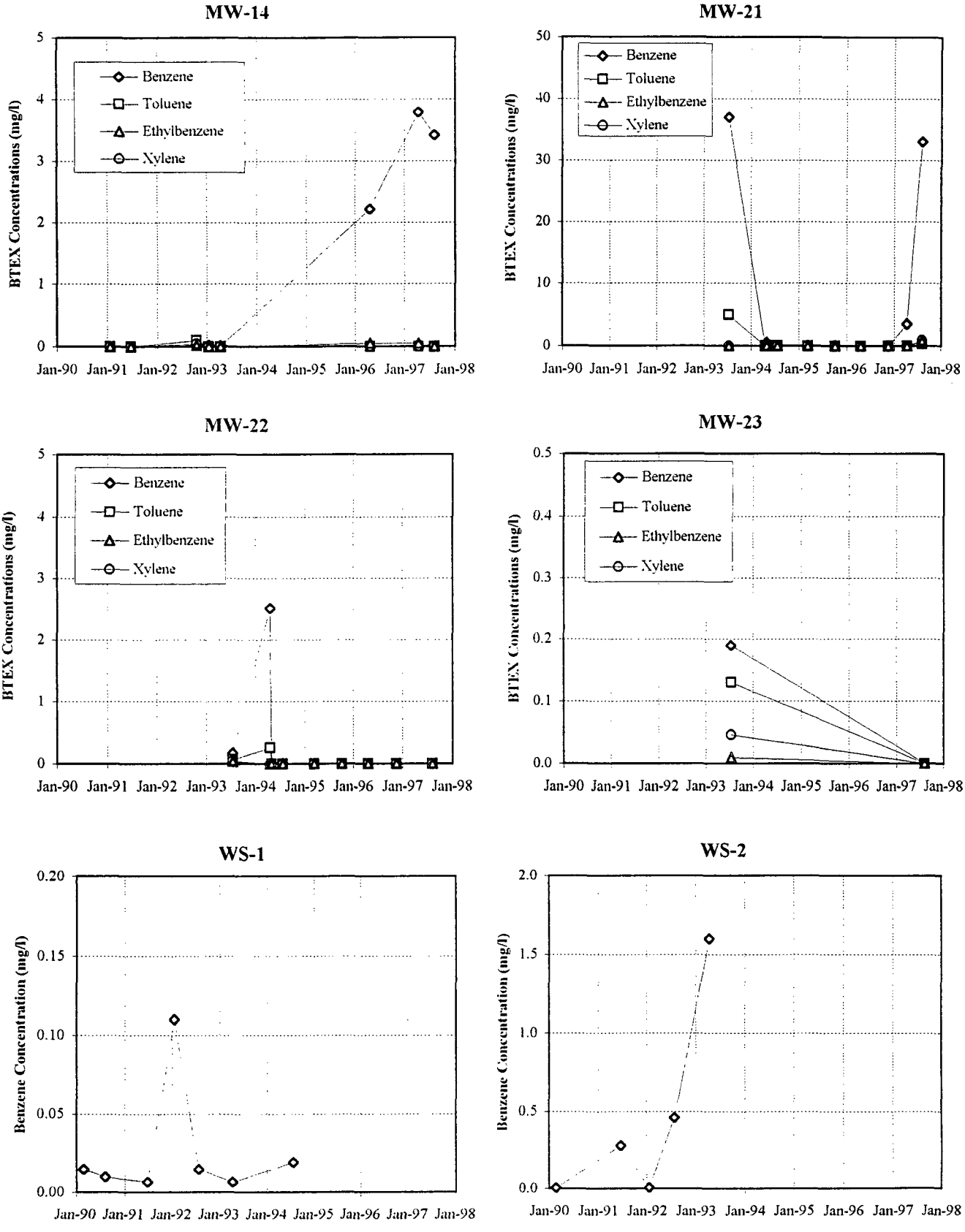
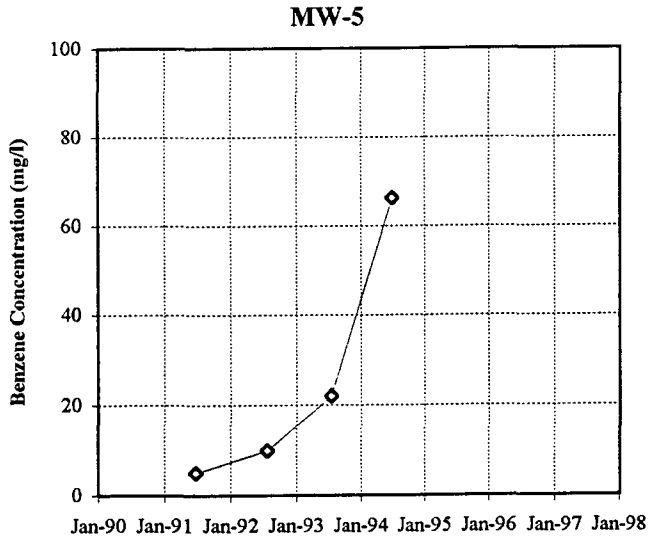
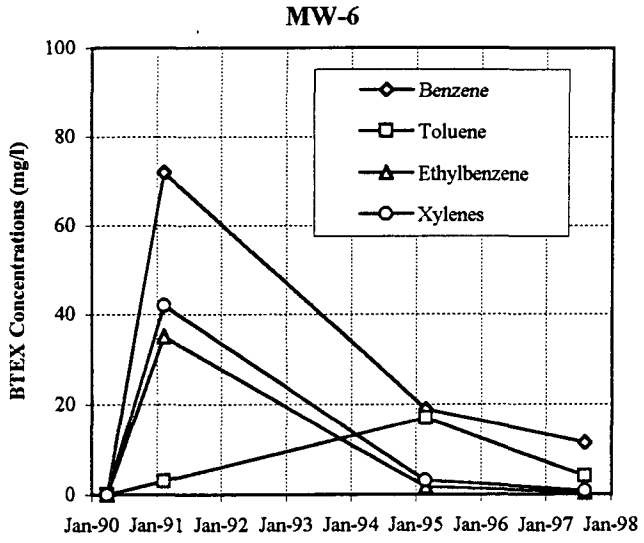
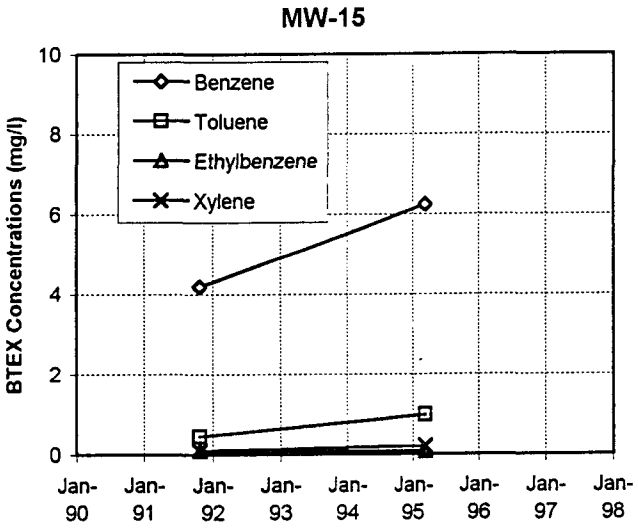


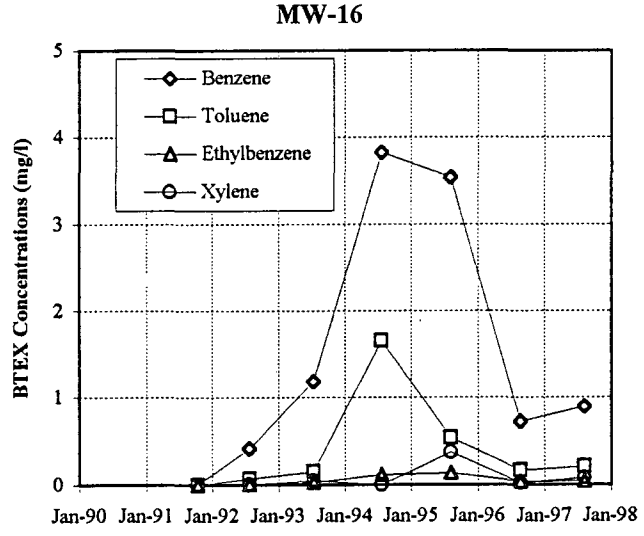
Figure 4b
Hydrocarbon Concentrations Versus Time

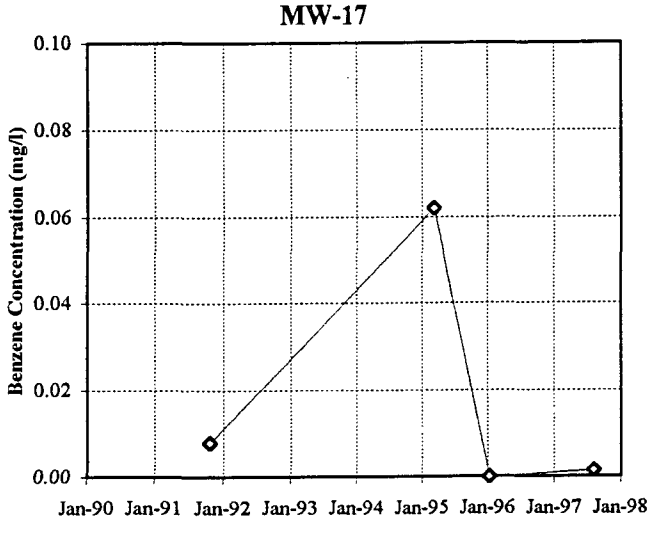
(North Area Wells)











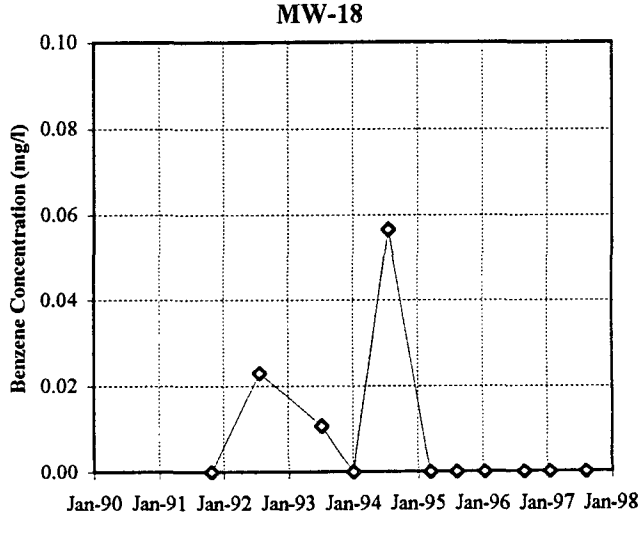
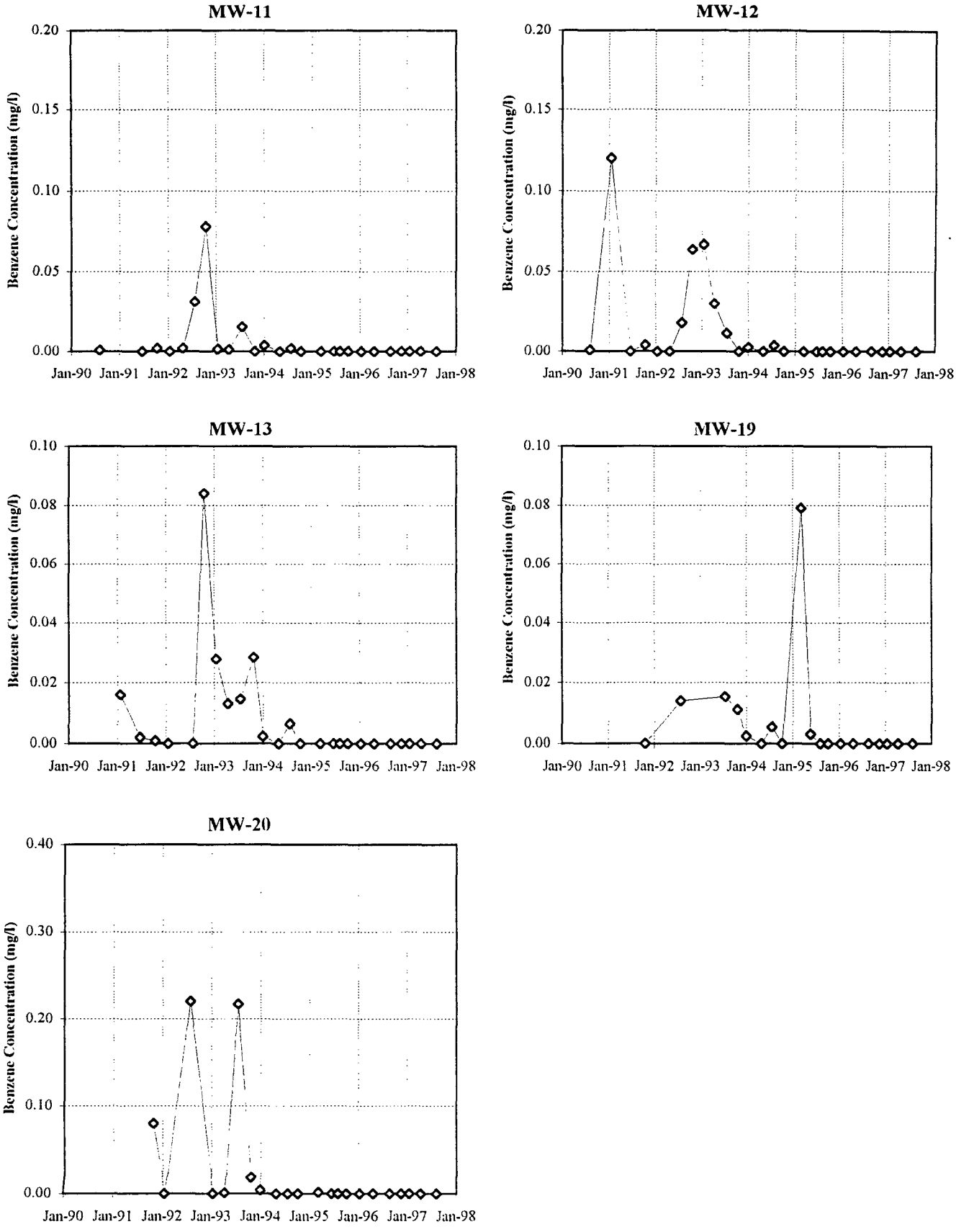


Figure 4c
Hydrocarbon Concentrations Versus Time

(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 occassional 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

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

ITS 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.

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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.

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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.

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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.

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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.

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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.

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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.

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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.

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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.

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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.

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ITS Intertek Testing Services
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DATE RECEIVED : 15-AUG-1997 REPORT NUMBER : D97-10C
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 significa

Intertek Testing Services NA Inc.
1089 East Collins Boulevard Richardson, TX 75081
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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.

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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.

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ITS Intertek Testing Services
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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.

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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

BTEX 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
BTEX (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.

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Intertek Testing Services
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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.

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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.

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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.

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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.

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ITS Intertek Testing Services
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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.
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Telephone (972) 238-5591 Fax (972) 238-5592

ITS 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

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

13179

Chain of Custody

Date 8-13-97 Page 1 Of 2

Lab Name Intertek Testing Services
Address 1089 East Collins Blvd.
Richardson, Tx 75081-2321
Telephone 972-238-5591
Samplers (SIGNATURES) G.J Van Deventer

Analysis Request

Sample Number	Matrix	Location	Halogenated Volatiles 601/8010	Aromatic Volatiles 602/8020 BTEX	Phenols, Sub Phenols 604/8040	Pesticides/PCB 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	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)					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

COOLER TEMPERATURE WHEN RECEIVED 4 °C

Project Information	Sample Receipt
Project GPM- Lee Plant	Total No. of Containers
Project Director G. VanDeventer	Chain of Custody Seals
Charge Code No. P/2341/3C	Rec'd Good Condition/Cold
Shipping ID. No.	Conforms to Record
Via: FEDEX	Lab No.

Special Instructions/Comments:
Proj # P/2341/3C

Relinquished By 1.	Relinquished By 2.	Relinquished By 3.
(Signature) (Time) 1800	(Signature) (Time)	(Signature) (Time)
G.J Van Deventer 8-14-97		
(Printed Name) (Date)	(Printed Name) (Date)	(Printed Name) (Date)
BDM Environmental Services		
(Company)	(Company)	(Company)
Received By 1.	**Received By 2.**	**Received By (Laboratory) 3.**
(Signature) (Time)	(Signature) (Time)	(Signature) (Time)
(Printed Name) (Date)	(Printed Name) (Date)	(Printed Name) (Date)
(Company)	(Company)	(Laboratory)

ETS-Dallas 8-15-97 0430

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 Intertek Testing Services
Address 1089 East Collins Blvd
Richardson, TX 75081-2331
Telephone 972-238-5591

Samplers (SIGNATURES)

Sample Number	Matrix	Location	Halogenated Volatiles 601/8010	Aromatic Volatiles 602/8020 + BTEX	Phenols, Sub Phenols 604/8040	Pesticides/PCB 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	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)					Number of Containers
9708130810	Water	MW-22		✓																									2
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

COOLER TEMPERATURE WHEN RECEIVED 4 °C

Project Information	Sample Receipt
Project GPM-Lee Plant	Total No. of Containers
Project Director G. Van Deventer	Chain of Custody Seals
Charge Code No. P/2341/3C	Rec'd Good Condition/Cold
Shipping ID. No.	Conforms to Record
	Lab No.
Via: FED EX	

Special Instructions/Comments:
Proj. # P/2341/3C

Relinquished By 1.	Relinquished By 2.	Relinquished By 3.
(Signature) 1800 (Time)	(Signature) (Time)	(Signature) (Time)
(Printed Name) G. Van Deventer (Date) 8-14-97	(Printed Name) (Date)	(Printed Name) (Date)
(Company) BDM Environmental Services	(Company)	(Company)
Received By 1.	**Received By 2.**	**Received By (Laboratory) 3.**
(Signature) (Time)	(Signature) (Time)	(Signature) (Time)
(Printed Name) (Date)	(Printed Name) (Date)	(Printed Name) (Date)
(Company)	(Company)	(Laboratory)

Distribution: White, Canary-Laboratory • Pink, BDM

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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.

Martin Jeffus
General Manager

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

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

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

ITS 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.

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

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.

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ITS Intertek Testing Services
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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.

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ITS 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

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.

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ITS Intertek Testing Services
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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.

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ITS Intertek Testing Services
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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	µg/L	3360	µg/L	
Toluene	25	µg/L	< 25	µg/L	
Ethyl benzene	25	µg/L	43	µg/L	
Xylenes	25	µg/L	< 25	µg/L	
BTEX (total)			3400	µg/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.

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ITS Intertek Testing Services
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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.

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ITS 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

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ITS 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

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 Inchcape Testing Services
Address 1089 E. Collins Blvd
Richardson, Texas 75081
Telephone 972-238-5591

Samplers (SIGNATURES)

Analysis Request

Sample Number	Matrix	Location	Aromatic Volatiles 602/8020 BTEX	Number of Containers
9704171000	Water	MW-20	✓	3
9704171100	Water	MW-19	✓	3
9704171215	Water	MW-13	✓	3
9704171315	Water	MW-12	✓	3
9704171400	Water	MW-11	✓	3
9704171530	Water	MW-14	✓	3
9704171630	Water	MW-24d	✓	3
9704171755	Water	MW-21	✓	3

4772
-1
-2
-3
-4
-5
-6
-7
-8

Halogenated Volatiles 601/8010 · Phenols, Sub Phenols 604/8040 · Pesticides/PCB 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 · 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)

ORIGINAL

Project Information	
Project	GPM-Lee Plant
Project Director	Gil Van Deventer
Charge Code No.	P/2341/3C
Shipping ID. No.	TRACK # 355571379 2
Via:	FEDEX

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

Special Instructions/Comments:

Relinquished By 1.	Relinquished By 2.	Relinquished By 3.
(Signature) 1730 (Time)	(Signature) (Time)	(Signature) (Time)
Gil Van Deventer 4-18-97 (Printed Name) (Date)	(Printed Name) (Date)	(Printed Name) (Date)
BDM (Company)	(Company)	(Company)
Received By 1.	**Received By 2.**	**Received By (Laboratory) 3.**
(Signature) (Time)	(Signature) (Time)	(Signature) (Time)
(Printed Name) (Date)	(Printed Name) (Date)	(Printed Name) (Date)
(Company)	(Company)	(Laboratory) 4-19-97 0936

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

Martin Jeffus

Inchcape Testing Services
Environmental Laboratories

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

Inchcape Testing Services
Environmental Laboratories

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Richardson, TX 75081
Tel. 972-238-5591
Fax 972-238-5592

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.

Inchcape Testing Services
Environmental Laboratories

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Tel. 972-238-5591
Fax 972-238-5592

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.

Inchcape Testing Services
Environmental Laboratories

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Richardson, TX 75081
Tel. 972-238-5591
Fax 972-238-5592

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.

Inchcape Testing Services
Environmental Laboratories

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Richardson, TX 75081
Tel. 972-238-5591
Fax 972-238-5592

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.

Inchcape Testing Services
Environmental Laboratories

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Fax 972-238-5592

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

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

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.

Inchcape Testing Services
Environmental Laboratories

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

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.

Inchcape Testing Services
Environmental Laboratories

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

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.

Inchcape Testing Services
Environmental Laboratories

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Richardson, TX 75081
Tel. 972-238-5591
Fax 972-238-5592

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

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		98.9 %

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

Inchcape Testing Services
Environmental Laboratories

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

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

BDM

GCL
Environmental Science and Engineering
A BDM International Company

☑ Albuquerque
505 Marquette NW, Ste. 1100
Albuquerque, NM 87102
(505) 842-0001
FAX: (505) 842-0595

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4221 Forbes Blvd., Ste. 240
Lanham, MD 20706-4325
(301) 459-9677
FAX: (301) 459-3064

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

№ 10068

Chain of Custody

Date 1/21/97 Page 1 Of 1

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

Samplers (SIGNATURES)

D Nee

Analysis Request

Sample Number	Matrix	Location	Halogenated Volatiles 601/8010	Aromatic Volatiles 602/8020 (BTEX)	Phenols, Sub Phenols 604/8040	Pesticides/PCB 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	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)					Number of Containers
9701210930	H2O	MW-11		3																				862	-	1		3
9701210930	H2O	MW-12		3																							2	3
9701211045	H2O	MW-13		3																							3	3
9701211150	H2O	MW-19		3																							4	3
9701211300	H2O	MW-20		3																							5	3
9701211410	H2O	MW-18		3																							6	3
9701211445	H2O	MW-18d		3																							7	3
9701211455	H2O	Rinsate		3																							8	3
9701211630	H2O	MW-2		3																							9	3
9701211456	H2O	TripBlank		2																							10	2

ORIGINAL

Project Information	Sample Receipt
Project GPM-Lee Plant	Total No. of Containers
Project Director Gil Van Deventer	Chain of Custody Seals
Charge Code No. P/2341/3023-002	Rec'd Good Condition/Cold
Shipping ID. No.	Conforms to Record
Via: Fed Ex	Lab No.

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

Relinquished By 1.	Relinquished By 2.	Relinquished By 3.
D Nee 1630		
(Signature) (Time)	(Signature) (Time)	(Signature) (Time)
DAVID NEE 1/27/97		
(Printed Name) (Date)	(Printed Name) (Date)	(Printed Name) (Date)
BDM		
(Company)	(Company)	(Company)
Received By 1.	**Received By 2.**	**Received By (Laboratory) 3.**
(Signature) (Time)	(Signature) (Time)	(Signature) (Time)
David Meyer 1600		
(Printed Name) (Date)	(Printed Name) (Date)	(Printed Name) (Date)
TIS Dallas 1/27/97		
(Company)	(Company)	(Laboratory)

SCREENED FOR [illegible] COOLER TEMPERATURE

Distribution: White, Canary-Laboratory • Pink, GCL