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MONITORING REPORTS



Chavez, Carl J, EMNRD

From: Dick, Daniel I [DIDick@dcpmidstream.com]

Sent: Tuesday, January 30, 2007 10:47 AM

To: Chavez, Carl J, EMNRD

Cc: Ward, Lynn C

Subject: Former Lee Gas Plant - Q3 2006 Groundwater Monitoring Report

Mr. Chavez -

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Please find attached the above referenced report and cover letter. Copies have been sent via mail to Larry Johnson with the OCD District 1 office as well.

I look forward to meeting you Thursday morning.

Sincerely,

Daniel Dick DCP Midstream Environmental Assurance 370, 17th Street, Suite 2500 Denver, CO 80120 Ph: 303-605-1893 Fx: 303-605-1957

AEC AMERICAN ENVIRONMENTAL CONSULTING, LLC

January 30, 2007

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Mr. Daniel Dick DCP Midstream, LP 370 Seventeenth Street, Suite 2500 Denver, Colorado 80202

Subject: Third Quarter Groundwater Monitoring Summary for the Former Lee Gas Plant, Lea Count, New Mexico Unit N, Section 30, Township 17 South, Range 35 East

Dear Daniel:

This letter summarizes the activities completed and data generated during the third quarter 2006 at the DCP Midstream (DCP, formerly known as Duke Energy Field Services) Former Lee Gas Plant in Lea County, New Mexico. An update of the remedition activities is also provided.

BACKGROUND

The facility is located in New Mexico Oil Conservation Division (OCD) designated Unit N, Section 30, Township 17 South, Range 35 East (Figure 1). The coordinates are 32.800 degrees north 103.495 degrees west.

The facility used to be a gas processing and compression plant. The components associated with these operations were removed or demolished in 2003 along with the majority of the other structures. The only remaining site structures are the former office and some warehouse buildings

The current well locations are shown on Figure 2. Construction information is included in Table 1. Wells MW-5, MW-6, MW-8 and MW-15 all contain free-phase hydrocarbons (FPH). Automatic FPH only removal pumps were installed in May 2005 in MW-5, MW-6 and MW-15.

SUMMARY OF MONITORING AND FPH REMOVAL ACTIVITIES

The third quarter 2006 monitoring event included the measurement of fluid levels in all wells and sampling all of the wells that did not contain measurable FPH for benzene, toluene, ethylbenzene and xylenes (BTEX). This activity was completed on September 20, 2006 by Trident Environmental (Trident) of Midland Texas. The field sampling forms are attached.

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The FPH collection system is inspected weekly by Environmental Plus Incorporated (EPI) of Eunice, New Mexico. System operation is verified and the FPH removal volumes are measured. The FPH holding containers, all in secondary containment, are emptied as they approach capacity. EPI provides a weekly update of the inspection activities and incremental FPH volumes.

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GROUNDWATER FLUCTUATION AND FLOW

The measurement data and corrected groundwater elevations for all monitoring events are shown on Table 2. The water-table elevations for the wells containing free product were estimated using the following formula:

 $GWE_{corr} = MGWE + (PT*PD)$: where

- MGWE is the actual measured groundwater elevation;
- PT is the measured free-phase hydrocarbon thickness; and
- PD is the free phase hydrocarbon density (assumed 0.74 or 0.82 depending upon the well location).

All of the corrected water-table elevations are summarized in Table 3. Hydrographs for select wells located throughout the study area are included on Figure 3. The hydrographs show that the water table has stabilized between March 2006 and September 2006. This stabilization probably resulted from the heavy rains in the summer of 2006.

A water-table contour map based upon the September 2006 corrected values as generated by the program Surfer using the kriging option is included as Figure 4. The plot indicates that groundwater flow maintained its historic primary direction toward the south.

DISSOLVED PHASE HYDROCARBON DISTRIBUTION AND ATTENUATION

The analytical results for September 2006 are summarized in Table 4. The laboratory report is attached. The quality control data can be summarized as follows:

- There were no BTEX detections in the September 2006 trip blank.
- The relative percentage difference values for the September 2006 MW-10 benzene duplicates was 4.1 percent. The toluene, ethylbenzene and xylene values were below their respective method reporting limits.
- All of the surrogate spikes from both events were within their control limits.
- The laboratory the matrix spike and matrix spike duplicate analysis were within limits.

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The above facts establish that the data is suitable for all intended uses.

The New Mexico Water Quality Control Commission groundwater standards are also included in Table 4. The constituents that exceed these standards are bolded. Only benzene exceeded the applicable standard, and it was exceeded in MW-7, MW-9, MW-14, MW-16, MW-21 and slightly in MW-22 (0.0111 verses the 0.01 standard). The toluene, ethylbenzene and xylenes concentrations were at least one order of magnitude lower than the potentially-applicable groundwater standards.

Figure 5 shows the benzene isopleths from the September 2006 data as calculated using Surfer with the kriging option. None of the BTEX constituents were detected in down-gradient boundary wells MW-11, MW-12, MW-13, MW-19 and MW-20. This distribution verifies that the dissolved-phase benzene continues to attenuate to below measurable concentrations a minimum of several hundred feet north of the down-gradient property boundary.

Any dissolved-phase constituents that emanate from the FPH areas in the north of the plant area (MW-5) and north of the road (MW-6 and MW-15) migrate south and mix with the hydrocarbons from the MW-9 and MW-21 areas. They must also then attenuate in the manner described above.

The benzene concentrations in select wells are summarized in Table 5. The wells that were not included in Table 5 either have never contained dissolved-phase hydrocarbons or they have not contained dissolved-phase hydrocarbons for a substantial period of time.

Figure 6 graphs the time-benzene concentration relationship in MW-21. The benzene concentration increased in November 2002 after the air-sparge unit located adjacent to it ceased operating. The concentrations began declining in November 2004, and that trend continues.

FREE PHASE HYDROCARBON REMOVAL

Automatic FPH removal continued in MW-5, MW-6 and MW-15. Removal was discontinued in MW-5 and MW-15 in mid-June 2006 because of the limited volumes removed (6.2 gallons in MW-5 and 1.8 gallons in MW-15). Automatic removal continued in MW-6 thoughout all of 2006, and a total of 130 gallons of FPH were extracted.

Post 2000 measured thickness values for the four wells that contain FPH are summarized in Table 6. The thicknesses in MW-5 and MW-15 have recovered since removal ceased in June 2006; however, the residual FPH appears to be relatively immobile given the limited recovery in the first half of the year. Additional evaluation would be necessary to assess whether product-only systems could effectively remove additional FPH in MW-5, MW-8 and MW-15.

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RECOMMENDATIONS

American Environmental Consulting recommends that the following activities be completed:

- 1. Semiannual monitoring should be completed the first quarter of 2007 on the limited suite of wells that have been sampled in the past.
- 2. FPH collection should continue in MW-6.
- 3. FPH collection should be restarted in MW-5 and MW-15 to evaluate whether substantial residual mobile FPH remains.
- 4. The potential for automatic FPH-only recovery in MW-8 should be evaluated during the first quarter 2007 monitoring event.

Do not hesitate to contact me if you have any questions or comments on this report or any other aspects of the projects.

Sincerely, AMERICAN ENVIRONMENTAL CONSULTING, LLC

Muchael H. Stewart

Michael H. Stewart, PE Principal Engineer

MHS/tbm

attachments

Tables

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	Top of Casing	Total
Well	Elevation	Depth
MW-1	3,979.25	100.83
MW-2	3,980.50	106.72
MW-3	3,980.27	108.84
MW-4	3,980.16	103.60
MW-5	3,979.82	112.64
MW-6	3,981.79	113.20
MW-7	3,978.45	111.70
MW-8	3,979.96	110.82
MW-9	3,980.17	116.95
MW-10	3,979.66	117.50
MW-11	3,978.50	117.98
MW-12	3,978.82	117.35
MW-13	3,980.52	117.28
MW-14	3,982.23	118.56
MW-15	3,981.70	122.70
MW-16	3,980.80	122.97
MW-17	3,981.80	124.12
MW-18	3,983.10	125.50
MW-19	3,980.80	126.56
MW-20	3,983.30	128.21
MW-21	NA	123.59
MW-22	NA	148.68
MW-23	NA	NM

Table 1 – Summary of Well Construction Information

Note: all units in feet.

Table 2 - Summary of September 20, 2006 Gauging Data

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₩/ <u>~</u> 11	Depth to	FPH	Groundwater
MCII	Water	Thickness	Elevation
MW-3	107.80	NP	3977.27
MW-5	108.38	3.20	3896.25
9-MM	107.52	0.44	3898.63
MW-7	105.57	NP	3971.45
MW-8	111.46	4.06	3893.33
0-WM	107.11	NP	3971.17
MW-10	106.86	NP	3969.66
MW-11	106.06	NP	3967.50
MW-12	106.49	NP	3966.82
MW-13	108.32	NP	3967.52
MW-14	109.64	NP	3968.23
MW-15	109.20	2.80	3895.11
MW-16	105.61	NP	3964.80
MW-17	108.04	NP	3964.80
MW-18	109.39	NP	3965.10
MW-19	109.32	NP	3961.80
MW-20	111.98	NP	3963.30
MW-21	107.72	NP	NA
MW-22	107.86	NP	NA
Notes: 1)	1) Units are feet	set	
2) NP: no FPI	F bresent	

2) NP: no FPH present 3) NA: no casing measured casing elevation

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MW-20									3878.44	3878.47	3878.07	3877.72	3877.72	3878.11	3877.74	3877.25	3876.42	3875.75	3875.22	3875.1	3874.92	3874.94	3874.94	3874.82
MW-9 MW-10 MW-11 MW-12 MW-13 MW-14 MW-15 MW-16 MW-17 MW-18 MW-19 MW-20									3879.72 3879.45 3879.26 3879.39 3882.15 3882.9 3880.82 3880.55 3878.47 3878.44	3879.71 3879.5 3879.31 3879.51 3881.77 3882.77 3880.87 3880.68 3878.55 3878.47	3879.38 3879.14 3878.93 3879.06 3881.86 3882.57 3880.49 3880.18 3878.07 3878.07	3879.13 3878.87 3878.64 3878.75 3881.62 3882.35 3880.2 3879.86 3877.75 3877.72	3878.92 3878.7 3878.47 3878.65 3881.56 3882.28 3880.18 3879.9 3877.66 3877.72	3879.14 3878.98 3878.8 3879.05 3881.55 3882.16 3880.4 3880.24 3878.07 3878.1	3879.02 3878.8 3878.59 3878.81 3881.4 3882.06 3880.12 3879.88 3877.14 3877.74	3878.77 3878.68 3878.7 3878.46 3878.22 3878.37 3881.12 3881.84 3879.74 3879.42 3877.3 3877.25	3879.163877.99 3878.3 3878.02 3877.74 3878.87 3880.22 3880.98 3878.82 3878.86 3876.77 3876.42	3877.92 3877.66 3877.36 3877.51 3880.32 3881.08 3877.04 3876.55 3876.28 3875.75	3876.3 3876.27 3876.8 3876.88 3879.56 3880.36 3878.26 3876.05 3875.83 3875.22	3877.25 3876.94 3876.67 3876.71 3879.28 3880.08 3878.04 3877.68 3875.72 3875.1	3875.5	3876.78 3876.54 3876.27 3876.49 3877.26 3879.65 3877.95 3877.68 3875.36 3874.94	3876.78 3876.54 3876.27 3876.52 3878.96 3879.68 3877.82 3877.55 3875.36 3874.94	3876.62 3876.4 3876.2 3876.33 3878.97 3879.52 3876.84 3877.56 3875.26 3874.82
MW-18									3880.55	3880.68	3880.18	3879.86	3879.9	3880.24	3879.88	3879.42	3878.86	3876.55	3876.05	3877.68	3877.68	3877.68	3877.55	3877.56
MW-17									3880.82	3880.87	3880.49	3880.2	3880.18	3880.4	3880.12	3879.74	3878.82	3877.04	3878.26	3878.04	3877.95	3877.95	3877.82	3876.84
MW-16									3882.9	3882.77	3882.57	3882.35	3882.28	3882.16	3882.06	3881.84	3880.98	3881.08	3880.36	3880.08	3879.82	3879.65	3879.68	3879.52
MW-15									3882.15	3881.77	3881.86	3881.62	3881.56	3881.55	3881.4	3881.12	3880.22	3880.32	3879.56	3879.28	3877.26	3877.26	3878.96	3878.97
MW-14						3880.83	3880.71	3880.17	3879.39	3879.51	3879.06	3878.75	3878.65	3879.05	3878.81	3878.37	3878.87	3877.51	3876.88	3876.71	3876.61	3876.49	3876.52	3876.33
MW-13						3880.7	3880.47	3879.97	3879.26	3879.31	3878.93	3878.64	3878.47	3878.8	3878.59	3878.22	3877.74	3877.36	3876.8	3876.67	3876.47	3876.27	3876.27	3876.2
MW-12				3881.02	3878.77	37 3881.19 3884.12 3880.98 3880.86 3880.7 3880.83	3881.18 3884.12 3881.1 3880.96 3880.47 3880.71	3880.53 3879.16 3880.38 3880.18 3879.97 3880.17	3879.45	3879.5	3879.14	3878.87	3878.7	3878.98	3878.8	3878.46	3878.02	3877.66	3876.27	3876.94	3876.98 3876.72 3876.47 3876.61 3877.26 3879.82 3877.95 3877.68 3875.5	3876.54	3876.54	3876.4
MW-11				3881.19	3881.75 3879.74 3878.95 3878.77	3880.98	3881.1	3880.38	3879.72	3879.71	3879.38	3879.13	3878.92	3879.14	3879.02	3878.7	3878.3	3877.92	3876.3	3877.25	3876.98	3876.78	3876.78	3876.62
MW-10				3881.24	3879.74	3884.12	3884.12	3879.16								3878.68	3877.99							
				44 3881.24 3881.24 3881.19 3881.02	3881.75	3881.19	3881.18	3880.53	3879.73	3879.86	3879.45	3879.12	3878.99	3879.45	3879.19	3878.77	3879.16	.91 3877.99	66 3877.37	.463877.21	.363877.12	7.2 3877.01	3877	1.14 3876.87
MW-8			3882.25			3881.37													3877.66	3877.46	3877.36	3877.2	3877.21	3877.14
MW-7			3882.13 3882	3881.42	3880.3	3881.3		3879.47	3873			3877.8	3875.15	3877.59	3873.89	3873.89	3874.06	3877.04 3873.61 3877						
9-MM			3883.97	3883.29	3882.21	3883.097	3883.123	3883.048	3882.009	3881.743	3881.873	3880.65	3880.55	3878.67	3875.44	3877.63		3877.04						
MW-5			3882.6 3883.66 3883.97	3882.97	3879.87	3882.76	3882.02	3882.28	3881.66	3881.66	3881.37		3881.14	3880.99	3878.26	3880.45	3879.34		3879.79	3879.08	3879.11	3879.09	3879.1	3878.97
MW-3	3886.54	3883.56		3881.83	3880.75	3881.71	3881.67	3881.23	3880.49	3880.49	3880.23	3880.01	3879.79	3879.99	3877.27	3879.57	3878.74	3878.83	3878.19	3877.92	3877.7 3879.11	3877.57	3877.56	3877.47
Date	5/13/1988 3886.54	9/8/1988 3883.56	3/28/1990	8/13/1990 3881.83 3882.97 3883.29 3881.42 3881	9/5/1990 3880.75 3879.87 3882.21	1/26/1991 3881.71 3882.76 3883.097 3881.3	2/13/1991 3881.67 3882.02 3883.123	6/27/1991 3881.23 3882.28 3883.048 3879.47	10/28/1991 3880.49 3881.66 3882.009	1/23/1992 3880.49 3881.66 3881.743	4/28/1992 3880.23 3881.37 3881.873	7/30/1992 3880.01 3881.1	10/21/1992 3879.79 3881.14 3880.55 3875.15	1/20/1993 3879.99 3880.99 3878.67 3877.59	4/15/1993 3877.27 3878.26 3875.44 3873.89	7/29/1993 3879.57 3880.45 3877.63	10/26/1993 3878.74 3879.34	1/7/1994 3878.83	7/25/1994 3878.19 3879.79	10/11/1994 3877.92 3879.08	3/15/1995	5/24/1995 3877.57 3879.09	8/9/1995 3877.56 3879.1	10/10/1995 3877.47 3878.97

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Table 3 - Summary of Historical Water Table Elevations

Table 3 - Summary of Historical Water Table Elevations (continued)

Date	MW-3	MW-5	9-MM	MW-7	MW-8	6-WM	MW-9 MW-10 MW-11 MW-12 MW-13 MW-14 MW-15 MW-16 MW-17 MW-18 MW-19 MW-20	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19	MW-20
1/16/1996 3877.36 3878.85	877.36	3878.85			3877.06 3876.86	3876.86	5	3876.65	3876.41	3876.21	3876.32	3878.82	3879.38	3877.69	3879.38 3877.69 3877.44	3875.3	3874.83
4/25/1996 3877.07 3878.64	877.07	3878.64			3876.85 3876.63	3876.63	5	876.45	3876.45 3876.24 3876.02	3876.02	3876.1	3878.74	3879.16	3877.56	3878.74 3879.16 3877.56 3877.32 3875.06	3875.06	3874.6
9/16/1996 3876.86 3878.54	876.86	3878.54			3876.67	3876.38	6	3876.42	3876.22	3876.01	3875.77	3878.49	3878.99	3878.49 3878.99 3877.37	3877.14	3875.1	3875.3
9/19/1996 3876.72 3878.56	876.72	3878.56			3876.37 3876.21	3876.21	3	876.18	876.18 3876.02 3875.76 3875.66 3878.12 3878.79 3877.18 3876.95 3874.87	3875.76	3875.66	3878.12	3878.79	3877.18	3876.95	3874.87	3874.4
11/20/1996 3876.63	876.63				3876.32 3876.13	3876.13	5	3875.95	3875.69 3875.52 3875.57 3878.11	3875.52	3875.57	3878.11	3878.72	3876	3876.76	3876.76 3874.63	3874.17
1/21/1997 3876.62 3878.13	876.62	3878.13			3876.32 3876.13	3876.13	60	3875.78	3875.52	3875.38	3875.57	3878.12	3878.7	3876.89	3876.89 3876.65 3874.47 3874.02	3874.47	3874.02
4/17/1997 3876.42 3878.05	876.42	3878.05			3876.09 3875.91	3875.91	6	3875.67 3875.41	3875.41	3875.27 3875.34 3878.01	3875.34	3878.01	3878.5	3876.92	3876.92 3876.66 3874.39 3873.89	3874.39	3873.89
8/12/1997 3876.08 3877.64	876.08	3877.64			3876.09 3875.56	3875.56	5	3875.61	3875.34 3875.22 3874.98 3877.83	3875.22	3874.98	3877.83	3878.2		3876.69 3876.45	3874.3	3873.84
1/19/1998 3875.85 3877.66	875.85	3877.66			3876.15 3875.41	3875.41	6	875.44	3875.44 3875.15 3874.96 3874.81 3877.54 3877.99 3876.33 3876.11 3874.05	3874.96	3874.81	3877.54	3877.99	3876.33	3876.11	3874.05	3873.54
8/5/1998 3	875.59	3875.59 3876.68			3875.94	3875.13	3875.94 3875.13 3874.87 3875.11 3874.88	1875.11	3874.88	3874.66 3874.58 3877.29	3874.58	3877.29	3877.7	3876.18	3876.18 3875.94 3873.72	3873.72	3873.26
2/15/1999 3875.24 3876.25	875.24	3876.25			3875.42 3874.93	3874.93	3874.66 3874.87	\$74.87	3874.7	3874.41	3874.4	3877.51	3877.51 3877.52	3876	3875.85	3875.85 3873.51	3873.08
8/18/1999 3874.66 3875.78 3876.11 3873.11	874.66	3875.78	3876.11	3873.11	3873.31	3874.2	3873.93 3874.64	874.64	3874.44	3874.2	3873.84	3873.84 3876.86	3877.01	3875.84 3875.	3875.67	3873.37	3873.09
2/16/2000 3874.51 3875.5 3875.63 3872.69	874.51	3875.5	3875.63	3872.69		3874.12	3874.15[3874.12]3873.89[3874.39]3874.21[3874.01]3873.64[3876.19]3876.6[3875.26]3875.14[3873.19]	1874.39	3874.21	3874.01	3873.64	3876.19	3876.6	3875.26	3875.14	3873.19	3872.89
8/15/2000 3874.11 3875.62	874.11	3875.62		3872.59	3872.	63 3873.74	3873.47 3873.88	873.88	3873.69 3873.51 3873.42 3875.89 3876.48 3874.92 3874.88 3872.69 3872.38	3873.51	3873.42	3875.89	3876.48	3874.92	3874.88	3872.69	3872.38
2/15/2001 3	3874.2	3874.8		3875.31 3872.89	3873.31 3873.81		3873.593873.653873.493873.293873.263873.263875.683876.163874.793874.72	1873.65	3873.49	3873.29	3873.26	3875.68	3876.16	3874.79	3874.72	3872.46	3872.21
7/31/2001 3873.8 3874.56	3873.8	3874.56			3872.75	3873.42	3872.75 3873.42 3873.18 3873.44 3873.27 3873.12 3873.04 3875.82 3876.13 3874.51 3874.42	1873.44	3873.27	3873.12	3873.04	3875.82	3876.13	3874.51	3874.42	3872.4	3872.19
2/11/2002 3873.59 3874.18 3873.56	873.59	3874.18	3873.56		3872.51	3873.22	3872.51 3873.22 3872.98 3873.29 3873.13 3872.93 3872.78 3875.83 3875.88 3874.41 3874.32	1873.29	3873.13	3872.93	3872.78	3875.83	3875.88	3874.41	3874.32	3872.1	3871.83
8/13/2002 3873.25 3873.07 3875.01	873.25	3873.07	3875.01		3872.13 3872.63	3872.63	3872.57 3873.03	1873.03	3872.87	3872.7	3872.21	3875.27	3875.23	3874.17	3872.7 3872.21 3875.27 3875.23 3874.17 3874.07 3871.92	3871.92	3871.67
3/8/2003 3873.03 3873.07 3873.69 3872.59	873.03	3873.07	3873.69	3872.59		3873.69 3872.63 3872.4	3872.4	3872.2	3872.03 3871.86 3872.21 3874.54 3875.23 3873.53 3873.44 3871.08 3870.89	3871.86	3872.21	3874.54	3875.23	3873.53	3873.44	3871.08	3870.85
9/15/2003 3873.31 3872.79 3874.98 3872.89	873.31	3872.79	3874.98	3872.89		3872.94	3874.98 3872.94 3872.75 3872.51 3872.39 3872.22 3872.57 3874.76 3875.28 3873.76 3873.71 3871.56	1872.51	3872.39	3872.22	3872.57	3874.76	3875.28	3873.76	3873.71	3871.56	3871.4
1/20/2004 3873.44 3874.46	873.44	3874.46		3874.6 3873.04		3873.12	3872.793873.123872.923872.633872.523872.393872.743874.753875.3833873.863873.83	1872.63	3872.52	3872.39	3872.74	3874.75	3875.38	3873.86	3873.83	3871	.67 3871.56
3/15/2004 3873.25 3874.4 3874.41 3872.84	873.25	3874.4	3874.41	3872.84		3872.93	3872.92 3872.93 3872.71 3872.44 3872.32 3872.19 3872.54 3874.65 3875.16 3873.69 3873.67 3871.48 3871.38	1872.44	3872.32	3872.19	3872.54	3874.65	3875.16	3873.69	3873.67	3871.48	3871.35
9/23/2004 3873.36 3873.73	873.36	3873.73	3874.7	3872.96	3873.17	3873.09	3873.09 3872.86 3872.54	1872.54	3872.43	3872.33 3872.66	3872.66	3874.71	3875.25	3873.82	3873.78	3871.58	3871.48
3/14/2005 3873.83 3874.79 3875.27 3873.44	873.83	3874.79	3875.27	3873.44		3873.59	3874.01 3873.59 3873.36 3873.01 3872.9 3872.76 3873.14 3875.21 3875.72 3874.24 3874.16	1873.01	3872.9	3872.76	3873.14	3875.21	3875.72	3874.24	3874.16	3872	3871.83
9/26/2005 3873.36 3874.62 3875.012 3873.32	873.36	3874.62	3875.012	3873.32	3873.03	3873.48	3873.48 3873.24 3872.89 3872.79 3872.67 3873.03 3875.01 3875.54 3874.15	872.89	3872.79	3872.67	3873.03	3875.01	3875.54	3874.15	3874.11	3874.11 3871.91	3871.8
3/2/2006 3872.61 3874.39 3874.29	872.61	3874.39	3874.29	3873	3873.03	3873.14	3873.03 3873.14 3872.89 3872.47 3872.36 3872.22 3872.67 3874.73 3875.23 3873.79 3873.72 3871.49 3871.34	872.47	3872.36	3872.22	3872.67	3874.73	3875.23	3873.79	3873.72	3871.49	3871.34
9/20/2006 3977.27 3896.25 3898.63 3971.45	977.27	3896.25	3898.63	3971.45		3971.17	3893.33]3971.17]3969.66] 3967.5 [3966.82]3967.52[3968.23]3895.11	3967.5	3966.82	3967.52	3968.23	3895.11	3964.8	3964.8	3965.1	3961.8	3963.3

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				Total
Well	Benzene	Toluene	Ethylbenzene	Xylenes
NMWQCC	0.01	0.75	0.75	0.62
MW-7	0.741	0.0056	< 0.002	0.0086
MW-9	10.9	< 0.002	< 0.002	0.025
MW-10	0.0025	< 0.002	< 0.002	< 0.006
MW-10 DUP	0.0024	< 0.002	< 0.002	< 0.006
MW-11	< 0.002	< 0.002	< 0.002	< 0.006
MW-12	< 0.002	< 0.002	< 0.002	< 0.006
MW-13	< 0.002	< 0.002	< 0.002	< 0.006
MW-14	0.139	0.003	< 0.002	< 0.006
MW-16	0.204	0.0035	0.0097	0.0078
MW-17	< 0.002	< 0.002	< 0.002	< 0.006
MW-18	< 0.002	< 0.002	< 0.002	< 0.006
MW-19	< 0.002	< 0.002	< 0.002	< 0.006
MW-20	< 0.002	0.0023	< 0.002	< 0.006
MW-21	0.481	0.0228	< 0.002	0.0339
MW-22	0.0111	< 0.002	< 0.002	< 0.006
TRIP	< 0.002	< 0.002	< 0.002	< 0.006

Table 4 - Summary of September 2006 Sampling Results

 Notes:
 1) All units mg/l

 2) NMWQCC: New Mexico Water Quality Control Commission groundwater standards.

 3) Bolded cells exceed the potentially-applicable NMWQCC standard

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Date	MW-3	MW-7	MW-9	MW-10	MW-14	MW-16	MW-17	MW-21	MW-22
03/01/90	0.069								
03/28/90	< 0.001	6.1						<u> </u>	
06/27/90	0.043							·	
08/10/90	0.015		0.006	1.3				······	
02/13/91			0.007	0.98	< 0.001				
06/26/91		3.2	0.16	9.7	< 0.002	<u> </u>			
10/17/91			0.002			0.004	0.008	· · · · ·	
01/23/92			< 0.001						
04/28/92		<u> </u>	< 0.001			[[
07/30/92		0.001	0.31			0.42			
10/21/92	· · · ·		3.0		0.043		·		
01/20/93			5.9		0.019				
04/15/93			2.2		0.013				
07/20/93		0.040	0.673	0.004		1.19		37	0.170
05/03/94		1	0.0.0					0.517	0.007
07/26/94		0.003	0.495	4.16		3.82		0.078	0.005
03/16/95							0.062		< 0.001
06/24/95			· ·					0.042	
08/10/95		0.083	5.86	3.66		3.53			
10/10/95		0.005	5.00	5.00		5.55		0.092	< 0.001
01/16/96	<u> </u>						< 0.001	0.072	0.001
04/25/96					2.22		-0.001	0.001	< 0.001
08/27/96		1.14	0.327	2.98					0.001
11/20/96		1.1.1	0.527	2.50		0.724		0.010	< 0.001
04/17/97					3.79			3.51	
08/12/97	1.990	1.39	0.138	4.71	3.42	0.891	0.002	33	0.002
01/20/98	1.770	1.57	0.150			0.071	0.002	11	0.002
08/05/98	0.002	1.63	0.892	1.5	0.002	1.95	< 0.001	<0.001	< 0.001
02/15/99	0.002		0.072	1.0	0.002			< 0.001	
08/18/99	< 0.001	1.5	13.6	1.01	0.024	0.454	0.028	< 0.001	< 0.005
02/16/00								< 0.005	
08/16/00	<0.005	0.036	2.92	3.70	0.284	0.076	0.037	< 0.005	< 0.005
02/16/01	< 0.005		+ -		<u> </u>	1		< 0.005	
08/01/01	<0.005	0.006	4.88	3.43	1.94	0.018	0.148	< 0.005	< 0.001
02/11/02	< 0.001	1		1		1		< 0.005	
08/13/02		0.026	1.57	7.99	< 0.001	0.016	0.015	< 0.001	<0.001
03/09/03	<u> </u>							0.362	
09/16/03	<u> </u>	0.008	8.67	2.42	0.002	0.081	0.01	5.58	< 0.005
03/15/04	<0.001	+	<u> </u>			<u> </u>		< 0.001	
09/23/04		<0.002	2.42	0.0219	< 0.002	0.012	< 0.002	8.5	0.0067
03/14/05	<u> </u>		1					6.72	
09/26/05	<0.002	0.001J	3.43	0.0032	0.0017J	0.016	0.0018J	3.91	< 0.002
03/2/06		0.0010			0100170	0.010		2.36	
09/26/06	+	0.741	10.9	0.0025	0.139	0.204	< 0.002 ·	0.481	0.0111
) Units are		1 10.7	0.0025	1 0.107	1 0.20 1	-0.002		1 0.0111

Table 5 - Summary of Benzene Concentrations in Selected Wells

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 Notes:
 1) Units are mg/l

 2) Wells MW-11, MW-12, MW-13, MW-18, MW-19 & MW-20 were not included because they have either never contained dissolved hydrocarbons or they have not contained them for a substantial period of time.

Date	MW-5	MW-6	MW-15	MW-8
Date	101 00 - 5	101 00-0	101 00 - 1.5	101 00-0
02/16/00	0.55	4.50	0.41	0.33
08/15/00	1.87		0.42	0.08
02/15/01	0.66	2.78	2.89	0.001
07/31/01	0.11		3.44	0.01
02/11/02	0.03	0.18	1.78	0.01
08/13/02	1.05	4.66	0.39	0.01
03/08/03	0.49	0.18	0.14	0.001
09/15/03	0.88	3.92	0.1	0.001
01/20/04	3.38	4.11	1.21	0.001
03/15/04	2.12	4.04	1.45	0.001
09/23/04	2.2	3.2	3.99	0.84
03/14/05	2.99	2.91	3.07	0.07
09/26/05	2.31	2.20	1.00	2.39
03/02/06	3.02	0.27	0.001	3.77
09/14/06	3.2	0.44	2.80	4.06

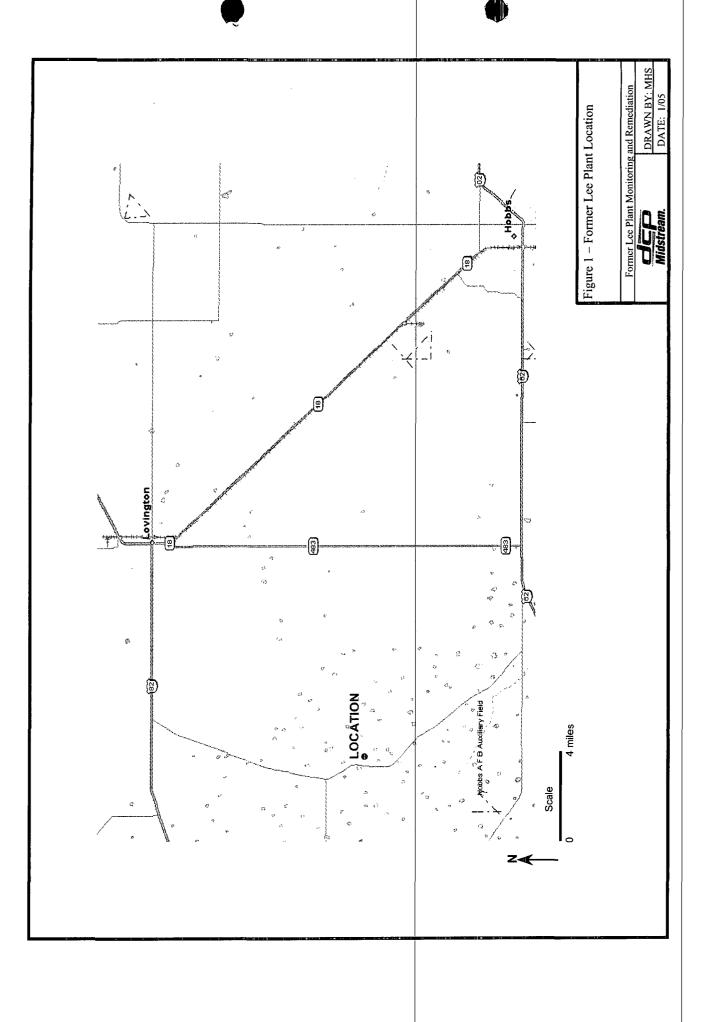
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 Table 6 - Summary of Free Phase Hydrocarbon Thickness Since February 2000

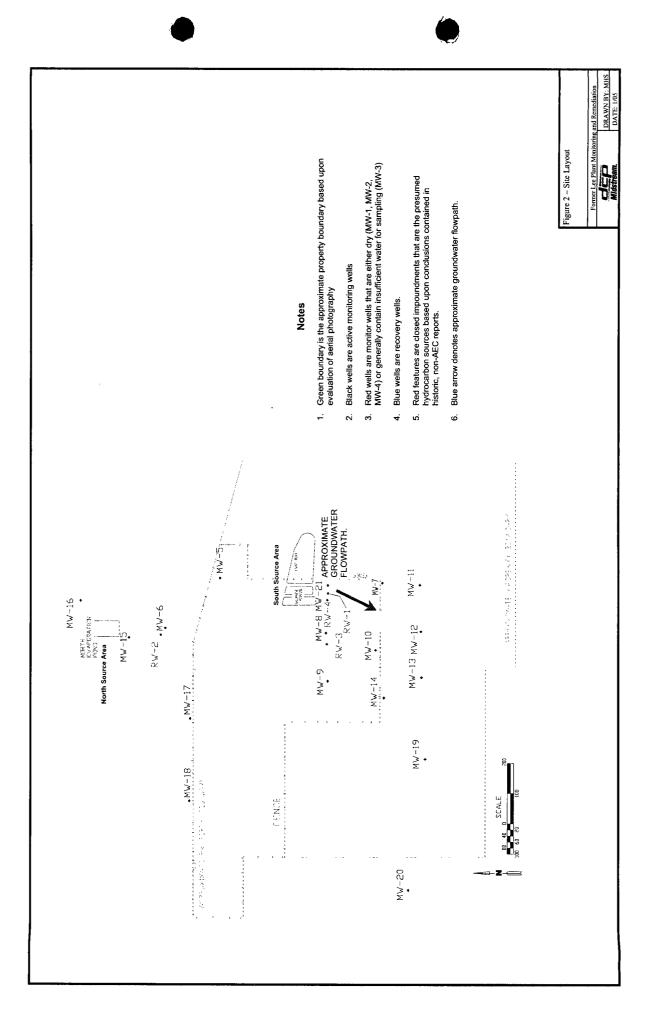
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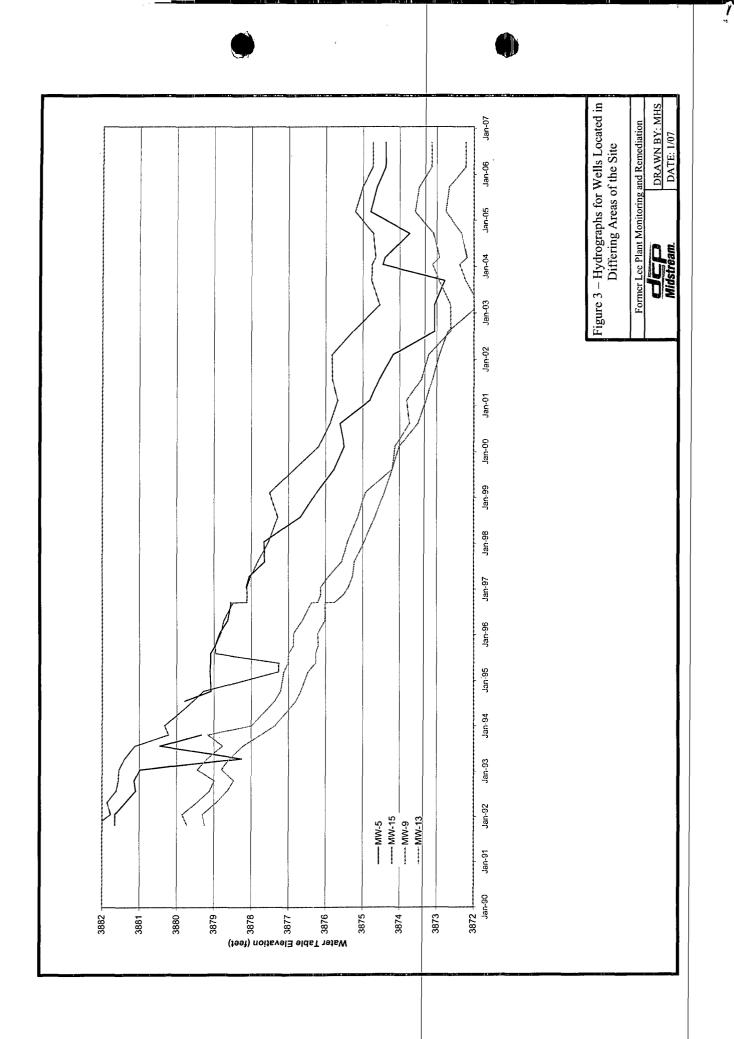
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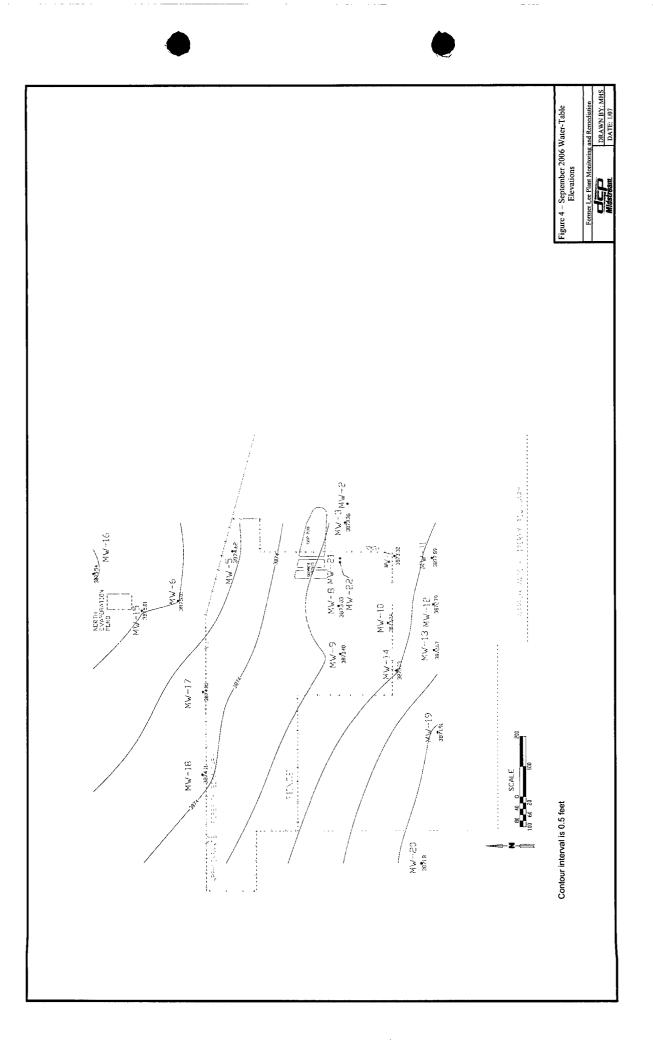
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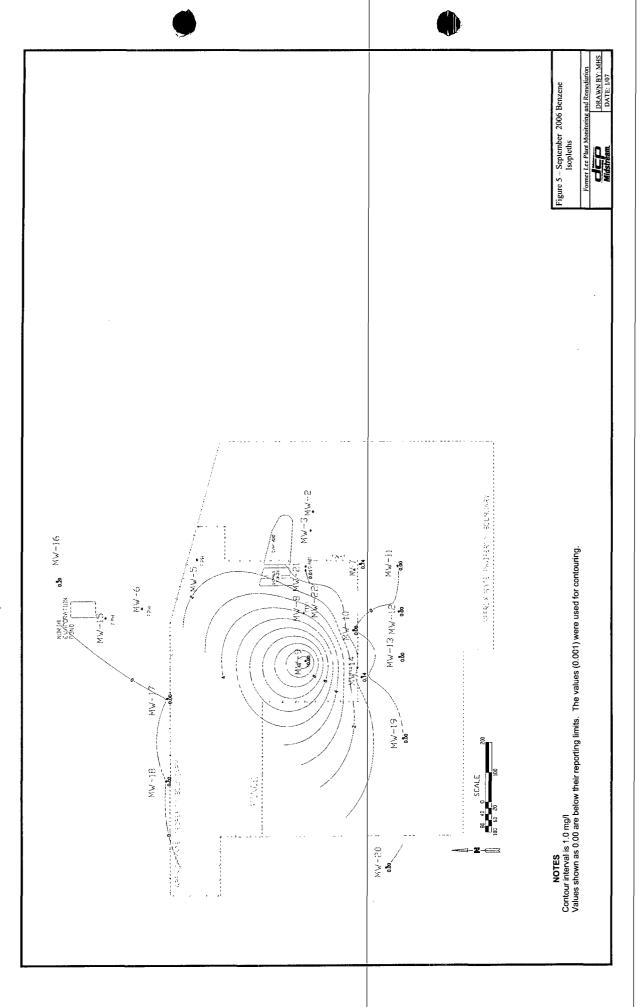
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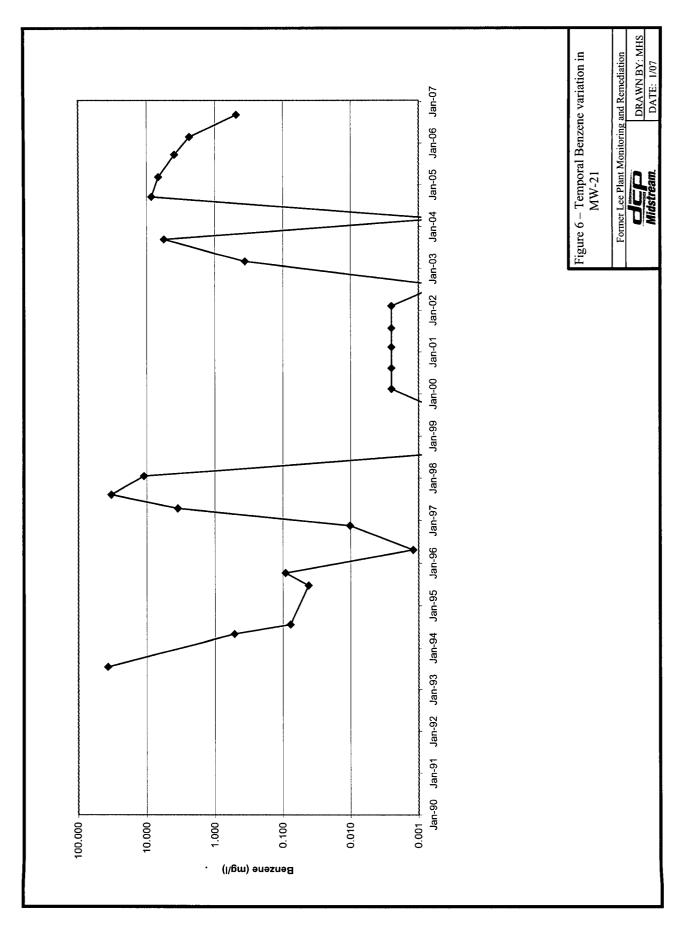




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September 2006 Analytical Laboratory Report

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	CLIENT:	Duke En	ergy Field S	Services		WELL ID:	MW-3					
SI	TE NAME:		Lee Plant			DATE:	9/14/2006					
PRO	JECT NO.		F-112		, s		J. Fergerson/D. Littlejohn					
SAMPLIN	G METHO	D:	🗹 Disposab	le Bailer	Direct f	rom Discha	arge Hose 🔲 Other:					
DESCRIB	E EQUIPM	ENT DECO	NTAMINATI	ON METHO	DD BEFO	RE SAMPL	ING THE WELL:					
Gloves	s 🗌 Alcono	ox 🗌 Distill	ed Water Ri	nse 🗌 C)ther:							
DISPOSA		OF PURG	E WATER:	Surface	Dischar	je 🗌 Drur	ns 🗹 Disposal Facility					
DEPTH TO HEIGHT (O WATER: DF WATER		107.8 1.04	Feet		0.5	Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)					
TIME	VOLUME PURGED		COND. mS/cm	pН	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS					
0:00	0	-	-	-	-	-	Begin Hand Bailing					
			Well Bailed Dry. Allowed Well Time to Recover									
		Allowed Well Time to Recover										
							Before Collecting Sample.					
				- <u>.</u>								
0:00	:Total Tim	e (hr:min)	0	:Total Vol	(gal)	#DIV/0!	:Flow Rate (gal/min)					
SAMP	LE NO.:	Collected S	ample No.:	060914	1450							
ANAL	YSES:	BTEX (826	0)									
COMN	IENTS:	Collected E	ouplicate Sar	nple No.: (06030220	00 for BTE	X (8260)					

WELL SAMPLING	G DATA FORM
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		Duko Er	ergy Field	Sonvices			M\\\/_7
0		·			•		MW-7 9/14/2006
			Lee Plant		•		
PRU	JJECT NO.		F-112	. <u></u>	•	SAMPLER:	J. Fergerson/D. Littlejohn
PURGING	G METHOD	:	☑ Hand Ba	iled 🗌 Pu	mp If P	ump, Type:	
SAMPLIN	IG METHO	D:	🗹 Disposat	ble Bailer] Direc	t from Discha	arge Hose
DESCRIE		ENT DECO	NTAMINATI	ON METH		ORE SAMPI	LING THE WELL:
Glove	s 🗌 Alcono	x 🗌 Distil	led Water Ri	inse 🗌 C	Other:		
DISPOSA		OF PURG	E WATER:	Surface	Discha	rge 🗌 Drui	ms 🗹 Disposal Facility
TOTAL D	EPTH OF V O WATER:	VELL:	<u>111.70</u> 105.57 6.13	Feet Feet		12.0	Minimum Gallons to
		<u>4.0</u>		reel			purge 3 well volumes (Water Column Height x 1.96)
TIME	VOLUME PURGED		COND. <i>m</i> S/cm	рН	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
8:25	0.0	-	-	-	-	-	Begin Hand Bailing
8:35	4.0	21.0	1.94	7.15	1.9	-	
8:54	8.0	21.7	1.75	7.10	1.8	-	
9:13	12.0	21.7	1.76	7.06	1.3	-	x
			······································				
			· · · · · · · · · · · · · · · · · · ·				
0:48	:Total Time	(hr:min)	12	:Total Vol (aal)	0.25	:Flow Rate (gal/min)
<u> </u>		Collected S	· · · · · · · · · · · · · · · · · · ·	060915			
		BTEX (8260				······································	
	IENTS:						
						C:\[DEFS-LEE PLANT\Purge & Sample Da

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CLIENT	: Duke Er	ergy Field	Services		WELL ID:	MW-9
SITE NAME	::	Lee Plant			DATE:	9/14/2006
PROJECT NC		F-112			SAMPLER:	J. Fergerson/D. Littlejohn
PURGING METHO	D :	🗌 Hand Bai	iled 🗹 Pu	mp If Pu	mp, Type:	3" Grundfos
SAMPLING METHO	DD:	🗹 Disposab	le Bailer	Direct	from Discha	arge Hose 🔲 Other:
DESCRIBE EQUIP	MENT DECO	NTAMINATI	ON METH	DD BEFC	RE SAMPL	ING THE WELL:
Gloves Alcor	iox 🗹 Distil	led Water Ri	nse 🗌 C	Other:		
DISPOSAL METHO	D OF PURG	E WATER:	Surface	Dischar	ge 🗌 Drur	ns 🗹 Disposal Facility
TOTAL DEPTH OF DEPTH TO WATEF HEIGHT OF WATE WELL DIAMETER:	R: R COLUMN:	107.11 9.84	Feet		19.3	Minimum Gallons to purge 3 well volumes
		-	····			(Water Column Height x 1.96)
		COND. <i>m</i> S/cm	рН	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
10:42 0.0	-	-	-	-	-	Begin Hand Bailing
10:51 7.0	22.4	1.36	6.97	0.6	-	
10:53 14.0	22.0	1.36	7.00	0.5	-	
10:55 21.0	21.9	1.35	7.01	0.6		
			-			
	-					
0:13 :Total Tin	ne (hr:min)	21	:Total Vol	(gal)	1.61	:Flow Rate (gal/min)
SAMPLE NO.:	Collected S	Sample No.:	060915	1105		
ANALYSES:	BTEX (826	0)	<u></u>			
COMMENTS:						

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	CLIENT:	Duke Er	nergy Field	Services	-	WELL ID	: <u>MW-10</u>
S	ITE NAME:	•	Lee Plant		-	DATE	:9/14/2006
PRO	DJECT NO.	. <u> </u>	F-112		-	SAMPLER	: J. Fergerson/D. Littlejohn
			_	_			
							3" Grundfos
			•				arge Hose Other:
						ORE SAMP	LING THE WELL:
✓ Glove	s 🗹 Alcond	ox 🗹 Distil	led Water Ri	inse 🗌 C	Other:	4	
DISPOSA) of Purg	E WATER:	Surface	e Discha	arge 🗌 Dru	ms 🗹 Disposal Facility
DEPTH T	O WATER:		<u>117.50</u> 106.86	Feet			
		COLUMN: 4.0	10.64 Inch	Feet		20.8	_Minimum Gallons to purge 3 well volumes
				r			(Water Column Height x 1.96)
TIME	PURGED	TEMP. _° C	COND. <i>m</i> S/cm	рН	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
11:44	0.0	_	-	-	-	-	Begin Hand Bailing
11:47	7.0	22.7	2.22	7.03	2.1		
11:50	14.0	22.5	2.22	6.95	2.3	-	
11:52	21.0	22.2	2.23	6.95	2.8		
······							
				-			
<u></u>							<u> </u>
0:08	:Total Time	e (hr:min)	21	:Total Vol ((gal)	2.62	:Flow Rate (gal/min)
SAMP	LE NO.:	Collected S	ample No.:	060915	1200		
ANAL	YSES:	BTEX (826	0)				
COMN	IENTS:	Collected D	uplicate Sar	nple No.: (0609152	2000 for BTE	X (8260)
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	CLIENT:	Duke En	ergy Field	Services		WELL ID:	MW-11				
SI	TE NAME:		Lee Plant			DATE:	9/14/2006				
PRC	JECT NO.		F-112		. :	SAMPLER:	J. Fergerson/D. Littlejohn				
PURGING	PURGING METHOD: Hand Bailed 🗹 Pump If Pump, Type: <u>3" Grundfos</u>										
SAMPLING METHOD: Image: Disposable Bailer Direct from Discharge Hose Other:											
DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:											
Gloves I Alconox I Distilled Water Rinse I Other:											
DISPOSA	DISPOSAL METHOD OF PURGE WATER: 🗹 Surface Discharge 🗌 Drums 🗌 Disposal Facility										
TOTAL DEPTH OF WELL:117.98 FeetDEPTH TO WATER:106.06 FeetHEIGHT OF WATER COLUMN:11.92 FeetWELL DIAMETER:4.0 Inch23.3Minimum Gallons topurge 3 well volumes(Water Column Height x 1.96)											
TIME	VOLUME PURGED	TEMP. °C	COND. mS/cm	рН	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS				
16:43	0.0	-	-	-	-	-	Begin Hand Bailing				
16:47	8.0	22.3	1.29	7.10	0.8	-					
16:50	16.0	21.9	1.24	7.13	0.7						
16:53	24.0	21.6	1.22	7.10	1.3	-					
						_					
						_					
0:10	:Total Time	e (hr:min)	24	:Total Vol	(gal)	2.39	:Flow Rate (gal/min)				
SAMP	LE NO.:	Collected S	ample No.:	060914	1705						
ANAL	YSES:	BTEX (826	0)								
COMN	IENTS:										

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		Duke Fr	nergy Field	Services		WELLID	MW-12		
S			Lee Plant		-		9/14/2006		
			F-112	-		J. Fergerson/D. Littlejohn			
FIX	JJECT NO.		1-112		-	SAMPLEN	. <u>J. Tergerson/D. Laaejonn</u>		
PURGING METHOD: Hand Bailed Pump If Pump, Type: 3" Grundfos									
SAMPLIN	IG METHO	D:	🗹 Disposab	ole Bailer [Direc	t from Disch	arge Hose		
DESCRIE	E EQUIPM	ENT DECO	NTAMINATI	ON METH		ORE SAMP	LING THE WELL:		
Glove	s 🗹 Alcono	ox 🗹 Distil	led Water Ri	inse 🗌 C	Other:				
DISPOSA		OF PURG	E WATER:	Surface	e Discha	arge 🗌 Dru	ms 🔲 Disposal Facility		
DEPTH T HEIGHT (O WATER: OF WATER		117.35 106.49 10.86 Inch	Feet		21.3	_Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)		
TIME	VOLUME		COND. mS/cm	pН	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS		
16:06	0.0	-	-	-	-	-	Begin Hand Bailing		
16:09	7.0	22.7	1.08	7.24	1.0	-			
16:11	14.0	22.1	1.03	7.26	1.9	-			
16:13	22.0	21.6	1.04	7.24	2.6	_			
		<u></u>							
				·					
0:07	:Total Time	(hr:min)	22	:Total Vol ((gal)	3.13	:Flow Rate (gal/min)		
		Collected S		060914					
	•	BTEX (826		200014					
	IENTS:	212/(020)	~/						
0000			·····	· · · · · · · · · · · · · · · · · · ·					
			·····			C:\[DEFS-LEE PLANT\Purge & Sample Da		

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	CLIENT:	Duke En	ergy Field	Services		WELL ID:	MW-13				
SI	TE NAME:		Lee Plant			DATE:	9/14/2006				
			F-112			SAMPLER:	J. Fergerson/D. Littlejohn				
PURGING	PURGING METHOD: Hand Bailed Pump If Pump, Type: 3" Grundfos										
SAMPLIN	SAMPLING METHOD: Image: Disposable Bailer Direct from Discharge Hose Other:										
DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:											
Gloves Alconox Distilled Water Rinse Other:											
DISPOSA	DISPOSAL METHOD OF PURGE WATER: 🗹 Surface Discharge 🗌 Drums 🗍 Disposal Facility										
			117.28								
DEPTH T	O WATER: DF WATER	COLUMN:	108.32 8.96	Feet Feet		17.5	Minimum Gallons to				
	METER:						purge 3 well volumes				
	VOLUME	TEMP.	COND.		DO		(Water Column Height x 1.96) PHYSICAL APPEARANCE AND				
TIME	PURGED		<i>m</i> S/cm	рН	mg\L	Turb	REMARKS				
15:22	0.0	-	-	-	-	-	Begin Hand Bailing				
15:26	6.0	22.7	0.92	6.81	0.6	-					
15:32	12.0	23.2	0.96	6.79	3.9	-					
15:38	18.0	23.7	0.97	6.78	4.3						
							······································				
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						:					
	l										
0:16	:Total Time		18	:Total Vol		1.12	:Flow Rate (gal/min)				
			Sample No.:	060914	1545						
		BTEX (826	0)								
COM	COMMENTS:										

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	CLIENT:	Duke Er	nergy Field	Services		WELL ID	MW-14
s	SITE NAME: Lee Plant						9/14/2006
PR	DJECT NO.		F-112		SAMPLER	: J. Fergerson/D. Littlejohn	
					-		
PURGING	G METHOD	:	Hand Ba	ump, Type:	3" Grundfos		
SAMPLIN	IG METHOI) :	🗹 Disposat	ole Bailer] Direc	t from Disch	arge Hose Other:
DESCRIE	BE EQUIPM	ENT DECO	NTAMINATI	ORE SAMP	LING THE WELL:		
Gloves Alconox Distilled Water Rinse Other:						<u></u>	
DISPOSA		OF PURG	E WATER:	Surface	e Discha	arge 🗌 Dru	ms 🗌 Disposal Facility
DEPTH T HEIGHT (O WATER: OF WATER		118.56 109.64 8.92 Inch	Feet		17.5	_Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)
TIME	VOLUME PURGED		COND. <i>m</i> S/cm	pН	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
11:14	0.0	-	-	-	_		Begin Hand Bailing
11:17	6.0	22.6	1.18	7.07	0.9		
11:21	12.0	22.2	1.19	7.08	6.0	-	
11:26	18.0	22.6	1.18	7.04	3.8		
	[
							· · · · · · · · · · · · · · · · · · ·
		<u> </u>			 		
0:12	:Total Time	e (hr:min)	18	:Total Vol ((gal)	1.49	:Flow Rate (gal/min)
SAMP	LE NO.:	Collected S	ample No.:	060915	1130		
ANAL	YSES:	BTEX (826	0)				
COM	IENTS:						····
						0.4	DEFS-LEE PLANT\Purge & Sample Data
						CAL	DEFO-LEE FLANT FUIGE & Sample Data

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	CLIENT:	Duke En	ergy Field	Services		WELL ID:	MW-16				
SI	TE NAME:		Lee Plant			DATE:	9/14/2006				
PRC	JECT NO.		F-112	· · · · · · · · · · · · · · · · · · ·		SAMPLER:	J. Fergerson/D. Littlejohn				
PURGING	PURGING METHOD: Hand Bailed Pump If Pump, Type: 3" Grundfos										
SAMPLIN	SAMPLING METHOD: I Disposable Bailer Direct from Discharge Hose Other:										
DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:											
Gloves Alconox Distilled Water Rinse Other:											
DISPOSA	DISPOSAL METHOD OF PURGE WATER: 🗹 Surface Discharge 🗌 Drums 🗌 Disposal Facility										
TOTAL D	EPTH OF W	ELL:	122.97	Feet							
DEPTH T	O WATER:		<u>105.61</u> 17.36	Feet		34.0	Minimum Gallons to				
	METER:			Feel			purge 3 well volumes				
	-						(Water Column Height x 1.96)				
TIME	VOLUME PURGED		COND. <i>m</i> S/cm	рН	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS				
18:51	0.0	-	-	-	-		Begin Hand Bailing				
18:55	12.0	21.4	0.68	6.82	1.4						
18:59	24.0	21.0	0.68	6.89	1.8	-					
19:04	36.0	20.8	0.68	6.91	2.2						
· · · · ·											
0:13	:Total Time	e (hr:min)	36	:Total Vol	(gal)	2.76	:Flow Rate (gal/min)				
SAMP	LE NO.:	Collected S	Sample No.:	060914							
ANAL		BTEX (826									
COMM	MENTS:	•			· · · · · · · · · · · · · · · · · · ·						

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	CLIENT:	Duke Er	nergy Field	Services		WELL IC	. MW-17
s			Lee Plant		-		9/14/2006
			F-112	-		J. Fergerson/D. Littlejohn	
PURGIN	G METHOD	:	Hand Bai	ump, Type:	3" Grundfos		
SAMPLIN	IG METHO	D:	🗹 Disposat	le Bailer [Direc	t from Disch	narge Hose 🛛 🗌 Other:
DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFC							PLING THE WELL:
✓ Gloves ✓ Alconox ✓ Distilled Water Rinse							
DISPOSA		OF PURG	E WATER:	✓ Surface	e Discha	arge 🗌 Dru	ums 🔲 Disposal Facility
TOTAL DEPTH OF WELL: 124.12 Feet DEPTH TO WATER: 108.04 Feet HEIGHT OF WATER COLUMN: 16.08 Feet WELL DIAMETER: 4.0 Inch						31.5	_Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)
TIME	VOLUME PURGED	TEMP. °C	COND. mS/cm	pН	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
18:16	0.0			-	- mg\L		Begin Hand Bailing
18:20	11.0	21.5	0.79	6.81	0.8		Bogin Hand Bannig
18:25	22.0	21.4	0.78	6.88	0.6		
18:29	33.0	21.5	0.78	6.95	0.6	-	
							- · · · · · · · · · · · · · · · · · · ·
0:13	:Total Time	e (hr:min)	33	:Total Vol ((gal)	2.53	:Flow Rate (gal/min)
SAMP	LE NO.:	Collected S	ample No.:	060914	1840		
ANAL	YSES:	BTEX (826	0)				- <u></u>
COMM	IENTS:	Collected M	1S/MSD San	nples!			
			······································		1		
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	CLIENT:	Duke En	ergy Field	Services		WELL ID:	MW-18				
SI	SITE NAME: Lee Plant					DATE:	9/14/2006				
PRO	JECT NO.		F-112			SAMPLER:	J. Fergerson/D. Littlejohn				
PURGING	PURGING METHOD: Hand Bailed I Pump If Pump, Type: 3" Grundfos										
SAMPLIN	SAMPLING METHOD: I Disposable Bailer Disposable Bailer Disposable Bailer										
DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:											
Gloves	s 🗹 Alcono	x 🗹 Distill	ed Water Ri	nse 🗌 C	Other:						
DISPOSAL METHOD OF PURGE WATER: Surface Discharge Drums Disposal Facility											
TOTAL DEPTH OF WELL:125.50 FeetDEPTH TO WATER:109.39 FeetHEIGHT OF WATER COLUMN:16.11 FeetWELL DIAMETER:4.0 InchState of the sector of the secto											
TIME	VOLUME PURGED	TEMP. ° C	COND. mS/cm	pН	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS				
17:34	0.0	-	-	-	-	-	Begin Hand Bailing				
17:38	11.0	22.2	0.51	7.01	0.4	-					
17:42	22.0	21.3	0.49	7.13	0.6	-					
17:47	33.0	21.1	0.49	7.21	0.8	-					
17:51	44.0	21.1	0.49	7.25	0.6	-					
0:17	:Total Time	e (hr:min)	44	:Total Vol	(gal)	2.58	:Flow Rate (gal/min)				
SAMP	LE NO.:	Collected S	ample No.:	060914	1805						
ANAL	YSES:	BTEX (826	0)								
COMM	IENTS:										

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	CLIENT:	Duke Er	nergy Field	WELL ID:	MW-19		
s	ITE NAME:		Lee Plant		9/14/2006		
PROJECT NO F-112						SAMPLER	J. Fergerson/D. Littlejohn
PURGING	3" Grundfos						
SAMPLIN	IG METHO	D:	🗹 Disposab	t from Disch	arge Hose Other:		
DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEF							LING THE WELL:
Gloves 🗹 Alconox 🗹 Distilled Water Rinse 🗌 Other:							
DISPOSA		OF PURG	E WATER:	Surface	e Discha	arge 🗌 Dru	ms 🔲 Disposal Facility
DEPTH T HEIGHT (O WATER:	COLUMN:	126.56 109.32 17.24 Inch	Feet		33.8	Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)
TIME	VOLUME PURGED		COND. <i>m</i> S/cm	pН	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
14:44	0.0	-	-		-	-	Begin Hand Bailing
14:48	12.0	23.1	1.45	6.56	1.1		
14:53	24.0	22.3	1.46	6.54	0.7	-	
14:59	36.0	22.2	1.47	6.55	0.7		
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		·					
		·					
		<u> </u>					
						-	
 				<u></u>	 †		
0:15	:Total Time	e (hr:min)	36	:Total Vol	(gal)	2.39	:Flow Rate (gal/min)
SAMP	LE NO.:	Collected S	ample No.:	060914	1510		
ANAL	YSES:	BTEX (826	0)				
COMM	IENTS:						
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	CLIENT: Duke Energy Field Services						MW-20				
SI			Lee Plant			DATE:	9/14/2006				
PRC	JECT NO.	-	F-112			SAMPLER:	J. Fergerson/D. Littlejohn				
PURGING	PURGING METHOD: Hand Bailed 🗹 Pump If Pump, Type:3" Grundfos										
SAMPLING METHOD: Image: Disposable Bailer Direct from Discharge Hose Other:											
DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:											
Gloves Alconox Distilled Water Rinse Other:											
DISPOSAL METHOD OF PURGE WATER: Surface Discharge Drums Disposal Facility											
TOTAL DEPTH OF WELL:128.21 FeetDEPTH TO WATER:111.98 FeetHEIGHT OF WATER COLUMN:16.23 FeetWELL DIAMETER:4.0 InchState31.8 Minimum Gallons toState90 grade 3 well volumes(Water Column Height x 1.96)											
TIME	VOLUME PURGED		COND. <i>m</i> S/cm	pН	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS				
12:18	0.0	-	-	-	-	-	Begin Hand Bailing				
12:23	11.0	22.1	0.93	6.78	0.9	-					
12:27	22.0	21.9	0.91	6.80	0.8						
12:32	33.0	22.0	0.90	6.81	0.7	-					
0:14	:Total Time	e (hr:min)	33	:Total Vol	(gal)	2.35	:Flow Rate (gal/min)				
SAMP	LE NO.:	Collected S	ample No.:	060914	1245						
ANAL	YSES:	BTEX (826	0)		· · · ·						
COM	COMMENTS:										

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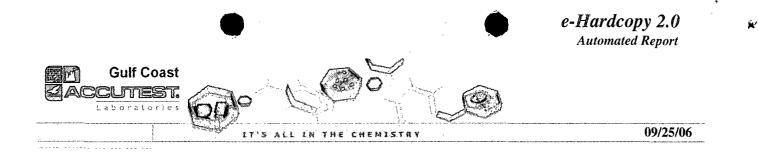
	CLIENT:	Duke Er	ergy Field	Services		WELL ID:	MW-21
S	SITE NAME:		Lee Plant		-		9/14/2006
PROJECT NO F-112							J. Fergerson/D. Littlejohn
PURGIN	G METHOD	:	✓ Hand Bai	iled 🔲 Pu	mp If F	ump, Type:	
							arge Hose 🔲 Other:
DESCRIE	BE EQUIPM	ENT DECO	NTAMINATI	ON METH		ORE SAMPI	LING THE WELL:
Glove	es 🗌 Alcono	ox 🗌 Distil	led Water Ri	nse 🗌 C	Other:		
DISPOSA	AL METHOD) of purg	E WATER:	Surface	e Discha	arge 🗌 Drui	ms 🗹 Disposal Facility
DEPTH T HEIGHT	O WATER:	COLUMN:	15.98	Feet		7.8	Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)
TIME	VOLUME		COND. mS/cm	рН	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
9:36	0.0	-	_	-	-	-	Begin Hand Bailing
10:02	2.7	22.5	0.72	7.18	2.0	-	
10:21	5.4	22.9	0.74	7.23	1.8	-	
10:33	8.1	23.3	0.78	7.30	1.8		· · · · · · · · ·
						_	
			·				
	· · · · · ·						
-							
0:57	:Total Time	e (hr:min)	8.1	:Total Vol (gal)	0.14	:Flow Rate (gal/min)
		Collected S		060915			
ANAL		BTEX (826					
COM	MENTS:						
	······						
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WELL SAMPLING DATA FORM

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CLIENT:	ergy Field	Services		WELL ID:	<u>M</u> W-22				
SITE NAME:		Lee Plant			DATE:	9/14/2006			
PROJECT NO.		<u>F-112</u>			SAMPLER:	J. Fergerson/D. Littlejohn			
PURGING METHOD:		✓ Hand Bai	led 🗌 Pu	mp If Pu	np, Type:				
SAMPLING METHOD	:	🗹 Disposab	le Bailer	Direct 1	rom Discha	arge Hose 🔲 Other:			
DESCRIBE EQUIPME	ENT DECO	NTAMINATI	ON METHO	DD BEFO	RE SAMPL	ING THE WELL:			
Gioves 🗌 Alcono	x 🗌 Distill	ed Water Ri	nse 🗌 C	Other:					
DISPOSAL METHOD OF PURGE WATER: Surface Discharge Drums 🗹 Disposal Facility									
TOTAL DEPTH OF W DEPTH TO WATER: HEIGHT OF WATER		107.86	Feet		20.0	Minimum Collons to			
WELL DIAMETER:			reel		20.0	Minimum Gallons to purge 3 well volumes			
	TEMP.	COND.	-	DO		(Water Column Height x 0.49) PHYSICAL APPEARANCE AND			
TIME PURGED	°C		pН	mg\L	Turb	REMARKS			
8:32 0.0	-	-	-	-		Begin Hand Bailing			
8:56 5.0	22.2	0.26	7.68	2.3	-				
9:23 10.0	22.7	0.52	7.68	5.1					
9:57 15.0	24.2	0.52	7.61	5.8					
		·							
						-			
 -	-								
1:25 :Total Time (hr:min) 15 :Total Vol (gal) 0.18 :Flow Rate (gal/min)									
		ample No.:	060915						
-	BTEX (826								
COMMENTS:	_					······			

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Technical Report for

Duke Energy Field Services

AECCOLI: Duke-Lee Plant, Lea County, NM

Accutest Job Number: T14719

Sampling Dates: 09/14/06 - 09/15/06

Report to:

American Environmental Consulting

mstewart@aecdenver.com

ATTN: Mike Stewart

Total number of pages in report: 35



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Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Ron Martino Laboratory Manager

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Sample Summary

Duke Energy Field Services

Job No: T14719

AECCOLI: Duke-Lee Plant, Lea County, NM

Sample Number	Collected Date Time By	Mat Received Cod		Client Sample ID
T14719-1	09/14/06 12:45 JF	09/19/06 AQ	Ground Water	MW-20 (0609141245)
T14719-2	09/14/06 15:10 JF	09/19/06 AQ	Ground Water	MW-19 (0609141510)
T14719-3	09/14/06 15:45 JF	09/19/06 AQ	Ground Water	MW-13 (0609141545)
T14719-4	09/14/06 16:25 JF	09/19/06 AQ	Ground Water	MW-12 (0609141625)
T14719-5	09/14/06 17:05 JF	09/19/06 AQ	Ground Water	MW-11 (0609141705)
T14719-6	09/14/06 18:05 JF	09/19/06 AQ	Ground Water	MW-18 (0609141805)
T14719-7	09/14/06 18:40 JF	09/19/06 AQ	Ground Water	MW-17 (0609141840)
T14719-7D	09/14/06 18:40 JF	09/19/06 AQ	Water Dup/MSD	MW-17 (0609141840)
T14719-7S	09/14/06 18:40 JF	09/19/06 AQ	Water Matrix Spike	MW-17 (0609141840)
T14719-8	09/14/06 19:10 JF	09/19/06 AQ	Ground Water	MW-16 (0609141910)
T14719-9	09/15/06 09:20 JF	09/19/06 AQ	Ground Water	MW-7 (0609150920)
T14719-10	09/15/06 10:00 JF	09/19/06 AQ	Ground Water	MW-22 (0609151000)
T14719-11	09/15/06 10:35 JF	09/19/06 AQ	Ground Water	MW-21 (0609151035)



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Sample Summary (continued)

Duke Energy Field Services

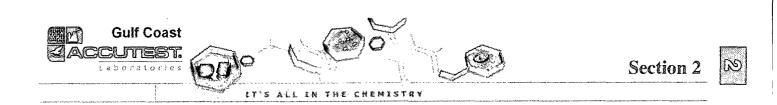
Job No: T14719

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AECCOLI: Duke-Lee Plant, Lea County, NM

Sample Number	Collected Date	Time By	Received	Matr Code		Client Sample ID
T14719-12	09/15/06	11:05 JF	09/19/06	AQ	Ground Water	MW-9 (0609151105)
T14719-13	09/15/06	11:30 JF	09/19/06	AQ	Ground Water	MW-14 (0609151130)
T14719-14	09/15/06	12:00 JF	09/19/06	AQ	Ground Water	MW-10 (0609151200)
T14719-15	09/15/06	20:00 JF	09/19/06	AQ	Ground Water	DUPLICATE (0609152000)
T14719-16	09/14/06	00:00 JF	09/19/06	AQ	Trip Blank Water	TRIP BLANK





Sample Results

Report of Analysis



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	Report of Analysis							
Client Sample Lab Sample Matrix: Method: Project:		er	County, N	Date I Percer	Sampled: Received nt Solids	: 09/19/06		
Run #1 Run #2	File ID DF B120034.D 1	Analyzed 09/20/06	By LJ	Prep D n/a	ate	Prep Batch n/a	Analytical Batch VB1304	
Run #1 Run #2	Purge Volume 5.0 ml							
Purgeable A	Aromatics							
CAS No.	Compound	Result	RL	MDL	Units	Q		
71-43-2 108-88-3 100-41-4 1330-20-7	Benzene Toluene Ethylbenzene Xylene (total)	ND ND 2.3 ND	2.0 2.0 2.0 6.0	0.23 0.54 0.48 1.1	ug/l ug/l ug/l ug/l			
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its			
1868-53-7 17060-07-0 2037-26-5 460-00-4	Dibromofluoromethane 1,2-Dichloroethane-D4 Toluene-D8 4-Bromofluorobenzene	116% 114% 102% 96%		66-1 77-1	39% 39% 48% 50%			

ND = Not detected MDL - Method Detection Limit RL = Reporting Limit

- E = Indicates value exceeds calibration range
- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



2.1 2

	Report of Analysis							
Client Sam Lab Sampl Matrix: Method: Project:		er	a County, NI	Date l Percer	Sampled: Received nt Solids	: 09/19/06		
Run #1 Run #2	File ID DF B120035.D 1	Analyzed 09/20/06	By LJ	Prep D n/a	ate	Prep Batch n/a	Analytical Batch VB1304	
Run #1 Run #2	Purge Volume 5.0 ml							
Purgeable A	Aromatics							
CAS No.	Compound	Result	RL	MDL	Units	Q		
71-43-2 108-88-3	Benzene Toluene	ND ND	2.0 2.0	0.23 0.54	ug/l ug/l			
108-88-3 100-41-4 1330-20-7	Ethylbenzene Xylene (total)	ND ND ND	2.0 2.0 6.0	0.34 0.48 1.1	ug/l ug/l			
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its			
1868-53-7 17060-07-0 2037-26-5 460-00-4	Dibromofluoromethane 1,2-Dichloroethane-D4 Toluene-D8 4-Bromofluorobenzene	116% 114% 99% 98%		66-1 77-1	39% 39% 48% 50%			

ND = Not detected MDL - Method Detection Limit RL = Reporting LimitE = Indicates value exceeds calibration range J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



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	Report of Analysis						
Client Sam Lab Sampl Matrix: Method: Project:	e ID: T14719-3 AQ - Ground W SW846 8260B	·	County, N	Date I Percer	Sampled: Received nt Solids	: 09/19/06	
Run #1 Run #2	File ID DF B120036.D 1	Analyzed 09/20/06	By LJ	Prep D n/a	bate	Prep Batch n/a	Analytical Batch VB1304
Run #1 Run #2	Purge Volume 5.0 ml						
Purgeable	Aromatics						
CAS No.	Compound	Result	RL	MDL	Units	Q	
71-43-2 108-88-3 100-41-4	Benzene Toluene Ethylbenzene	ND ND ND	2.0 2.0 2.0	0.23 0.54 0.48	ug/l ug/l ug/l		
1330-20-7 CAS No.	Xylene (total) Surrogate Recoveries	ND Run# 1	6.0 Run# 2	1.1 Lim	ug/l iits		
1868-53-7 17060-07-0 2037-26-5 460-00-4	Dibromofluoromethane 1,2-Dichloroethane-D4 Toluene-D8 4-Bromofluorobenzene			66-1 77-1	39% 39% 48% 50%		

ND = Not detected MDL - Method Detection Limit RL = Reporting Limit

- E = Indicates value exceeds calibration range
- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



2.3 2

Report of Analysis Page 1 of 1 Client Sample ID: MW-12 (0609141625) Lab Sample ID: T14719-4 Date Sampled: 09/14/06 AQ - Ground Water Matrix: Date Received: 09/19/06 SW846 8260B Method: Percent Solids: n/a Project: AECCOLI: Duke-Lee Plant, Lea County, NM File ID DF Prep Date Prep Batch Analytical Batch Analyzed By Run #1 B120037.D 1 09/20/06 LJ n/a n/a VB1304 Run #2 Purge Volume Run #1 5.0 ml Run #2 **Purgeable Aromatics** RL MDL CAS No. Compound Result Units Q 71-43-2 Benzene ND 2.0 0.23 ug/l 108-88-3 Toluene ND 2.0 0.54 ug/l Ethylbenzene 2.0 100-41-4 ND 0.48 ug/l 1.1 1330-20-7 ND 6.0 Xylene (total) ug/l CAS No. Surrogate Recoveries Run#1 Run#2 Limits

Dibromofluoromethane 1868-53-7 114% 73-139% 1.2-Dichloroethane-D4 66-139% 17060-07-0 112% 2037-26-5 **Toluene-D8** 97% 77-148% 460-00-4 4-Bromofluorobenzene 84-150% 93%

ND = Not detectedMDL - Method Detection Limit RL = Reporting Limit E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



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		Report of Analysis		
-	MW-11 (0609141705)		00/11/100	
Lab Sample ID:	T14719-5	Date Sampled:	09/14/06	
Matrix:	AQ - Ground Water	Date Received:	09/19/06	
N	CWOAC DOCOD		-1-	

Matrix:	AQ - Ground Water			a County,	Date Received: 09/19/06				
Method:	SW846 8260B				Percent Solids: n/a				
Project:	AECCOLI: Duke-Lee Plant, Lea C				County, NM				
Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch		
Run #2	B120038.D	1	09/20/06	LJ	n/a	n/a	VB1304		
Run #1 Run #2	Purge Volume 5.0 ml								

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4 1330-20-7	Benzene Toluene Ethylbenzene Xylene (total)	ND ND ND ND	2.0 2.0 2.0 6.0	0.23 0.54 0.48 1.1	ug/l ug/l ug/l ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	its	
1868-53-7 17060-07-0 2037-26-5 460-00-4	Dibromofluoromethane 1,2-Dichloroethane-D4 Toluene-D8 4-Bromofluorobenzene	120% 115% 96% 90%		73-1 66-1 77-1 84-1	39% 48%	

ND = Not detectedMDL - Method Detection Limit RL = Reporting Limit E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



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Page 1 of 1

2037-26-5

460-00-4

Toluene-D8

4-Bromofluorobenzene

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	Page 1 of 1						
Client Sam Lab Sampl Matrix: Method: Project:		ter	County, NI	Date I Perce	Sampled: Received nt Solids	: 09/19/06	
Run #1 Run #2	File ID DF B120039.D 1	Analyzed 09/20/06	By LJ	Prep D n/a	Date	Prep Batch n/a	Analytical Batch VB1304
Run #1 Run #2	Purge Volume 5.0 ml			<u> </u>			
Purgeable A	Aromatics						
CAS No.	Compound	Result	RL	MDL	Units	Q	
71-43-2 108-88-3 100-41-4 1330-20-7	Benzene Toluene Ethylbenzene Xylene (total)	ND ND ND ND	2.0 2.0 2.0 6.0	0.23 0.54 0.48 1.1	ug/l ug/l ug/l ug/l		
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its		
1868-53-7 17060-07-0	Dibromofluoromethane 1,2-Dichloroethane-D4	121% 118%			39% 39%		

101%

89%

ND = Not detected MDL - Method Detection Limit RL = Reporting Limit E = Indicates value exceeds calibration range

J = Indicates an estimated value

77-148%

84-150%

- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



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Report of Analysis							Page 1 of 1
Client Samj Lab Sample Matrix: Method: Project:							
Run #1 Run #2	File ID DF B120040.D 1	Analyzed 09/20/06	By LJ	Prep D n/a	ate	Prep Batch n/a	Analytical Batch VB1304
Run #1 Run #2	Purge Volume 5.0 ml						
Purgeable A	Aromatics						
CAS No.	Compound	Result	RL	MDL	Units	Q	
71-43-2	Benzene	ND	2.0	0.23	ug/l		
108-88-3	Toluene	ND	2.0	0.54	ug/l		
100-41-4	Ethylbenzene	ND	2.0	0.48	ug/l		
1330-20-7	Xylene (total)	ND	6.0	1.1	ug/1		
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its		
1868-53-7	Dibromofluoromethane	118%		73-1	39%		
17060-07-0	1,2-Dichloroethane-D4	114%		66-1	39%		
2037-26-5	Toluene-D8	102%		77-1	48%		
460-00-4	4-Bromofluorobenzene	93%		84-1	50%		

ND = Not detected MDL - Method Detection Limit RL = Reporting LimitE = Indicates value exceeds calibration range

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



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			Repo	ort of An	alysis			Page 1 of 1
Client Sam Lab Samp Matrix: Method: Project:	le ID: T14719-8 AQ - Gro SW846 8	3 ound Wate 260B		i County, NI	Date 1 Perce	Sampled: Received nt Solids	: 09/19/06	
Run #1 Run #2	File ID B120043.D B120066.D	DF 1 5	Analyzed 09/20/06 09/21/06	By LJ LJ	Prep D n/a n/a	Date	Prep Batch n/a n/a	Analytical Batch VB1304 VB1306
Run #1 Run #2 Purgeable	Purge Volume 5.0 ml 5.0 ml Aromatics							
CAS No.	Compound		Result	RL	MDL	Units	Q	
71-43-2 108-88-3 100-41-4 1330-20-7	Benzene Toluene Ethylbenzene Xylene (total)		204 ^a 9.7 3.5 7.8	10 2.0 2.0 6.0	1.2 0.54 0.48 1.1	ug/l ug/l ug/l ug/l		
CAS No.	Surrogate Recov	veries	Run# 1	Run# 2	Lim	its		
1868-53-7 17060-07-0 2037-26-5	Dibromofluorom 1,2-Dichloroetha Toluene-D8		113% 109% 101%	100% 99% 99%	66-1	39% 39% 48%		

94%

85%

(a) Result is from Run# 2

4-Bromofluorobenzene

460-00-4

ND = Not detectedMDL - Method Detection Limit RL = Reporting Limit E = Indicates value exceeds calibration range

J = Indicates an estimated value

84-150%

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



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Lab Sample Matrix: Method: Project:	AQ - G SW846	Fround Wate 8260B	er Lee Plant, Lea	County, NN	Date H Percer	Sampled: Received: nt Solids:	: 09/19/06	
Run #1 Run #2	File ID B120044.D B120067.D	DF 1 5	Analyzed 09/20/06 09/21/06	By LJ LJ	Prep D n/a n/a	ate	Prep Batch n/a n/a	Analytical Batch VB1304 VB1306
Run #1 Run #2	Purge Volume 5.0 ml 5.0 ml							
Purgeable A	Aromatics							
Purgeable A	Aromatics Compound		Result	RL	MDL	Units	Q	
-			Result 741 ^a ND 5.6 8.6	RL 10 2.0 2.0 6.0	MDL 1.2 0.54 0.48 1.1	Units ug/l ug/l ug/l ug/l	Q	
CAS No. 71-43-2 108-88-3 100-41-4	Compound Benzene Toluene Ethylbenzene	coveries	741 ^a ND 5.6	10 2.0 2.0	1.2 0.54 0.48	ug/l ug/l ug/l ug/l	Q	

97%

89%

Report of Analysis

(a) Result is from Run# 2

4-Bromofluorobenzene

460-00-4

ND = Not detected MDL - Method Detection Limit

- RL = Reporting Limit
- E = Indicates value exceeds calibration range
- J = Indicates an estimated value

84-150%

- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound





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		Repo	ort of An	alysis			Page 1 of 1
Client Sam Lab Samp Matrix: Method: Project:	le ID: T14719-10 AQ - Groun SW846 8260	d Water	a County, NI	Date I Perce	Sampled: Received nt Solids	: 09/19/06	
Run #1 Run #2	File IDDFB120045.D1	Analyzed 09/20/06	By LJ	Prep D n/a	ate	Prep Batch n/a	Analytical Batch VB1304
Run #1 Run #2	Purge Volume 5.0 ml						
Purgeable	Aromatics						
CAS No.	Compound	Result	RL	MDL	Units	Q	
71-43-2 108-88-3 100-41-4	Benzene Toluene Ethylbenzene	11.1 ND ND	2.0 2.0 2.0	0.23 0.54 0.48	ug/l ug/l ug/l		
1330-20-7	Xylene (total)	ND	6.0	1.1	ug/l		
CAS No.	Surrogate Recoveri	es Run#1	Run# 2	Lim	its		
1868-53-7 17060-07-0 2037-26-5 460-00-4	Dibromofluorometh 1,2-Dichloroethane- Toluene-D8 4-Bromofluorobenze	D4 119% 99%		66-1 77-1	39% 39% 48% 50%		

ND = Not detected MDL - Method Detection Limit RL = Reporting LimitE = Indicates value exceeds calibration range J = Indicates an estimated value

B = Indicates analyte found in associated method blank

ration range N = Indicates presumptive evidence of a compound



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Client Sam Lab Sample Matrix: Method: Project:	e ID: T14719 AQ - G SW846	round Wat 8260B	-	County, N	Date I Percer	Sampled: Received nt Solids	: 09/19/06	
Run #1 Run #2	File ID B120046.D B120068.D	DF 1 5	Analyzed 09/20/06 09/21/06	By LJ LJ	Prep D n/a n/a	ate	Prep Batch n/a n/a	Analytical Batch VB1304 VB1306
Run #1 Run #2	B120068.D 5 Purge Volume 5.0 ml 5.0 ml 5.0 ml							
Purgeable	Aromatics							
CAS No.	Compound		Result	RL	MDL	Units	Q	
71-43-2	Benzene		481 a	10	1.2	ug/l		
108-88-3 100-41-4	Toluene Ethylbenzene		ND 22.8	2.0 2.0	0.54 0.48	ug/l ug/l		
1330-20-7	Xylene (total)		33.9	6.0	1.1	ug/l		
CAS No.	Surrogate Rec	coveries	Run# 1	Run# 2	Lim	its		
1868-53-7	Dibromofluoro		116%	105%		39%		
17060-07-0 2037-26-5	1,2-Dichloroet Toluene-D8	hane-D4	112% 98%	105% 102%		.39% .48%		
460-00-4	4-Bromofluoro	benzene	100%	98%		50%		

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit RL = Reporting Limit E = Indicates value exceeds calibration range

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Report of Analysis

Page 1 of 1

			Коро		ury 515			1 age 1 01 1
Client Sam Lab Samp Matrix: Method: Project:	le ID: T147 AQ - SW84	Ground Wat 16 8260B	,	County, N	Date R Percen	amplec leceived it Solid	1: 09/19/06	
Run #1 Run #2 Run #3	File ID B120047.D B120069.D B120102.D	DF 1 25 100	Analyzed 09/20/06 09/21/06 09/22/06	By LJ LJ LJ	Prep Da n/a n/a n/a	ate	Prep Batch n/a n/a n/a	Analytical Batch VB1304 VB1306 VB1307
Run #1 Run #2 Run #3	Purge Volum 5.0 ml 5.0 ml 5.0 ml	e						
Purgeable	Aromatics							
CAS No.	Compound		Result	RL	MDL	Units	Q	
71-43-2 108-88-3 1330-20-7	Benzene Toluene Xylene (total))	10900 ^a ND 25.0	200 2.0 6.0	23 0.54 1.1	ug/1 ug/1 ug/1		
CAS No.	Surrogate R	ecoveries	Run# 1	Run# 2	Run	# 3	Limits	
1868-53-7 17060-07-0 2037-26-5 460-00-4	Dibromofluor 1,2-Dichloro Toluene-D8 4-Bromofluor	ethane-D4	117% 113% 95% 102%	103% 100% 102% 95%	102% 95% 112% 91%	6	73-139% 66-139% 77-148% 84-150%	

Report of Analysis

(a) Result is from Run# 3

ND = Not detectedMDL - Method Detection LimitRL = Reporting LimitE = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound





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Page 1 of 1

2037-26-5

460-00-4

Toluene-D8

4-Bromofluorobenzene

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		Repo	rt of An	alysis			Page 1 of 1
Client Sam Lab Sample Matrix: Method: Project:		ler	County, NI	Date l Perce	Sampled: Received nt Solids	: 09/19/06	
Run #1 Run #2	File ID DF B120048.D 1	Analyzed 09/20/06	By LJ	Prep D n/a	Date	Prep Batch n/a	Analytical Batch VB1304
Run #1 Run #2	Purge Volume 5.0 ml						
Purgeable A	Aromatics						
CAS No.	Compound	Result	RL	MDL	Units	Q	
71-43-2 108-88-3 100-41-4 1330-20-7	Benzene Toluene Ethylbenzene Xylene (totał)	139 ND 3.0 ND	2.0 2.0 2.0 6.0	0.23 0.54 0.48 1.1	ug/l ug/l ug/l ug/l		
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	iits		
1868-53-7 17060-07-0	Dibromofluoromethane 1,2-Dichloroethane-D4	117% 118%			1 39% 1 39%		

100%

91%

ND = Not detected MDL - Method Detection Limit RL = Reporting LimitE = Indicates value exceeds calibration range J = Indicates an estimated value

77-148%

84-150%

- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



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460-00-4

		Repo	ort of An	alysis			Page 1 of 1
Client Sam Lab Sampl Matrix: Method: Project:		ter	a County, NI	Date I Percer	Sampled: Received nt Solids	: 09/19/06	
Run #1 Run #2	File ID DF B120092.D 1	Analyzed 09/22/06	By LJ	Prep D n/a	ate	Prep Batch n/a	Analytical Batch VB1307
Run #1 Run #2	Purge Volume 5.0 ml						-
Purgeable A	Aromatics						
CAS No.	Compound	Result	RL	MDL	Units	Q	
71-43-2 108-88-3 100-41-4 1330-20-7	Benzene Toluene Ethylbenzene Xylene (total)	2.5 ND ND ND	2.0 2.0 2.0 6.0	0.23 0.54 0.48 1.1	ug/l ug/l ug/l ug/l		
CAS No.	Surrogate Recoveries	Run # 1	Run# 2	Lim	its		
1868-53-7 17060-07-0 2037-26-5	Dibromofluoromethane 1,2-Dichloroethane-D4 Toluene-D8	107% 103% 103%		66-1	39% 39% 48%		

96%

ND = Not detectedMDL - Method Detection Limit RL = Reporting Limit E = Indicates value exceeds calibration range

4-Bromofluorobenzene

J = Indicates an estimated value

84-150%

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



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			Repo	rt of An	alysis			Page 1 of 1
Client Sam Lab Sampl Matrix: Method: Project:	le ID: T1 A(SV	JPLICATE (0) 4719-15 2 - Ground Wa /846 8260B CCOLI: Duke		County, NN	Date I Percer	Sampled: Received nt Solids	: 09/19/06	
Run #1 Run #2	File ID B120093.D	DF 1	Analyzed 09/22/06	By LJ	Prep D n/a	ate	Prep Batch n/a	Analytical Batch VB1307
Run #1 Run #2	Purge Volu 5.0 ml	ime						
Purgeable	Aromatics							
CAS No.	Compoun	d	Result	RL	MDL	Units	Q	
71-43-2 108-88-3 100-41-4 1330-20-7	Benzene Toluene Ethylbenz Xylene (to		2.4 ND ND ND	2.0 2.0 2.0 6.0	0.23 0.54 0.48 1.1	ug/l ug/l ug/l ug/l		
CAS No.	Surrogate	Recoveries	Run# 1	Run# 2	Lim	its		
1868-53-7	Dibromof	uoromethane	103%		73-1	39%		

101%

101%

98%

ND = Not detected	MDL - Method Detection Limit
RL = Reporting Limit	
E = Indicates value exce	eeds calibration range

1,2-Dichloroethane-D4

4-Bromofluorobenzene

Toluene-D8

17060-07-0

2037-26-5

460-00-4

J = Indicates an estimated value

66-139%

77-148%

84-150%

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



17060-07-0

2037-26-5

460-00-4

Report of Analysis

Client Sample ID: TRIP BLANK Lab Sample ID: T14719-16 Date Sampled: 09/14/06 Matrix: AQ - Trip Blank Water Date Received: 09/19/06 Method: SW846 8260B Percent Solids: n/a AECCOLI: Duke-Lee Plant, Lea County, NM Project: Analytical Batch File ID DF Analyzed Prep Date Prep Batch By Run #1 B120051.D 09/20/06 LJ VB1304 1 n/a n/a Run #2 Purge Volume Run #1 5.0 ml Run #2 **Purgeable Aromatics** MDL CAS No. Compound Result RL Units Q 71-43-2 Benzene NĎ 2.0 0.23 ug/l 108-88-3 Toluene ND 2.0 0.54 ug/l 100-41-4 Ethylbenzene ND 2.0 0.48 ug/l 1330-20-7 Xylene (total) ND 6.0 1.1 ug/l CAS No. Limits Surrogate Recoveries Run#1 Run#2 Dibromofluoromethane 73-139% 1868-53-7 126%

120%

102%

90%

ND = Not detected MDL - Method Detection Limit RL = Reporting Limit E = Indicates value exceeds calibration range

1,2-Dichloroethane-D4

4-Bromofluorobenzene

Toluene-D8

J = Indicates an estimated value

66-139%

77-148%

84-150%

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



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Page 1 of 1

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Misc. Forms

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Custody Documents and Other Forms

Includes the following where applicable:

• Chain of Custody



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T14719: Chain of Custody Page 1 of 3 • •

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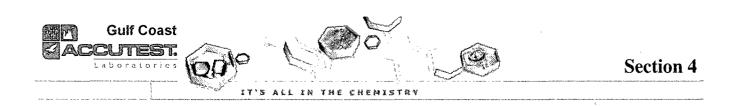
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EST.	N.	Variance (Circle "\" for yes and "\" for no or NA. If "\" is circled, se Sample received in undamaged condition. 2. N S Bample received with proper pH. 4. N Sc Sample volume sufficient for analysis. 6. N Sc Chain of Custody matches sample IDs and analysis on containers. Samples Headspace acceptable	BOTTLE #	1-3	1-9	1-3	1-3-				/			- \						VR: Volatije Refrig. 2: HCL 3: HNO3	iding volatiles	E B	
ACCUTEST.	UDB # TI 4719 CLIENT: AMENICA		AMPLE	1 10 8	4	61-6	16			<u> </u>										LOCATION: WI: Walk-In VR: Volatile Reifig. SUB: Subcontract EF: En PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2SO4 5: NAOH 6: Other Comments:	pH of waters checked excluding volatiles pH of soils N/A	Delivery method: Courier,	

T14719: Chain of Custody Page 3 of 3





GC/MS Volatiles

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike SummariesMatrix Spike and Duplicate Summaries



Method Blank Summary

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Job Number: Account: Project:		T14719 DUKE Duke Energy Field Services AECCOLI: Duke-Lee Plant, Lea County, NM									
Sample VB1304-MB	File ID B120029.D	DF 1	Analyzed 09/20/06	By LJ	Prep Date n/a	Prep Batch n/a	Analytical Batch VB1304				
The OC server	ted here anni		fallowing com		. <u>.</u>	Mathod: SW	/946 9260B				

The QC reported here applies to the following samples:

Method: SW846 8260B

Page 1 of 1

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T14719-1, T14719-2, T14719-3, T14719-4, T14719-5, T14719-6, T14719-7, T14719-8, T14719-9, T14719-10, T14719-11, T14719-12, T14719-13, T14719-16

CAS No.	Compound	Result	RL	MDL	Units Q	
71-43-2 100-41-4 108-88-3 1330-20-7	Benzene Ethylbenzene Toluene Xylene (total)	ND ND ND ND	2.0 2.0 2.0 6.0	0.23 0.48 0.54 1.1	ug/l ug/l ug/l ug/l	
CAS No.	Surrogate Recoveries		Limit	ts		
1868-53-7 17060-07-0 2037-26-5 460-00-4	Dibromofluoromethane 1,2-Dichloroethane-D4 Toluene-D8 4-Bromofluorobenzene	110%73-139%115%66-139%104%77-148%97%84-150%				



Method Blank Summary

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Job Number: Account: Project:		T14719 DUKE Duke Energy Field Services AECCOLI: Duke-Lee Plant, Lea County, NM									
Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch				
VB1306-MB	B120065.D	1	09/21/06	LJ	n/a	n/a	VB1306				

The QC reported here applies to the following samples:

Method: SW846 8260B

T14719-8, T14719-9, T14719-11, T14719-12

CAS No.	Compound	Result	RL	MDL	Units Q
71-43-2	Benzene	ND	2.0	0.23	ug/l
CAS No.	Surrogate Recoveries		Limits		
1868-53-7	Dibromofluoromethane	105%	73-139	%	
17060-07-0	1,2-Dichloroethane-D4	107%	66-139	%	
2037-26-5	Toluene-D8	103%	77-148	%	
460-00-4	4-Bromofluorobenzene	99 %	84-150	%	



Page 1 of 1

Method Blank Summary

Method B Job Number: Account: Project:	lank Sum T14719 DUKE Duk AECCOLI:	Page 1 of 1	1					
Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch	
VB1307-MB	B120091.D	1	09/22/06	LJ	n/a	n/a	VB1307	

The QC reported here applies to the following samples:

Method: SW846 8260B

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T14719-12, T14719-14, T14719-15

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CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 100-41-4 108-88-3 1330-20-7	Benzene Ethylbenzene Toluene Xylene (total)	ND ND ND ND	2.0 2.0 2.0 6.0	0.23 0.48 0.54 1.1	ug/l ug/l ug/l ug/l	
CAS No.	Surrogate Recoveries		Limi	ts		
1868-53-7 17060-07-0 2037-26-5 460-00-4	Dibromofluoromethane 1,2-Dichloroethane-D4 Toluene-D8 4-Bromofluorobenzene	103%73-139%103%66-139%100%77-148%95%84-150%				



Blank Spike Summary

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Job Number: Account: Project:			Field Services e Plant, Lea Co	unty, NM	1		U
Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB1304-BS	B120028.D	1	09/20/06	LJ	n/a	n/a	VB1304

The QC reported here applies to the following samples:

Method: SW846 8260B

T14719-1, T14719-2, T14719-3, T14719-4, T14719-5, T14719-6, T14719-7, T14719-8, T14719-9, T14719-10, T14719-11, T14719-12, T14719-13, T14719-16

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	23.4	94	67-118
100-41-4	Ethylbenzene	25	22.1	88	71-119
108-88-3	Toluene	25	21.3	85	70-121
1330-20-7	Xylene (total)	75	66.7	89	72-120
CAS No.	Surrogate Recoveries	BSP	Limits		
1868-53-7	Dibromofluoromethane	101%	73-	139%	
17060-07-0	1,2-Dichloroethane-D4	110%	66-	139%	
2037-26-5	Toluene-D8	96%	77-	148%	
460-00-4	4-Bromofluorobenzene	95 %	84-	150%	



Page 1 of 1

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Blank Spike Summary

Blank Spil	Blank Spike SummaryPage 1 of 1										
Job Number: Account: Project:	•										
Sample VB1306-BS	File ID B120064.D	DF 1	Analyzed 09/21/06	By LJ	Prep Date n/a	Prep Batch n/a	Analytical Batch VB1306				

The QC reported here applies to the following samples:

Method: SW846 8260B

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T14719-8, T14719-9, T14719-11, T14719-12

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	24.5	98	67-118
CAS No.	Surrogate Recoveries	BSP	Lim	its	
1868-53-7	Dibromofluoromethane	101%	73-1	39%	
17060-07-0	1,2-Dichloroethane-D4	103%	66-1	39%	
2037-26-5	Toluene-D8	97 %	77-1	48%	
460-00-4	4-Bromofluorobenzene	97%	84-1	50%	



Blank Spike Summary

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Job Number: Account: Project:		T14719 DUKE Duke Energy Field Services AECCOLI: Duke-Lee Plant, Lea County, NM									
Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch				
VB1307-BS	B120090.D	1	09/22/06	LJ	n/a	n/a	VB1307				

The QC reported here applies to the following samples:

Method: SW846 8260B

T14719-12, T14719-14, T14719-15

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	24.1	96	67-118
100-41-4	Ethylbenzene	25	22.9	92	71-119
108-88-3	Toluene	25	23.3	93	70-121
1330-20-7	Xylene (total)	75	71.3	95	72-120
CAS No.	Surrogate Recoveries	BSP	Limits		
1868-53-7	Dibromofluoromethane	104%	73-	73-139%	
17060-07-0	1,2-Dichloroethane-D4	98%	66-	66-139%	
2037-26-5	Toluene-D8	94%	77-	148%	
460-00-4	4-Bromofluorobenzene	96 %	84-	150%	



Page 1 of 1

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Matrix Spike/Matrix Spike Duplicate Summary Page 1 of 1

Job Number: Account: Project:	DUKE Duke Energy Field Services AECCOLI: Duke-Lee Plant, Lea County, NM									
Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch			
T14719-7MS	B120041.D	1	09/20/06	LJ	n/a	n/a	VB1304			
T14719-7MSD	B120042.D	1	09/20/06	LJ	n/a	n/a	VB1304			
T14719-7	B120040.D	1	09/20/06	LJ	n/a	n/a	VB1304			

The QC reported here applies to the following samples:

Method: SW846 8260B

T14719-1, T14719-2, T14719-3, T14719-4, T14719-5, T14719-6, T14719-7, T14719-8, T14719-9, T14719-10, T14719-11, T14719-12, T14719-13, T14719-16

CAS No.	Compound	T14719-7 ug/l Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2 100-41-4 108-88-3	Benzene Ethylbenzene Toluene	ND ND ND	25 25 25	29.2 24.1 23.9	117 96 96	29.7 25.6 25.9	119 102 104	2 6 8	65-122/15 70-123/18 70-123/18
1330-20-7	Xylene (total)	ND	75 MSD	72.0	96 719-7	76.0 Limits	101	5	71-122/16
CAS No. 1868-53-7 17060-07-0 2037-26-5	Surrogate Recoveries Dibromofluoromethane 1,2-Dichloroethane-D4 Toluene-D8	MS 119% 122% 100%	119% 116% 103%	118 114 102	% % %	73-1399 66-1399 77-1489	% %		
460-00-4	4-Bromofluorobenzene	94%	94%	93%	á	84-1509	%		



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Matrix Spike/Matrix Spike Duplicate Summary

Job Number:	T14719
Account:	DUKE Duke Energy Field Services
Project:	AECCOLI: Duke-Lee Plant, Lea County, NM

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T14694-4MS	B120075.D	20	09/21/06	LĴ	n/a	n/a	VB1306
T14694-4MSD	B120076.D	20	09/21/06	LJ	n/a	n/a	VB1306
T14694-4	B120074.D	20	09/21/06	LJ	n/a	n/a	VB1306

The QC reported here applies to the following samples:

Method: SW846 8260B

T14719-8, T14719-9, T14719-11, T14719-12

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CAS No.	Compound	T14694-4 ug/l Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	1220	500	1720	100	1750	106	2	65-122/15
CAS No.	Surrogate Recoveries	MS	MSD	T14	694-4	Limits			
1868-53-7 17060-07-0 2037-26-5	Dibromofluoromethane 1,2-Dichloroethane-D4 Toluene-D8	97% 108% 101%	101% 103% 101%	97% 104% 100%		73-139% 66-139% 77-148%			
460-00-4	4-Bromofluorobenzene	101%	101%	100		84-1509	-		



Page 1 of 1

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Matrix Spike/Matrix Spike Duplicate Summary Page 1 of 1 Job Number: T14719 Account: DUKE Duke Energy Field Services Project: AECCOLI: Duke-Lee Plant, Lea County, NM Sample File ID DF Prep Date Analytical Batch Analyzed By Prep Batch T14777-2MS B120105.D 1 ĹĴ VB1307 09/22/06 n/a n/a T14777-2MSD B120106.D 1 09/22/06 VB1307 LJ n/a n/a T14777-2 B120100.D 1 09/22/06 LJ VB1307 n/a n/a The QC reported here applies to the following samples: Method: SW846 8260B T14719-12, T14719-14, T14719-15

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CAS No.	Compound	T14777-2 ug/l Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	25	25.4	102	25.2	101	1	65-122/15
100-41-4	Ethylbenzene	ND	25	24.5	98	24.9	100	2	70-123/18
108-88-3	Toluene	ND	25	25.4	102	26.0	104	2	70-123/18
1330-20-7	Xylene (total)	ND	75	73.9	99	76.7	102	4	71-122/16
CAS No.	Surrogate Recoveries	MS	MSD	T14	777-2	Limits			
1868-53-7	Dibromofluoromethane	93%	95%	105	%	73-1399	6		
17060-07-0	1,2-Dichloroethane-D4	98 %	96%	102	%	66-139%	6		
2037-26-5	Toluene-D8	101%	102%	102% 100%		77-148%			
460-00-4	4-Bromofluorobenzene	109%	108%	95%	6	84-150%	6		



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370 17th Street, Suite 2500 Denver, Colorado 80202 303-595-3331 – main 303-605-1957 – fax

January 30, 2007

Mr. Carl Chavez, CHMM New Mexico Oil Conservation Division 1220 S. St. Francis Dr. Santa Fe, NM 87505

RE: Third Quarter 2006 Groundwater Monitoring Report for the Former Lee Gas Plant Lea County, New Mexico Unit N Section 30, Township 17 South, Range 35 East

Dear Mr. Chavez:

DCP Midstream, LP (DCP) is pleased to submit for your review one copy of the Third Quarter Groundwater Monitoring Report for the Former Lee Gas Plant located in Lea County, New Mexico (Unit N Section 30, Township 17 South, Range 35 East).

Groundwater monitoring activities were completed September 20, 2006. The data indicate that the groundwater conditions remain stable. The next groundwater monitoring event is scheduled for the first quarter of 2007. The 2007 annual report will be prepared following the completion of the first quarter 2007 monitoring activities and review and validation of the analytical results.

If you have any questions regarding this report, please call me at 303-605-1893.

Sincerely,

DCP Midstream, LP

Daniel Dick Environmental Engineer

Enclosure

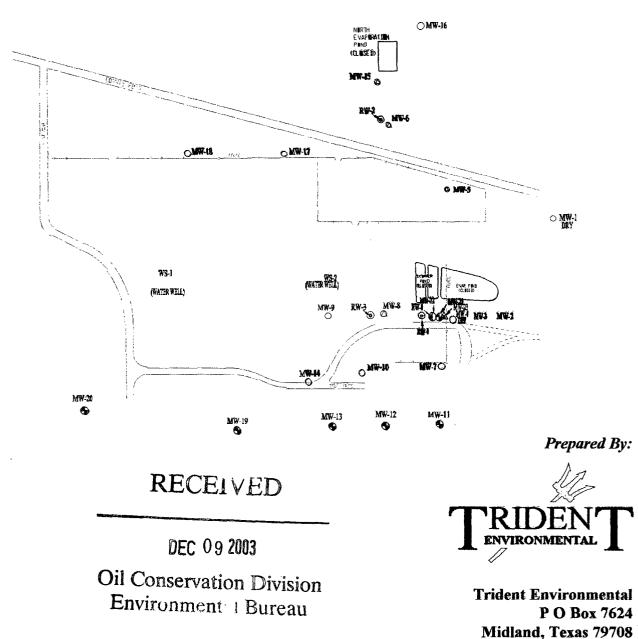
cc: Larry Johnson – OCD District Office Hobbs Lynn Ward – DEFS Midland Environmental Files

2003 Annual Groundwater Monitoring and Sampling Report Duke Energy Field Services Lee Gas Plant Lea County, New Mexico

Prepared For:

64-2

Duke Energy Field Services P. O. Box 5493 Denver, Colorado 80217



2003 Annual Groundwater Monitoring and Sampling Report Duke Energy Field Services – Lee Gas Plant Lea County, New Mexico

Prepared by:

Trident. Environmental P O Box 7624 Midland, Texas 79708 (915) 682-0808 FAX (915) 682-0727

SUBMITTED BY:

Gilbert J. Van Deventer/PG, REM, NMCS Project Manager DATE:

11-28-03

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APPENDICES

Appendix A Laboratory Analytical Reports and Chain-of-Custody Documentation

Appendix B Well Sampling Data Forms

1.0 Executive Summary

Trident Environmental (Trident) was retained by Duke Energy Field Services LP (DEFS) to perform the sampling and monitoring operations at the Lee Gas Plant. The plant is located in sections 30 and 31 of township 17 south and range 35 east in Lea County, New Mexico. This 2003 annual report summarizes the two sampling events performed by Trident at the DEFS Lee Gas Plant on March 9, 2003 and September 15 and 16, 2003.

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 monitoring wells (MW-7, MW-11, MW-12, MW-13, MW-14, MW-18, MW-19, MW-20, and MW-22) are currently below the New Mexico Water Quality Control Commission (WQCC) standards.
- Benzene concentrations in the groundwater from wells located within the aerial extent of the dissolved-phase hydrocarbon plume (RW-2, RW-3, MW-9, MW-10, MW-16, MW-17, and MW-21) were above WQCC standards during 2003. Toluene, ethylbenzene, and xylene concentrations in all of the wells were below the WQCC standards with the exception of recovery well RW-3.
- During the September 15, 2003 monitoring event, light non-aqueous phase liquid (LNAPL) was measured in monitoring wells MW-5 (0.88 feet), MW-6 (3.92 feet), and MW-15 (0.10 feet).
- An estimated total of 2.4 million gallons of groundwater was recovered by three recovery wells during the 1-year period of record (January 1, 2003 through December 31, 2003).
- The hydraulic gradient is approximately 0.003 feet/foot and the direction of groundwater flow is to the southwest based on the gauging data obtained on September 15, 2003.
- 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 LNAPL recovery at MW-6 with the Xitech system.
- Continue free product recovery from MW-5, MW-8, and MW-15 using passive bailers and/or hydrophobic adsorbent socks, and hand bailing methods as appropriate.
- Continue vapor extraction and air sparging operations at RW-1 and MW-23, respectively.

- Continue the program of monitoring natural attenuation that includes the analysis of dissolved oxygen (DO), nitrate (NO₃), sulfate (SO₄), ferric iron (Fe³⁺), ferrous iron (Fe²⁺), and manganese (Mn) to assess the efficacy of intrinsic bioremediation processes occurring on site.
- Continue the sampling and monitoring program on a semi-annual basis. The next sampling event is scheduled during the first quarter of 2004.

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.	

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	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 include the installation of six monitoring wells (MW-15, MW-16, MW-17, MW-18, MV 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.		

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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 22, 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 0 & 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.

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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.	
November 6, 2000	TRW conducted O & M on Xitech, vapor extraction, and air sparge systems. Upon arrival it was determined that the electrical breaker at the main transformer had been thrown. Following the restoration of electrical power the submersible water pump in RW-3 would not operate. All of the other systems were operational.	
December 13, 2000	TRW conducted O & M on Xitech, vapor extraction, and air sparge systems. All of the systems were operational except the water pump in RW-3.	
January 23, 2001	TRW conducted O & M on Xitech, vapor extraction, and air sparge systems. All of the systems were operational except the water pumps in RW-3 and RW-4.	
February 15, 2001	TRW conducted O & M on Xitech, vapor extraction, and air sparge systems, and performed semi-annual sampling activities. A water well contractor installed a new submersible pump in RW-3 and a new relay switch in the breaker box at RW-4. All systems were operational upon completion of the site visit, however the flow meter in RW-4 was not working properly.	
March 20, 2001	TRW conducted O & M on Xitech, vapor extraction, and air sparge systems. All of the systems were operational except for the flow meters at RW-2 and RW-3, and the submersible pump in RW-4. Field personnel serviced the flow meter,	



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	replaced the check value in RW-3, and re-activated the power and replaced the flow meter at RW-4. All systems were operational upon the completion of the site visit; however the flow meters at RW-2 and RW-3 were not working properly.
May 1, 2001	Trident Environmental acquired the assets and staff of the Midland, Texas office of TRW Inc.
May 10, 2001	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems. The submersible pump in RW-3 and the flow meter at RW-4 were not operational.
May 23, 2001	Trident replaced an "Airgas-owned" nitrogen bottle with a Trident-owned bottle, replaced a digital "GPI" flow meter in RW-1 with an analog "Neptune" totalizer and installed a stainless steel strainer in line at RW-4 to protect the flow meter. The submersible pump in RW-3 was not operational.
June 18, 2001	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems. The submersible pumps in RW-2 and RW-3, and the flow meter at RW-4 were not operational upon arrival. Trident personnel serviced the flow meter and cleaned out the stainless steel strainer at RW-4
June 19, 2001	A water well servicing contractor (W-H-B) bailed 2 gallons of sand and installed a new $\frac{3}{4}$ hp Myers submersible pump in RW-3, and replaced a relay switch at the breaker for RW-2. Upon completion of the site visit all of the remedial systems were operation, however the flow meter in RW-3 was not working properly.
July 20, 2001	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems. The submersible pump in RW-2 and the flow meter at RW-3 were not operational upon arrival. Trident personnel replaced the digital GPI flow meter in RW-3 with an analog Neptune totalizer.
July 25, 2001	Trident personnel attempted to re-start RW-2 by replacing the relay and capacitor, but the submersible pump would not reactivate. The totalizer from RW-2 was moved to RW-3. All other systems were operational upon departure.
July 31, 2001	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems, and performed annual sampling activities. The totalizer in RW-3 (used unit) was replaced with a new totalizer.
September 11, 2001	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems. The submersible pump in RW-2, the flow meter at RW-3, and the VE unit (RW-1) were not operational upon arrival. Trident personnel restarted the VE unit and replaced the totalizer in RW-3 with a "GPI" meter.
October 10, 2001	A water well servicing contractor (W-H-B) removed old pump and installed a new ½ hp Myers submersible pump in RW-2.



October 11, 2001	Trident installed a sediment trap and digital GPI flowmeter at RW-2. All systems were operational upon departure.	
January 10, 2002	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems. Xitech pump removed and sent to manufacturer for repairs and upgrade.	
January 15, 2002	A new Coyote pump off control box was installed at RW-3.	
January 23, 2002	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems. Installed repaired Xitech pump in MW-6 and secondary containment for PRT	
February 11-12, 2002	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems, and performed semi-annual sampling activities. The flowmeter faceplate at RW-4 was replaced with working unit.	
March 6, 2002	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems. Plugged discharge line at RW-2 was replaced with new HDPE line.	
April 9, 2002	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems.	
May 14, 2002	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems. The flowmeter faceplate and battery at RW-2 were replaced with working units.	
July 12, 2002	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems. The flowmeter faceplate and battery at RW-3 were replaced with working units.	
August 13-14, 2002	Trident conducted $O & M$ on Xitech, vapor extraction, and air sparge systems, and performed annual sampling activities. The flowmeter faceplate at RW-4 was replaced with working unit.	
September 20, 2002	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems. New GPI flowmeters were installed at RW-2, RW-3, and RW-4.	
October 18, 2002	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems. Sand buildup was bailed from RW-2, RW-3 and RW-4. Worn-out pumps were replaced with new Meyers $\frac{1}{2}$ HP submersible pump in RW-3 and RW-4.	
October 24, 2002	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems. Sections of total fluids discharge lines from RW-2 and RW-3 were upgraded with HDPE line and re-routed. Replaced battery for Xitech PRS at MW-6.	
November 22, 2002	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems.	
December 16, 2002	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems.	

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January 14, 2003	Trident conducted O & M on Xitech, vapor extraction, air sparge and groundwater recovery well systems, and recovered product from passive bailer MW-5 and MW-15.	
February 7, 2003	Trident conducted O & M on Xitech, vapor extraction, air sparge and groundwater recovery well systems, and recovered product from passive bailers in MW-5 and MW-15.	
March 8-9, 2003	Trident conducted O & M on Xitech, vapor extraction, and air sparge and groundwater recovery well systems, and recovered product from passive bailers in MW-5 and MW-15. Also performed semi-annual groundwater sampling activities.	
April 23, 2003	Trident conducted O & M on Xitech, vapor extraction, and air sparge and groundwater recovery well systems, and recovered product from passive bailers in MW-5 and MW-15.	
May 29, 2003	Trident conducted O & M on Xitech, vapor extraction, and air sparge and groundwater recovery well systems, and recovered product from passive bailers in MW-5 and MW-15.	
June 23, 2003	Trident conducted O & M on Xitech, vapor extraction, and air sparge and groundwater recovery well systems, and recovered product from passive bailers in MW-5 and MW-15.	
July 30, 2003	Trident conducted O & M on Xitech, vapor extraction, and air sparge and groundwater recovery well systems, and recovered product from passive bailers in MW-5 and MW-15.	
August 21, 2003	Trident conducted O & M on Xitech, vapor extraction, and air sparge and groundwater recovery well systems, and recovered product from passive bailers in MW-5 and MW-15.	
September 15-16, 2003	Trident conducted O & M on Xitech, vapor extraction, and air sparge and groundwater recovery well systems, and recovered product from passive bailers in MW-5 and MW-15. Also performed annual groundwater sampling activities.	
October 29, 2003	Trident conducted O & M on Xitech, vapor extraction, and air sparge and groundwater recovery well systems, and recovered product from passive bailers in MW-5 and MW-15.	



3.0 **Procedures**

Each monitoring well at the Lee Gas Plant was gauged for depth to groundwater on March 8, 2003 and September 15, 2003, using a Heron H.01L oil/water interface probe or comparable model. The depth to groundwater in the recovery wells was not gauged due to access limitations caused by the presence of downhole pumping equipment.

Immediately prior to collecting groundwater samples, the monitoring wells were purged using a Grundfos submersible pump with the exception of MW-21 and MW-22, which were purged using a decontaminated hand bailer. MW-3 was not sampled during either sampling event due to the lack of enough groundwater to obtain a representative groundwater sample (dry well conditions). Purging operations were completed after groundwater parameters (pH, conductivity, dissolved oxygen, turbidity, and temperature) stabilized. Conductivity, pH, dissolved oxygen (DO), turbidity, and temperature readings were measured after every 5 gallons of purging using a Horiba Model U-10 and Hanna Model 9143 DO meter or similar models. A total of 653 gallons of well development water was purged from the monitoring wells during the 2003-sampling year.

Groundwater samples for BTEX analysis 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 hydrochloric acid (HCl) for analysis of BTEX using EPA Method 8021B. The annual sampling event conducted on September 15-16, 2003, included another set of water samples that were transferred into appropriately preserved containers for analysis of nitrate (NO₃), sulfate (SO₄), total iron, and manganese, to assess the efficacy of intrinsic bioremedial activity currently taking place. The iron and manganese samples were filtered in the field with a 45mm element. During the annual sampling event in September 2003, ferrous iron (Fe²) was also measured in the field using a Hach DR2010 spectrophotometer (Method 8146). Chainof-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 2003 calendar year is presented in Table 1.



4.0 Groundwater Elevations, Hydraulic Gradient and Flow Direction

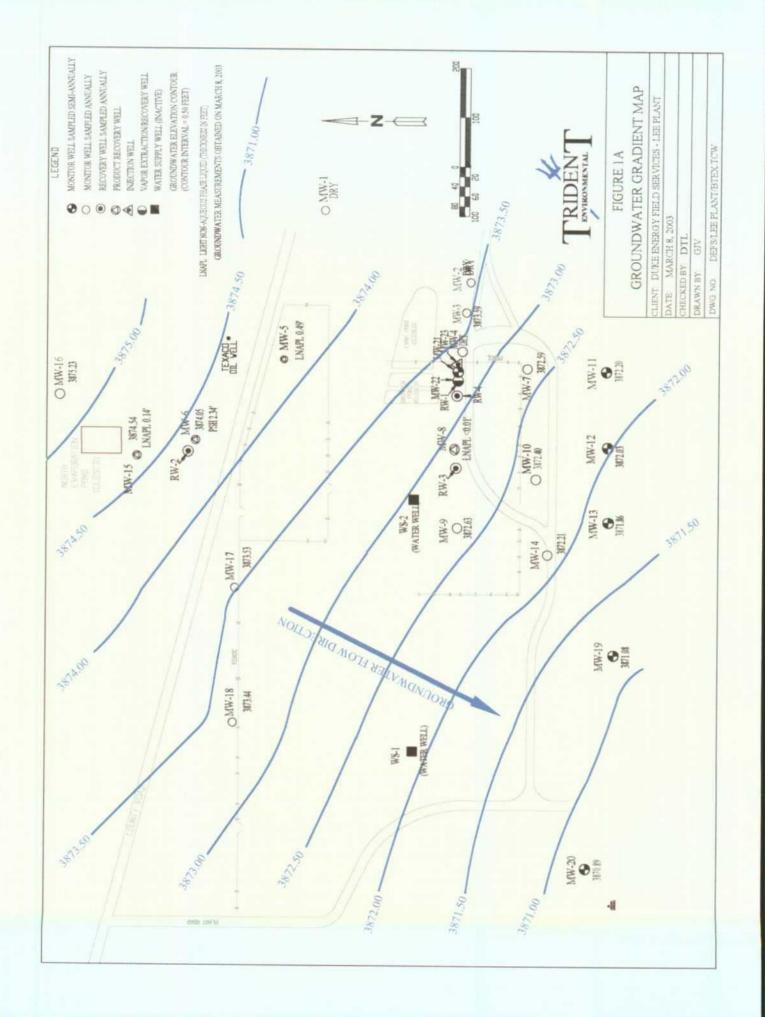
Based on the most recent gauging data collected by Trident on September 15, 2003, the groundwater conditions at the Lee Gas Plant are characterized below.

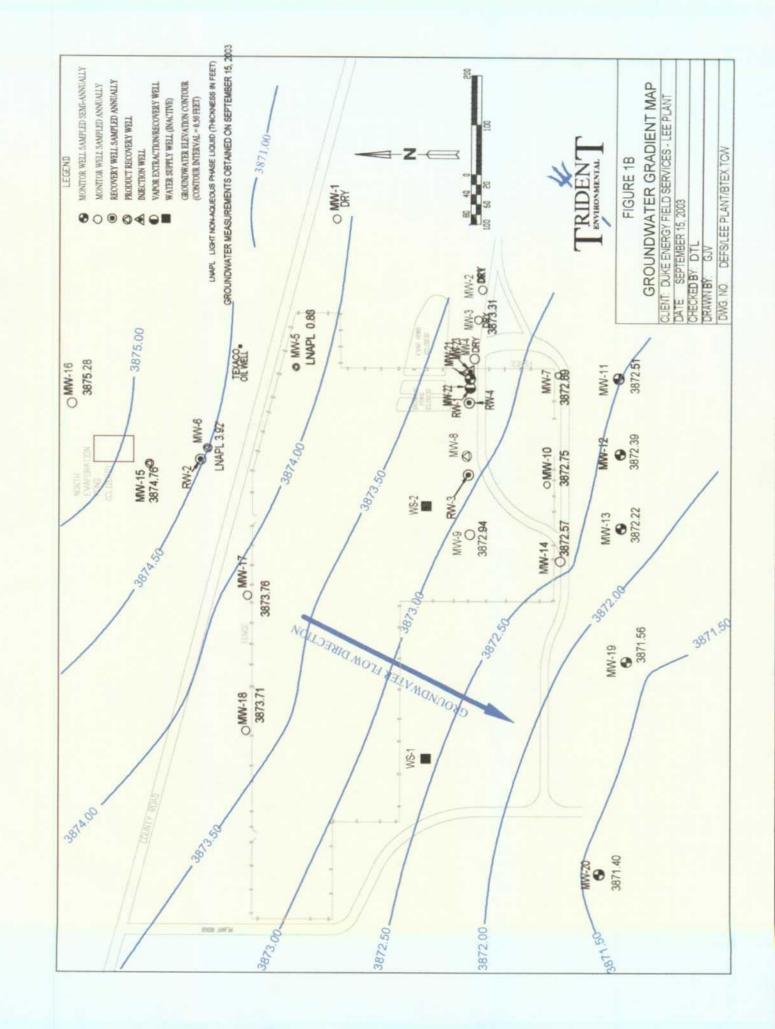
- The depth to the water table across the site varies from approximately 105 to 112 feet below ground surface
- The hydraulic gradient is approximately 0.003 feet/foot
- The direction of groundwater flow is to the southwest

Groundwater elevation maps depicting the water table elevation and direction of groundwater flow using the gauging data obtained during the two 2003 sampling events are presented in Figure 1A (March 8, 2003) and Figure 1B (September 15, 2003). Groundwater elevations and depth to water measurements for the year 2003 are summarized in Table 2.

The direction of groundwater flow and hydraulic gradient has remained consistent for the past fifteen 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 of this report.

Due to the declining water table elevations over the past thirteen years, MW-1, MW-2, MW-3, and MW-4 no longer extend to the groundwater depth. In addition, 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.

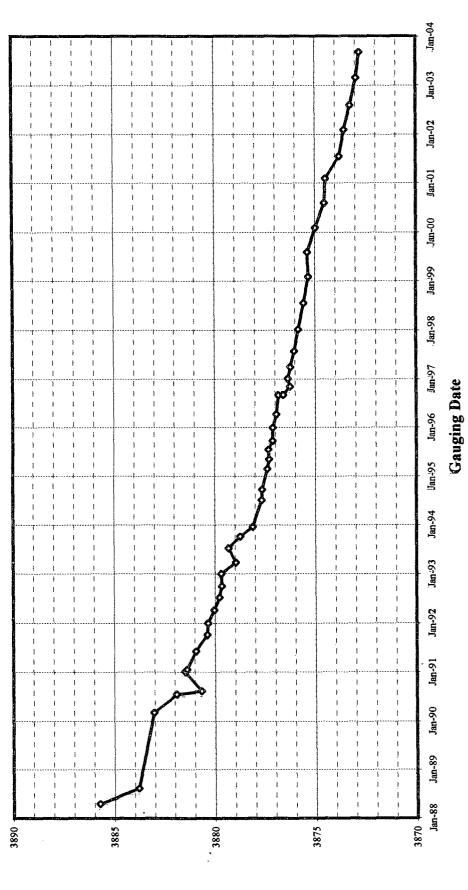




2003 Annual Sampling and Monitoring Report Duke Energy Field Services - Lee Gas Plant

> Figure 2 Average Groundwater Elevations

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Groundwater Elevation (feet above mean sea level)

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	Table 2				
	2002 Groundwater Elevations				
	Duke Energy Field Services - Lee Plant				
		Relative	Depth to	Relative	Phase-Separated
Monitoring	Date	Top of Casing	Groundwater	Groundwater	Hydrocarbon
Well	Gauged	Elevation	Below Top of	Elevation	Thickness
		(feet)*	Casing (feet)	(feet)**	(feet)
MW-1	02/11/02	3979.25	Dry	Dry	0.00
	08/13/02	3979.25	Dry	Dry	0.00
MW-2	02/11/02	3980.50	Dry	Dry	0.00
	08/13/02	3980.50	Dry	Dity	0.00
MW-3	02/11/02	3980.27	106.68	3873.59	0.00
	08/13/02	3980.27	107.02	3873.25	0.00
MW-4	02/11/02	3980.16	Dry	Dry	0.00
	08/13/02	3980.16	Dry	Dry	0.00
MW-5	02/11/02	3979.82	105.67	3874.18	0.03
	08/13/02	3979.82	106.79	3873.94	1.05
MW-6	02/11/02	3981.79	108.39	3873.55	0.18
	08/13/02	3981.79	110.83	3874.78	4.66
MW-7	02/11/02	3978.45	105.34	3873.11	0.00
	08/13/02	3978.45	105.76	3872.69	0.00
MW-8	02/11/02	3979.96	107.46	3872.51	0.01
	08/13/02	3979.96	107.29	3872.68	0.01
MW-9	02/11/02	3980.17	106.95	3873.22	0.00
	08/13/02	3980.17	107.38	3872.79	0.00
MW-10	02/11/02	3979.66	106.68	3872.98	0.00
	08/13/02	3979.66	107.09	3872.57	0.00
MW-11	02/11/02	3978.50	105.73	3872.77	0.00
	08/13/02	3978.50	106.16	3872.34	0.00
MW-12	02/11/02	3978.82	106.22	3872.60	0.00
	08/13/02	3978.82	106.66	3872.16	0.00
MW-13	02/11/02	3980.52	108.11	3872.41	0.00
	08/13/02	3980.52	108.54	3871.98	0.00
MW-14	02/11/02	3982.23	109.45	3872.78	0.00
	08/13/02	3982:23	109.87	3872:36	0.00
MW-15	02/11/02	3981.70	107.98	3875.27	1.78
	08/13/02	3981.70	107.27	3874.77	0.39
MW-16	02/11/02	3980.80	104.92	3875.88	0.00
	08/13/02	3980.80	105.38	3875.42	0.00
MW-17	02/11/02	3981.80	107.39	3874.41	0.00
	08/13/02	3981.80	107.63	3874.17	0.00
MW-18	02/11/02	3983.10	109,03	3874.07	0.00
	08/13/02	3983.10	109.53	3873.57	0.00
MW-19	02/11/02	3980.80	109.15	3871.65	0.00
	08/13/02	3980.80	109.66	3871.14	0.00
MW-20	02/11/02	3983.30	111.90	3871.40	0.00
	08/13/02	3983.30	112.44	3870.86	0.00



5.0 Distribution of Hydrocarbons in Groundwater

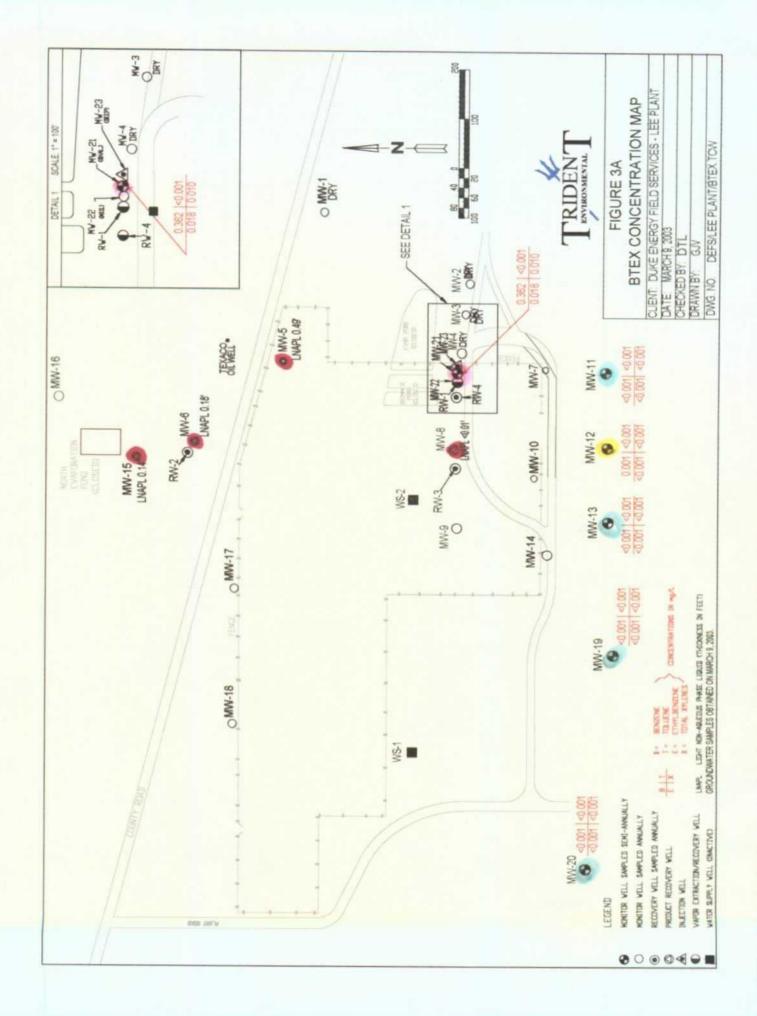
The BTEX concentration map depicting the March 9, 2003 results are presented in Figure 3A and the BTEX concentration map depicting the September 15 through September 16, 2003 results are presented in Figure 3B. A historical listing of BTEX concentrations obtained from the on site monitoring wells is summarized in Table 3. Hydrocarbon concentration and groundwater elevation versus time graphs are grouped as follows:

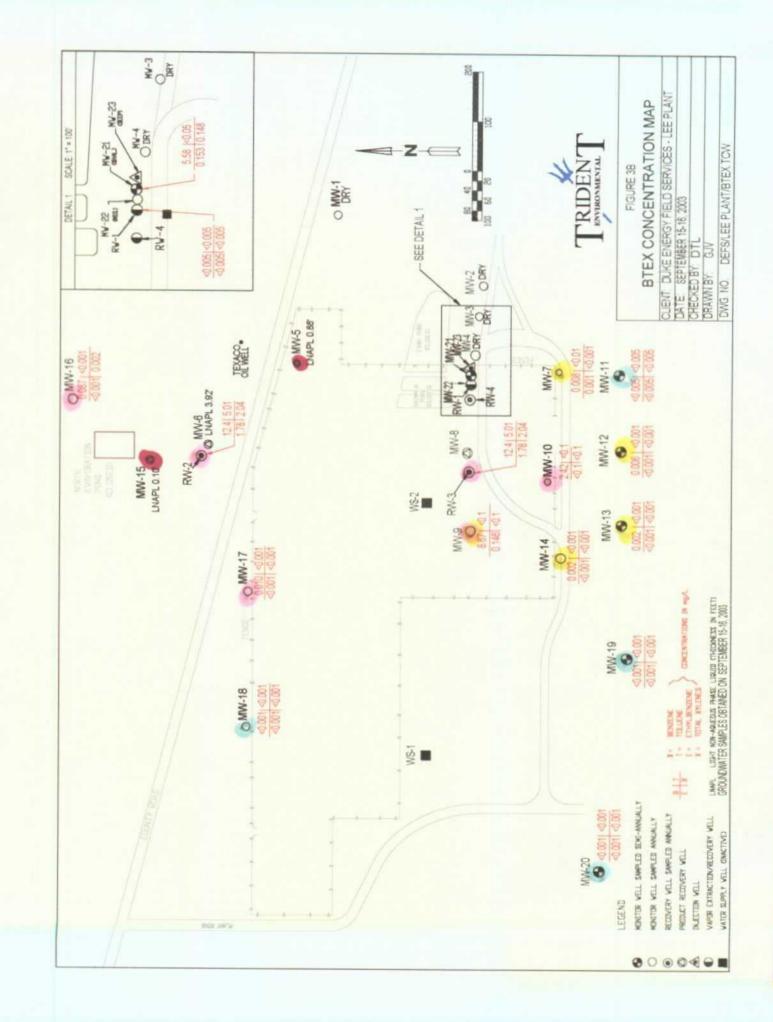
Figure	Area	Monitoring Wells
4A	Central Area	MW-2, MW-3, MW-7, MW-8, MW-9, MW-10, MW-14, MW-21, MW-22, MW-23, WS-1, and WS-2
4B	North Area	MW-5, MW-6, MW-15, MW-16, MW-17, and MW-18
4C	Downgradient South Area	MW-11, MW-12, MW-13, MW-19, and MW-20

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 Trident on September 15, 2003, the distribution of hydrocarbons at the Lee Gas Plant is described below.

- BTEX concentrations in monitoring wells (MW-7, MW-11, MW-12, MW-13, MW-14, MW-18, MW-19, MW-20, and MW-22) are currently below the New Mexico Water Quality Control Commission (WQCC) standards.
- Benzene concentrations in the groundwater from wells located within the aerial extent of the dissolved-phase hydrocarbon plume (RW-2, RW-3, MW-9, MW-10, MW-16, MW-17, and MW-21) were above WQCC standards during 2003. Toluene, ethylbenzene, and xylene concentrations in all of the wells were below the WQCC standards with the exception of recovery well RW-3.
- During the September 15, 2003 monitoring event, LNAPL was measured in monitoring wells MW-5 (0.88 feet), MW-6 (3.92 feet), and MW-15 (0.10 feet.





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	Summer	Tab of Historical Gr		X Results				
Summary of Historical Groundwater BTEX Results DEFS - Lee Gas Plant								
Monitoring	Date	Benzene	Toluene	Ethylbenzene	Xylenes			
Well	Sampled	(mg/l)	(mg/l)	(mg/l)	(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	<Õ.ÔÕ1	<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			
	02/16/01	<0.005	<Õ.ÕÕ5	<0.005	<0.005			
	08/01/01	< 0.005	< 0.005	< 0.005	< 0.005			
	02/12/02	<0.001	<0.001	<0.001	<0.001			
MW-4			the second second second second second second second second second second second second second second second s	or dry well conditions.	0.042			
MW-5	03/27/90	<0.001	0.098	<0.001 0.015	0.043			
	06/27/91	5.00	0.570 1.40	0.015	0.088 0.070			
	07/30/92 07/21/93	10.0 22.0	1.40 7.87	0.059 0.570	1.27			
	07/01/94	66.4	17.1	0.630	<1.5			
MW-6	04/03/90	<0.001	<0.001	<0.030	<0.001			
1VI W-0	02/13/90	<0.001 7 2	3.0	35	<0.001 42			
	03/01/95	18.8	17.0	1.76	42 3.10			
	03/01/93 08/13/97	11.6	4.1	0.49	<u>5.10</u> 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			
141 44 - 1	04/03/90	3.2	1.4	0.023	0.20			
	07/30/92	0.001	<0.001	<0.023	<0.13 <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	0.002	0.002	<0.003			
	08/27/96	1.14	<0.001	<0.010	<0.003			
	08/13/97	1.14	<0.010	<0.010	<0.010			
	08/05/98	1.63	<0.023	<0.025	<0.023 <0.010			
	08/19/99	1.50	0.016	0.010	0.010			
	08/16/00	0.036	0.010	<0.02 <0.01	0.010 0.01			
	08/01/01	0.006	<0.005	<0.01	<0.005			
	08/01/01	0.008	<0.005	<0.005	<0.003 <0.005			
	08/13/02 09/16/03	0.008	<0.003 <0.001	0.003	<0.003 <0.001			
MW-8	09/16/03	18	0.83	7.1	0.001			
TAT AA -Q	04/08/90	18 21	1.3	0.012	0.29			
	07/30/92	13	0.38	0.37	0.42 0.18			

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Table 3 Summary of Historical Groundwater BTEX Results							
	-	DEFS - Lee	e Gas Plant				
Monitoring	Date	Benzene	Toluene	Ethylbenzene	Xylenes		
Well	Sampled	(mg/l)	(mg/l)	(mg/l)	(mg/l)		
MW-9	08/11/90	0.006	0.001	0.001	0.002		
l l	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	<Ö.Õ3		
	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		
	08/01/01	4.88	<0.1	<0.1	<0.1		
	08/14/02	1.57	<0.005	0.013	< 0.005		
	08/14/02 09/16/03	8.67	<0.005	0.146	<0.005		
MW-10	09/10/03	1.3	0.050	0.140	0.016		
IVI VV-10	01/23/91	0.98	0.015	0.034	< 0.010		
	01/23/91 06/27/91	9.7	0.4Ž	0.018 0.084	<0.005 Õ.Ö39		
				1 1			
	07/21/93	0.004	< 0.002	<0.002	NS 0.86		
	07/25/94	4.16 3.66	0.21	0.23 <0.025	0.80 <0.075		
	08/09/95		0.033	1 1			
	08/27/96	2.98	0.060	<0.025	<0.025 <0.050		
	08/12/97	4.71	<0.050	<0.050	<0.050 0.008		
	08/06/98	1.50	0.011	0.013			
	08/20/99	1.01	<0.010	<0.010	< 0.010		
	08/17/00	3.70	<0.005	<0.005	<0.005		
	08/01/01	3.43	<0.05	<0.05	< 0.05		
	08/14/02	7.99	<0.05	<0.05	<0.05		
·····	09/16/03	2.42	<0.1	<0.1	<0.1		
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	Ő.ŐŐÍ	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 <0.001	<0.003 <0.001		
	01/16/96	<0.001	<0.001	<0.001	<0.001		
	04/25/96	<0.001	<0.001	<0.001	< 0.001		
	07/20/00	<u>``U.UU1</u>	1	1 100.001	10.001		

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		Tab	le 3	·····					
	Summary of Historical Groundwater BTEX Results								
		DEFS - Lee							
Monitoring	Date	Benzene	Toluene	Ethylbenzene	Xylenes				
Well	Sampled	(mg/l)	(mg/l)	(mg/l)	(mg/l)				
MW-11	08/27/96	<0.001	<0.001	<0.001	<0.001				
ĺ	11/20/96	<0.001	<0.001	<0.001	<0.001				
4	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				
	Ô1/19/98	<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				
	02/16/01	<0.005	<0.005	<Õ.ÕÕŠ	<0.005				
	08/01/01	<0.001	<0.001	<0.001	<0.001				
[02/11/02	<0.001	<0.001	<0.001	<0.001				
	08/13/02	<0.001	<0.001	<0.001	<0.001				
	03/09/03	<0.001	⊲0.001	≪0.001	<0.001				
	09/16/03	< 0.005	<0.005	<0.005	< 0.005				
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	Ŏ.Ŏ <u>1</u> 8	0.004	Ô.ÔÔÍ	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				
	Ŏ 8 /10/95	<Ŏ.ÔŎÌ	<0.001	<Ò.ÔÔ1	<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				
l	Ŏ <u>8</u> /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				
	02/15/01	<0.005	< 0.005	< 0.005	< 0.005				
	07/31/01	<0.001	<0.001	<0.003	<0.001				
	02/11/02	0.001	<0.001	< 0.001	<0.001				
	08/13/02	<0.001	<0.001	<0.001	<0.001 <0.001				
	03/09/03	<0.001	<0.001	<0.001	<0.001				
	09/15/03	0.006	<0.001	<0.001	< 0.001				

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2003 Annual Groundwater Sampling and Monitoring Report Duke Energy Field Services - Lee Gas Plant

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Table 3 Summary of Historical Groundwater BTEX Results								
DEFS - Lee Gas Plant								
Monitoring	Date	Benzene	Toluene	Ethylbenzene	Xylenes			
Well	Sampled	(mg/l)	(mg/l)	(mg/l)	(mg/l)			
MW-13	01/27/91	0.016	0.003	0.019	0.005			
4	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			
1	07/20/93	0.015	0.034	<0.002	0.013			
	10/26/93	0.029	0.030	<0.002	0.010			
1	01/06/94	0.002	0.003	<0.001	<0.003			
1	05/03/94	<Õ.ÓÔÍ	<Õ.ÕÕ1	<0.001	<Õ.ÕÕ3			
	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			
1	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			
4	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	<Ô.ÔÔ1			
]	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			
	02/15/01	<0.005	<0.005	<0.005	<0.005			
	07/31/01	<0.001	<0.001	<0.001	<0.001			
	02/11/02	<0.001	<0.001	<0.001	<0.001			
	08/13/02	0.003	<0.001	<0.001	<0.001			
	03/09/03	<0.001	<0.001	<0.001	<0.001			
1.011.1.4	09/15/03	0.002	<0.001	<0.001	<0.001			
MW-14	01/27/91	<0.001	<0.001 <0.002	<0.001	<0.001			
1	06/27/91 10/21/92	<0.002 0.043	<0.002 0.099	<0.002 0.019	<0.003 0.045			
	01/20/93	0.049	<0.001	<0.001	0.001			
	04/15/93	0.013	0.003	0.003	0.001			
	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			
	<u>08/19/99</u>	0.024	<0.001	<0.001	<0.001			
	08/17/00	0.284	⊲0.001	<0.001	<0.001			
	08/01/01	1.94	<0.005	0.006	< 0.005			
	08/14/02	<0.001	<0.001	<0.001	< 0.001			
	09/16/03	0.002	<0.001	<0.001	< 0.001			
MW-15	10/29/91 03/16/95	4.2 6.24	0.45 0.981	0.10 0.087	0.10 0.214			

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2003 Annual	Groundwater Sampling and Monitoring Report
	Duke Energy Field Services - Lee Gas Plant

Table 3 Summary of Historical Groundwater BTEX Results						
	әңшияғу	DEFS - Lee		LA RESUILS		
Monitoring	Date	Benzene	Toluene	Ethylbenzene	Xylenes	
Well	Sampled	(mg/l)	(mg/l)	(mg/l)	(mg/l)	
MW-16	10/18/91	0.004	0.002	<0.001	<0.001	
	07/30/92	0.42	0.077	0.008	0.008	
ļ	07/20/93	1.19	0.157	0.030	0.048	
1	07/26/94	3.82	1.66	0.120	<0.300	
1	08/10/95	3.53	0.540	0.137	0.378	
ſ	08/27/96	0.724	0.166	0.035	0.021	
1	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	
1	08/01/01	0.018	<0.005	<0.005	<0.005	
	08/14/02	0.016	<0.001	<0.001	<0.001	
	09/16/03	0.081	<0.001	<0.001	0.002	
MW-17	10/27/91	0.008	0.002	<0.001	<0.001	
1	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	
	Ő 8 /Ő1/Ő1	0.148	<0.005	<0.005	<0.005	
	08/14/02	0.015	<0.001	<0.001	<0.001	
	09/16/03	0.010	<0.001	<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	0.00 8 ·	0.002	<0.003	
	03/16/95	<0.001	0.002	<0.001	<0.003	
	08/10/95	≪0.001	<0.001	<0.001	<0.00 3	
	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 ⊲0.005	
	08/01/01	<0.005	<0.005	<0.005	<0.005	
MW-18	08/13/02	<0.001	<0.001	<0.001	< 0.001	
	09/16/03	<0.001	<0.001	<0.001	<0.001	
MW-19	10/25/91	<0.001	0.001	< 0.001	<0.001	
Ì	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 <0.001	≪0.006 ≪0.003	
	01/06/94	0.003	0.003	<0.001		
	05/03/94	< 0.001	<0.001	<0.001	<0.003 <0.003	
	07/26/94	0.005	<0.001	<0.001	<0.003 <0.003	
	10/12/94 03/16/95	<0.001 0.079	<0.001 0.028	<0.001 0.005	<0.003	
	05/24/95	0.003	0.028	0.003	0.003	
	03/24/93	< 0.001	<0.004	<0.002 <0.001	<0.003	
	10/10/95	<0.001	<0.001	<0.001 <0.001	<0.003	
	01/16/96	<0.001	<0.001	<0.001	< 0.001	
	01/16/96 04/25/96	<0.001	<0.001	<0.001 <0.001	<0.001	
	08/27/96	< 0.001	<0.001	<0.001	<0.001	
	08/27/96 11/20/96	<0.001 <0.001	<0.001	<0.001 <0.001	<0.001 <0.001	
	01/21/97	<0.001	<0.001	<0.001	<0.001 <0.001	
	01/21/97	<0.001	<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	

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	S	Tab Tab		W Deculto					
	Summary of Historical Groundwater BTEX Results DEFS - Lee Gas Plant								
Monitoring	Date	Benzene	Toluene	Ethylbenzene	Xylenes				
Well	Sampled	(mg/l)	(mg/l)	(mg/Ï)	(mg/l)				
MW-19	02/15/99	< 0.005	< 0.005	< 0.005	< 0.005				
1	08/18/99	<0.001	<0.001	<0.001	<0.001				
	02/16/00	<0.005	<0.005	<0.005	⊲0.005				
1	08/15/00	<0.00Ì	⊲0.001	<0.001	<0.001				
	02/15/01	<0.005	<0.005	<0.005	<0.005				
	07/31/01	<0.001	<0.001	<0.001	<0.001				
	02/11/02	<0.001	<0.001	<0.001	<0.001				
	08/13/02	< 0.001	<0.001	<0.001	< 0.001				
	03/09/03	<0.001	<0.001	<0.001	<0.001				
MW-20	09/15/03 10/29/91	<0.001 0.080	<u><0.001</u> 0.041	<0.001 0.003	<u><0.001</u> 0.003				
MW-20				1					
	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	0.00Ĵ				
	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				
1	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				
	02/15/01	<0.005	<0.005	<0.005	<0.005				
	07/31/01	<0.001	<0.005	0.002	0.002				
	07/31/01	< 0.001	<0.001	< 0.002	<0.002				
	08/13/02	<0.005	<0.005	<0.005	<0.005 <0.005				
	03/09/03	<0.003	<0.003	<0.003	<0.003 <0.001				
	09/15/03	<0.001	<0.001	<0.001	<0.001				
MW-21	07/20/93	<u><0.001</u> 37	5	< <u>0.001</u>	<0.001 <6				
1VI VV -2.1	04/23/94	0.007	<0.001	<0.001	<0,003				
	05/04/94	0.517	0.052	<0.001	<0.003 <0.003				
				1 1					
	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				

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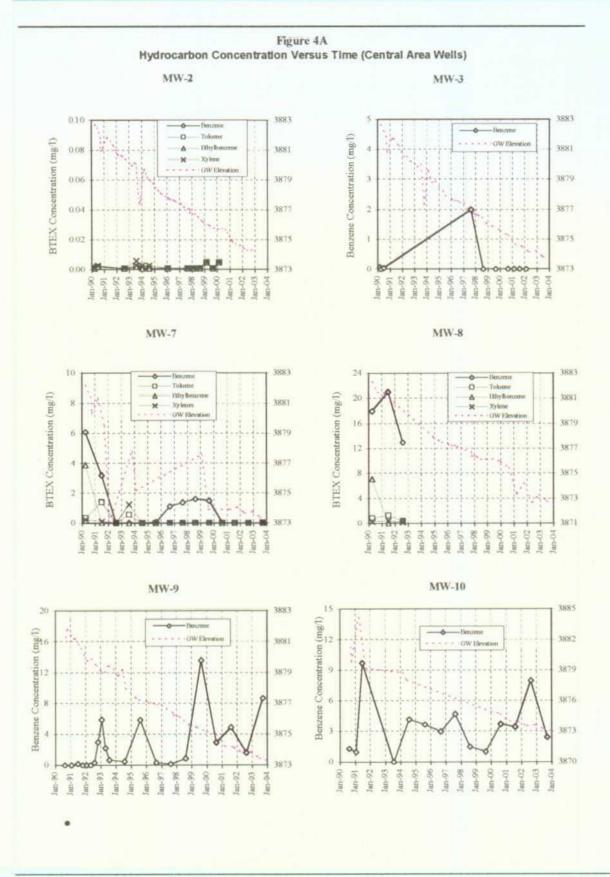
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		Tab			
	Summary	of Historical G	oundwater BT	EX Results	
		DEFS - Lee			
Monitoring	Date	Benzene	Toluene	Ethylbenzene	Xylenes
Well	Sampled	(mg/l)	(mg/l)	(mg/l)	(mg/l)
MW-21	02/15/99	<0.001	<0.001	<0.001	< 0.001
	08/19/99	<0.001	<0.001	<0.001	<0.001
1	02/16/00	<0.005	<0.005	<0.005	<0.005
	08/16/00	⊲0.005	⊲0.005	<0.005	⊲0.005
	02/16/01	<0.005	<0.005	< 0.005	<0.005
	Ó 8 /Ó1/Ó1	<0.005	<0.005	<0.005	<0.005
-	02/11/02	<0.005	<0.005	<0.005	<0.005
-	08/14/02	<0.001	<0.001	<0.001	<0.001
	03/09/03	0.362	<0.001	0.018	0.010
	09/16/03	5.580	< 0.005	0.153	0.148
MW-22	07/20/93	0.170	0.065	0.036	0.048
	04/23/94	Ž.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
	07/31/01	<0.001	<0.001	<0.001	<0.001
	08/14/02	<Ô.ÔÔ1	<Õ.ÖÖ1	<0.001	<0.001
	09/16/03	< 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
1	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
RW-2	09/16/03	0.625	<0.01	<0.01	< 0.01
RW-3	09/16/03	12.4	5.01	1.78	2.04
CC Standards	(mg/l)	0.010	0.75	0.75	0.62

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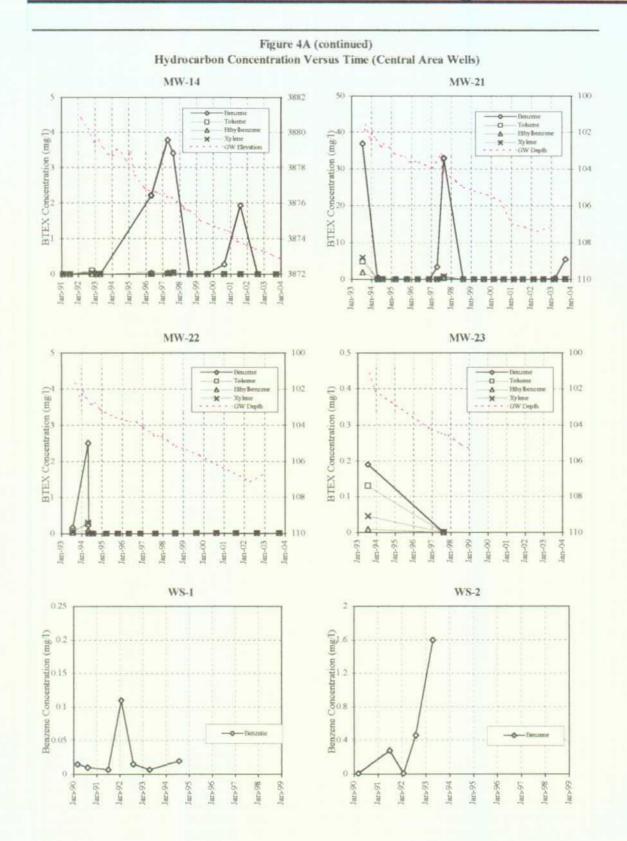


2003 Annual Groundwater Sampling and Monitoring Report Duke Energy Field Services - Lee Gas Plant

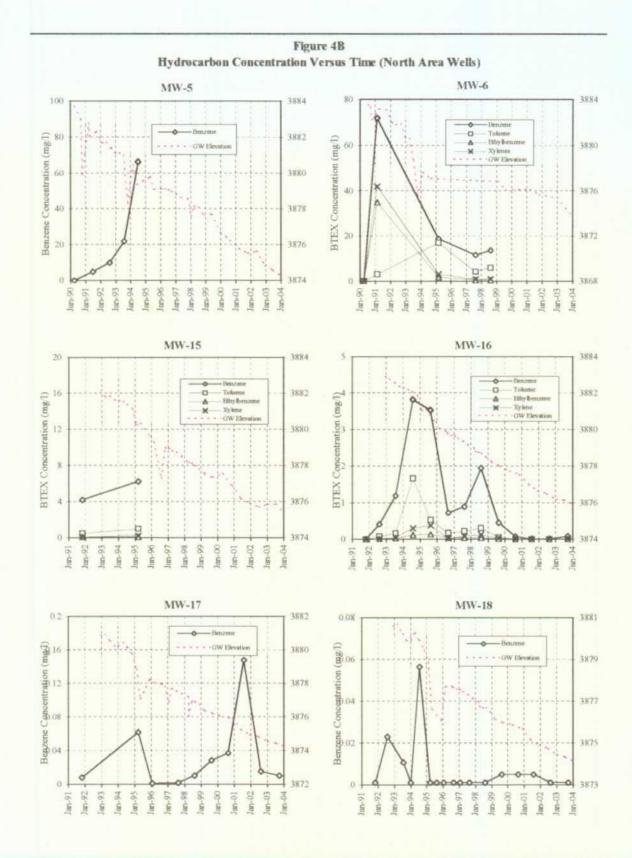




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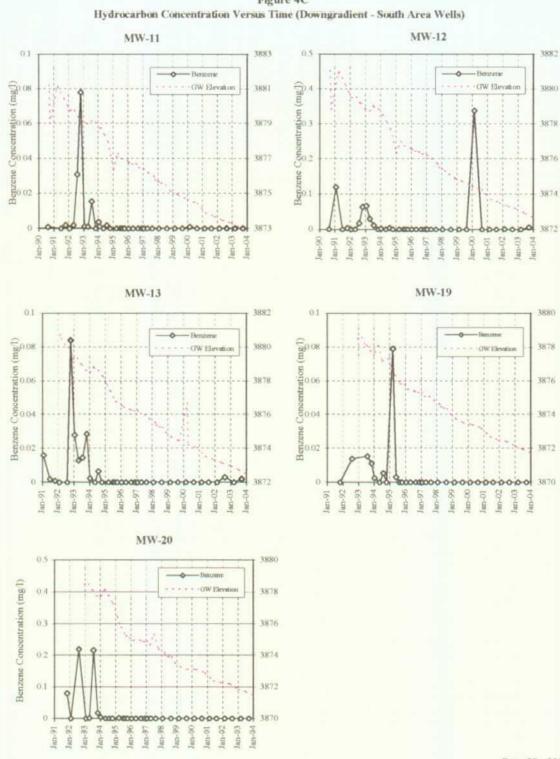


Figure 4C

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6.0 Monitoring Natural Attenuation

During biodegradation, dissolved BTEX is ultimately transformed into carbon dioxide, methane, and water. Biodegradation of BTEX dissolved in groundwater results in a reduction of contaminant concentration (and mass) and slowing (retardation) of the contaminant relative to the average advective groundwater flow velocity. Indigenous hydrocarbon-degrading microorganisms transform available nutrients into forms useful for energy and cell reproduction by facilitating the transfer of electrons from donors to acceptors. This results in oxidation of the electron donor and reduction of the electron acceptor. Electron donors include natural organic material and petroleum hydrocarbons. Electron acceptors are elements or compounds that occur in relatively oxidized states. The more important electron acceptors in groundwater, in order of utilization, include dissolved oxygen, (DO), nitrate (NO_3), ferric iron (Fe³⁺), sulfate (SO₄), and carbon dioxide (CO₂).

Biodegradation causes measurable changes in groundwater geochemistry. During aerobic respiration, oxygen is reduced to water, and dissolved oxygen concentrations decrease. In anaerobic systems where nitrate is an electron acceptor, the nitrate is reduced (denitrification) to NO₂⁻, N₂O, NO, NH⁴⁺, or N₂, and nitrate concentrations decrease. In anaerobic systems where ferric iron (Fe³⁺) is an electron acceptor, it is reduced (iron reduction) to ferrous iron (Fe²⁺), and Fe²⁺ concentrations increase. In anaerobic systems where sulfate is an electron acceptor, it is reduced to hydrogen sulfide (H₂S), and sulfate concentrations decrease (sulfate reduction). In anaerobic systems where CO₁ is used as an electron acceptor, methanogenic bacteria reduce it (methanogenosis) to methane (CH₄).

Using the stoichiometric derivations, the mass of benzene degraded per unit mass of electron acceptor utilized and metabolic byproduct produced was calculated to determine the biodegradation capacity of these constituents relative to the average benzene concentration observed on site during the 2003 annual sampling event. A conservative approach was taken in this analysis in that microbial cell mass production was not taken into account for nitrate or sulfate and only average concentrations of electron acceptors and metabolic byproducts were used. The table below summarizes this comparison.

Electron Acceptor/ Byproduct	Terminal Electron Accepting Process (in order of preferred utilization)	Trend in Analyte Concentration During Biodegradation	Mass of benzene Degraded per unit mass of Electron Acceptor Utilized	Mass of benzene Degraded per unit mass of Metabolic Byproduct Produced	Available Concentrations of Electron Acceptors/ Byproducts (mg/L)	Biodegradation Capacity of Electron Acceptors/ Byproducts (mg/L)		
DO	Aerobic Respiration	Decreases	0.97		1.67	1.62		
NO ₃ *	Denitrification	Decreases	0.21		3.48	0.73		
Mn ^{2*}	Manganese Reduction	Increases		0.140	5.80	0.81		
Fe ²⁺	Ferric Iron Reduction	Increases		0.046	3.22	0.15		
SO4*	Sulfate Reduction	Decreases	0.22		41.4	9.11		
				Total Biodegr	adation Capacity	12.42		
Average Benzene Concentration Observed on site During 2003 Annual Sampling Event								
* Concervativ	* Concervative assumption (does not take into account microbial cell mass production)							
{ ~	Degradation espacity based on values provided by "Technical Protocol for Implementing Intrinsic Remediation With Long-Term Monitoring of Natural Attenuation of Fuel-Contamination Dissolved in Groundwater"							
Ŭ,	1995, Air Force Center for Er	•						



Our suite of biological parameters included dissolved oxygen, nitrate, sulfate, total dissolved iron, ferrous iron, and manganese. These electron acceptor results are summarized in Table 4 below.

Summary of Biological Parameters									
Monitoring Well	Date Sampled	Dissolved Oxygen (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Total Iron (mg/L)	Ferrous Iron (mg/L)	Manganese (mg/L)		
MW-7	08/13/02	2.86	<1.0	28.2	0.490	0.55	2.07		
14144-7	09/16/03	0.77	1.61	21.5	2.40	1.22	1.09		
MW-9	08/13/02	1.68	3.60	11.0	7.06	9.70	1.68		
141 44 - 2	09/16/03	0.00	1.53	6.6	6.25	3.22	1.46		
MW-10	08/13/02	1.57	4.80	16.5	8.22	8.44	3.27		
101-10	09/16/03	0.00	1.88	44.8	13.2	3.04	3.36		
MŴ-11	08/13/02	1.90	2.27	30.3	<0.050	0.03	0.906		
101 00 - 1 1	09/16/03	0.60	1.93	19.3	<0.050	0.01	0.783		
MW-12	08/13/02	1.58	<1.0	22.4	0.086	0.07	0.494		
101 00 - 12	09/16/03	0.04	0.12	9.6	0.086	0.05	0.724		
MW-13	08/13/02	2.47	<1.0	8.75	0.143	0.10	2.32		
IVIW-13	09/16/03	0.44	<0.1	3.38	0.135	0.48	2.32		
MW-14	08/13/02	2.21	2.00	79.0	2.93	2.52	7.39		
	09/16/03	1.01	1.09	37.2	2.15	1.73	5.80		
) 612 17	08/13/02	2.53	2.10	59.2	<0.050	0.08	0.062		
MW-16	09/16/03	1.67	3.05	34.9	<0.050	0.39	0.064		
MW-17	08/13/02	1.72	0.60	48.0	0.590	0.68	0.362		
101 00 - 1 /	09/16/03	0.00	0,73	24.9	0.704	0.65	0.417		
MW-18	08/13/02	1.30	<1.0	61.4	<0.050	0.08	0.387		
MW-18	09/16/03	0.07	0.45	40.9	<0.050	0.11	0.366		
MW-19	08/13/02	2.78	3.19	16.9	< 0.050	0.03	0.034		
IVIW-19	09/16/03	0.31	3.58	18.3	<0.050	0.00	<0.025		
MW-20	08/13/02	5.56	1.67	44.9	<0.050	0.16	<0.025		
IVI W- 20	09/16/03	0.24	1.95	26.1	<0.050	0.02	<0.025		
NAV 21	08/13/02	6.45	1.40	13.7	<0.050	0.33	<0.025		
MW-21	09/16/03	8.15	1.41	11.2	4.99	1.75	0.632		
NAU 22	08/13/02	7.91	1.50	46.3	0.453	0.72	0.063		
MW-22	09/16/03	1.38	0.70	25.2	1.29	0.57	0.190		
RW-2	09/16/03	1.05	1.93	20.2	3.60	1.64	1.220		
RW-3	09/16/03	0.34	1.29	8.4	12.3	2.48	1.070		

 Table 4

 Summary of Biological Parameters

Monitoring wells not listed above were not analyzed for these constituents due to the presence of light non-aqueous phase liquids (LNAPL).

Generally, hydrocarbon-impacted wells are compared against upgradient and downgradient wells to observe whether or not significant differences are observed in electron acceptor concentrations that may be related to subsurface biodegradation. The relationships in the electron acceptor data are observed:

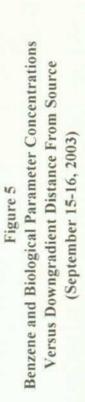


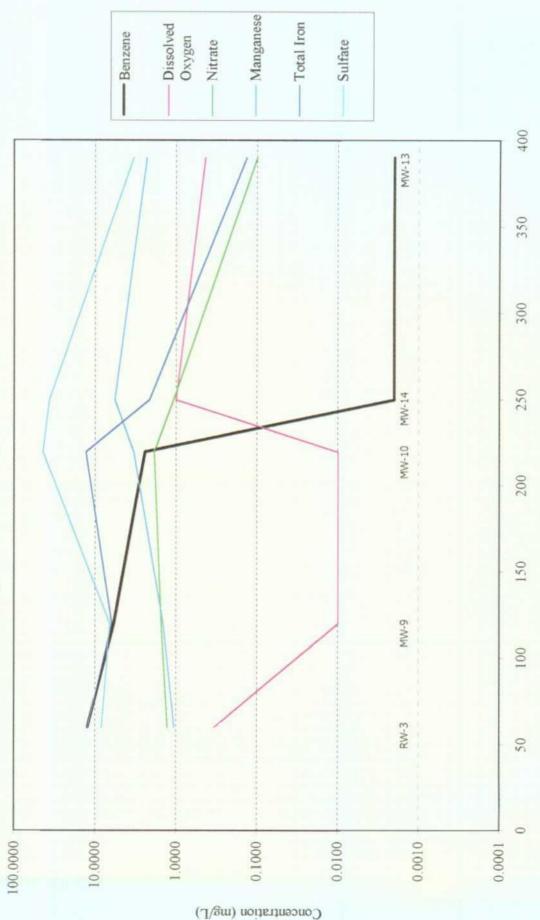
- Generally, dissolved oxygen levels are lower within the hydrocarbon-impacted plume area compared to the downgradient and upgradient wells indicating active aerobic biodegradation conditions.
- Decreasing trends indicating denitrification and sulfate reduction are not evident due to lack of historical data, however, the presence of nitrate and sulfate as electron acceptors indicate their availability to microorganisms in the course of hydrocarbon degradation.
- Significantly higher concentrations of the metabolic byproducts iron and manganese in hydrocarbon-impacted wells indicates iron and manganese reduction conditions that are the result of anaerobic biodegradation processes.
- The biodegradation capacity of electron acceptors and metabolic byproducts (12.42 mg/L) exceeds the average benzene concentration (5.63 mg/L) observed on site during the 2003 annual groundwater sampling event. This indicates that the biodegradation process will continue.
- Continued monitoring of biological parameters will be necessary to assess the efficacy of intrinsic bioremediation processes occurring on site.

Another approach to analyzing the efficacy of biodegradation is to compare the concentrations of various biological parameters versus the downgradient distance from the source of hydrocarbons. However, at Lee Plant there appears to be four separate or contiguous source areas (RW-1, MW-5, MW-6, and MW-8), therefore there is not a linear arrangement of wells progressing from within the source area to outside of it to make a proper analysis using this technique. Nonetheless, monitoring wells RW-3, MW-9, MW-10, MW-14, MW-13, were plotted in order of their downgradient distance from the nearest source (RW-1) and plotted in Figure 5 to evaluate if any trends were evident. With this analysis the relationships in the electron acceptor data are observed:

- Generally, DO values are low and benzene values are high within the plume indicating that oxygen is being utilized as an electron acceptor (aerobic respiration).
- Nitrate and sulfate concentrations decrease in the downgradient direction as they are being utilized as electron acceptors, which indicates denitrification and sulfate reduction processes are occurring.
- Managanese concentrations are significantly higher within the plume indicating the availability of manganese as a metabolic byproduct.
- Ferric and ferrous concentrations are significantly higher within the plume indicating the availability of ferric iron as an electron acceptor and ferrous iron being produced as a metabolic byproduct.

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Distance From Source (feet)



7.0 Remediation System Performance

The groundwater recovery, air sparging, vapor extraction, and product recovery systems have been effective in limiting the downgradient migration of the dissolved-phase hydrocarbon plume.

The estimated total fluid extraction volumes from the remediation system recovery wells, for the first quarter of 2003 through the fourth quarter of 2003, are summarized in Table 5. A graphical representation of monthly groundwater recovery volumes for the period of record (January 1, 2003 through December 31, 2003) is depicted in Figure 5. An estimated total of 2.4 million gallons of groundwater will have been recovered by the three recovery wells (RW-2, RW-3, and RW-4) during the period of record. Recovery wells RW-2 and RW-3 have been in pumping throughout 2003 however, the pump in RW-4 has been inoperative since April 23, 2003, and is in need of repair or replacement if pumping is to be resumed at that location.

The Xitech product recovery system has been operational at MW-6 for most of the year and has recovered approximately 139 gallons of free product (condensate) from January through October 2003. Due to the declining water table, MW-6 is no longer is deep enough to accommodate the complete Xitech pump assembly. Therefore, the Xitech pump is now in the well without the lower filter assembly attached and thus is not capable of recovering product to a sheen because the filter cannot float at the product/water interface.

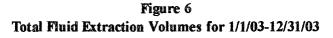
LNAPL has also been observed in monitoring wells MW-5, MW-8, and MW-15, therefore passive bailers, absorbent socks, and hand bailing methods have been implemented to remove the free product from these wells. The lack of LNAPL (less than 0.01 feet) in MW-8 during 2003 can be attributed to the successful performance of total fluid recovery from RW-3, which is adjacent to MW-8. Similarly, the total fluid pumping at RW-2 draws product towards MW-6 allowing increased product recovery rates from the Xitech system in that well. Although the groundwater recovery wells have also been effective in recovering free product, the total amount of free product recovered from these wells is unknown. A summary of the measurable free product recovery volumes from (January 2003 through October 2003 is provided in Table 6. A total of 158.3 gallons of measurable free product was recovered during the 10-month period of record.

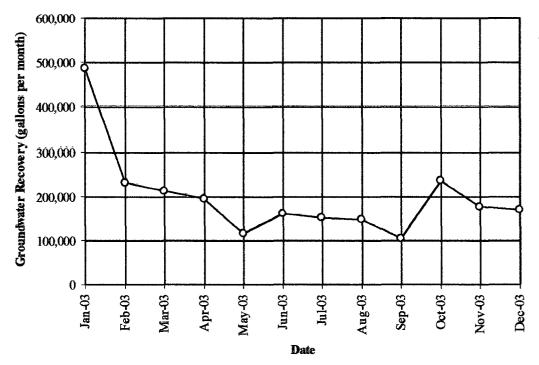
Vapor extraction utilizing a Roots positive displacement blower (Model 24URAI – 2 hp) at RW-1 has been in operation since August 1993. Air sparging is accomplished by means of a 1 HP Gast® Piston air compressor, which has been injecting air into MW-23 since July 10, 1998. When in operation, the vapor extraction and air sparge systems has been effective in reducing BTEX concentrations in MW-21 to levels below the laboratory detection for each constituent. However, the air sparge system has been periodically inoperative during 2003, thus BTEX concentrations have shown an increase in MW-21 (benzene level is 5.58 mg/L as of September 16, 2003). Another reason for increased BTEX levels in MW-21 can be attributed to RW-4, which has not been pumping total fluids since April 2003.



	Duke Ene	rgy Field Service						
Month - Year	Gallons of Groundwater Recovered							
Wohui - I cai	RW-2	RW-3	RW-4	Monthly Totals				
Jan-03	49,085	250,776	186,184	486,045				
Feb-03	40,186	159,869	30,931	230,986				
Mar=03	48,873	119,938	45,000	213,811				
Apr-03	45,360	149,688	0	195,048				
May-03	29,808	86,443	0	116,251				
Jun-03	41,472	120,269	0	161,741				
Jul-03	40,176	111,600	0	151,776				
Aug-03	38,880	108,000	0	146,880				
Sep=03	22,032	81,518	0	103,550				
Oct-03	55,728	180,187	0	235,915				
Nov-03	41,472	134,093	0	175,565				
Dec-03	40,176	129,902	Ő	170,078				
Well Totals	493,248	1,632,284	262,115	2,387,647				

Table 5Total Fluids Extraction Volumes for 1/1/03-12/31/03Duke Energy Field Services - Lee Gas Plant







Duke Energy Field Services - Lee Gas Plant										
Month - Year	Measurable Free Product Recovered (gallons)									
Monul - Tear	MW-5	MW-6*	MW-8	MW-15	Monthly Totals					
Jan-03	0.67	7.0	0.00	0.33	8.0					
Feb-03	0.56	20.0	0.00	0.33	20.9					
Mar-03	0.75	7.0	0.00	0.20	8.0					
Apr=03	2.23	2.0	0.00	0.37	4.6					
May-03	1.56	5 .0	0.00	0.37	6.9					
Jun-03	1.32	4.0	0.00	0.40	5.7					
Jul-03	3.00	30.0	0.00	0.37	33.4					
Aug-03	1,45	2.0	0.00	0.33	3.8					
Sep-03	1.50	12.0	0.00	0.37	13.9					
Oct-03	2.50	50.0	0.00	0.69	53.2					
Well Totals	15.5	139.0	0.0	3.8	158.3					

Table 6

Measurable Free Product Recovery Volumes for 01/01/03-12/31/03 Duke Energy Field Services - Lee Gas Plant

* 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



8.0 Conclusions

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 monitoring wells (MW-7, MW-11, MW-12, MW-13, MW-14, MW-18, MW-19, MW-20, and MW-22) are currently below the New Mexico Water Quality Control Commission (WQCC) standards.
- Benzene concentrations in the groundwater from wells located within the aerial extent of the dissolved-phase hydrocarbon plume (RW-2, RW-3, MW-9, MW-10, MW-16, MW-17, and MW-21) were above WQCC standards during 2003. Toluene, ethylbenzene, and xylene concentrations in all of the wells were below the WQCC standards with the exception of recovery well RW-3.
- During the September 15, 2003 monitoring event, light non-aqueous phase liquid (LNAPL) was measured in monitoring wells MW-5 (0.88 feet), MW-6 (3.92 feet), and MW-15 (0.10 feet).
- An estimated total of 2.4 million gallons of groundwater was recovered by three recovery wells during the 1-year period of record (January 1, 2003 through December 31, 2003).
- The hydraulic gradient is approximately 0.003 feet/foot and the direction of groundwater flow is to the southwest based on the gauging data obtained on September 15, 2003.
- The average water table elevations across the site have decreased by an average of about 1-foot per year since March 28, 1988.



9.0 Recommendations

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

- Continue LNAPL recovery at MW-6 with the Xitech system.
- Continue free product recovery from MW-5, MW-8, and MW-15 using passive bailers and/or hydrophobic adsorbent socks, and hand bailing methods as appropriate.
- Continue vapor extraction and air sparging operations at RW-1 and MW-23, respectively.
- Continue the program of monitoring natural attenuation that includes the analysis of dissolved oxygen (DO), nitrate (NO₃), sulfate (SO₄), ferric iron (Fe³⁺), ferrous iron (Fe²⁺), and manganese (Mn) to assess the efficacy of intrinsic bioremediation processes occurring on site.
- Continue the sampling and monitoring program on a semi-annual basis. The next sampling event is scheduled during the first quarter of 2004.

Appendix A

Laboratory Analytical Reports

and

Chain-of-Custody Documentation

Report Date: March 21, 2003 Lee Gas Plant

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Summary Report

Gil Van Deventer Trident Environmental P.O. Box 7624 Midland, TX 79708

Cost Center No.: V-101

Project Name:

Project Location: Lee Gas Plant

Duke Energy Field Servieces

Report Date: March 21, 2003

Work Order: 3031310

Project Number:	Lee Gas Plant					
			Date	Time	Date	
Sample	Description	Matrix	Taken	Taken	Received	
2280	MW-21	Water	2003-03-09	15:20	2003-03-13	
2281	Duplicate	Water	2003-03-09	00:00	2003-03-13	
2282	Trip Blank	Water	2003-03-09	00:00	2003-03-13	
2275	MW-20	Water	2003-03-09	10:20	2003-03-13	
2276	MW-19	Water	2003-03-09	11:20	2003-03-13	
2277	MW-13	Water	2003-03-09	12:20	2003-03-13	
2278	MW-12	Water	2003-03-09	13:10	2003-03-13	
2279	MW-11	Water	2003-03-09	13:46	2003-03-13	

			BTEX	
	Benzene	Toluene	Ethylbenzene	Xylene (isomers)
Sample - Field Code	(mg/L)	(ing/L)	(mg/L)	(mg/L)
2275 - MW-20	<0.00100	< 0.00100	< 0.00100	< 0.00100
2276 - MW-19	< 0.00100	< 0.00100	< 0.00100	< 0.00100
2277 - MW-13	< 0.00100	< 0.00100	< 0.00100	< 0.00100
2278 - MW-12	< 0.00100	< 0.00100	< 0.00100	< 0.00100
2279 - MW-11	< 0.00100	< 0.00100	< 0.00100	< 0.00100
2280 - MW-21	0.362	< 0.00100	0.0179	0.0103
2281 - Duplicate	0.916	< 0.00500	0.0488	0.0367
2282 - Trip Blank	< 0.00100	< 0.00100	< 0.00100	< 0.00100

TraceAnalysis, Inc. • 6701 Aberdeen Ave., Suite 9 • Lubbock, TX 79424-1515 • (806) 794-1296 This is only a summary. Please, refer to the complete report package for quality control data. 6701 Aberdeen Avenue, Suite 9 155 McCutcheon, Suite H Lubbock, Texas 79424 800•378•1296 El Paso, Texas 79932 888•588•3443 E-Mail: lab@traceanalysis.com

800•378•1296 806•794•1296 888•588•3443 915•585•3443 raceanalysis.com

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

Analytical and Quality Control Report

Gil Van Deventer Trident Environmental P.O. Box 7624 Midland, TX 79708 Report Date: March 21, 2003

Work Order: 3031310

Cost Center No.:V-101Project Location:Lee Gas PlantProject Name:Duke Energy Field ServiecesProject Number:Lee Gas Plant

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

					Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received		
2275	MW-20	Water	2003-03-09	10:20	2003-03-13		
2276	MW-19	Water	2003-03-09	11:20	2003-03-13		
2277	MW-13	Water	2003-03-09	12:20	2003-03-13		
2278	MW-12	Water	2003-03-09	13:10	2003-03-13		
2279	MW-11	Water	2003-03-09	13:46	2003-03-13		
2280	MW-21	Water	2003-03-09	15:20	2003-03-13		
2281	Duplicate	Water	2003-03-09	00:00	2003-03-13		
2282	Trip Blank	Water	2003-03-09	00:00	2003-03-13		

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 6 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

TAL

Dr. Blair Leftwich, Director

Report Date: March 21, 2003 Lee Gas Plant Ļ

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Analytical Report

Sample: 2275 - MW-20

Analysis: BTEX QC Batch: 352 Prep Batch: 314		Analytical Me Date Analyze Date Prepared	d:	S 8021B 2003-03-13 2003-03-13		Prep Method Analyzed By: Prepared By:	DK
		F	RL				
Parameter Fla	ng	Rest	ult	Units	6	Dilution	\mathbf{RL}
Benzene		< 0.001	00	mg/L	1	1	0.00100
Toluene		`<0.001	00	mg/L	i -	1	0.00100
Ethylbenzene		< 0.001	00	mg/L	ı	1	0.00100
Xylene (isomers)		< 0.001	00	mg/L	ı 	1	0.00100
					Spike	Percent	Recovery
Surrogate	Flag	g Result	Unit	s Dilutior	n Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.0976	mg/l	L 1	0.100	98	78.7 - 110
4-Bromofluorobenzene (4-BFB)		0.0957	mg/l		0.100	96	77.8 - 110

Sample: 2276 - MW-19

Analysis: BTEX QC Batch: 352 Prep Batch: 314		Analytical Me Date Analyze Date Prepare	ed:	S 8021B 2003-03-13 2003-03-13		Prep Methoo Analyzed By Prepared By	: DK
Ttep Daten. 514		Date i tepare	u.	2003-03-13		Flepated by	. DR
]	RL				
Parameter F	lag	Res	ult	Uni	ts	Dilution	\mathbf{RL}
Benzene		< 0.001	.00	mg/	L	1	0.00100
Toluene		< 0.001	.00	mg/	L	1	0.00100
Ethylbenzene		< 0.001	.00	mg/	L	1	0.00100
Xylene (isomers)		< 0.001	.00	mg/	L	11	0.00100
					Spike	Percent	Recovery
Surrogate	Flag	g Result	Unit	s Dilutio	on Amount	: Recovery	Limits
Trifluorotoluene (TFT)		0.0999	mg/l	L 1	0.100	100	78.7 - 110
4-Bromofluorobenzene (4-BFB)		0.0993	mg/l		0.100	99	77.8 - 110

Sample: 2277 - MW-13

Analysis: BTEX QC Batch: 365 Prep Batch: 325		Analytical Me Date Analyze Date Prepare	d:	S 8021B 2003-03-13 2003-03-13		 Prep Method Analyzed By Prepared By: 	CG
		I	RL				
Parameter	Flag	Res	ult	Unit	s I	Dilution	\mathbf{RL}
Benzene		< 0.001	00	mg/1	L	1	0.00100
Toluene		< 0.001	.00	mg/l	- -4	1	0.00100
Ethylbenzene		< 0.001	.00	mg/l	- 	1	0.00100
Xylene (isomers)		< 0.001	00	mg/1	[1	0.00100
					Spike	Percent	Recovery
Surrogate	Fla_{ξ}	g Result	Unit	s Dilutio	n Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.097	mg/	L I	0.100	97	78.7 - 110
4-Bromofluorobenzene (4-BFE	3)	0.0968	mg/	<u>L 1</u>	0.100	97	77.8 - 110

Sample: 2278 - MW-12

Report Date: March 21, 2003 Lee Gas Plant			der: 3031310 7 Field Serviece	es	Page Number: 3 of 6 Lee Gas Plant		
Analysis: BTEX		Analytical M		S 8021B		Prep Method	: S 5030B
QC Batch: 365		Date Analyz	ed:	2003-03-13		Analyzed By:	CG
Prep Batch: 325		Date Prepar	ed:	2003-03-13		Prepared By:	CG
			RL				
Parameter 1	Flag	Re	sult	Units		Dilution	\mathbf{RL}
Benzene		< 0.00	100	mg/L		1	0.00100
Toluene		< 0.00	100	mg/L		1	0.00100
Ethylbenzene		<0.00	100	mg/L		1	0.00100
Xylene (isomers)		< 0.00	100	mg/L		1	0.00100
					Spike	Percent	Recovery
Surrogate	Fl	ag Result	Unit	s Dilution	Amount	Recovery	Limits
Triffuorotoluene (TFT)		0.0978	mg/I	1	0.100	98	78.7 - 110
4-Bromofluorobenzene (4-BFB)	0.0976	mg/I	. 1	0.100	98	77.8 - 110

Sample: 2279 - MW-11

Analysis: BTEX QC Batch: 365 Prep Batch: 325		Analytical M Date Analyze Date Prepare	ed:	S 8021B 2003-03-13 2003-03-13		Prep Method Analyzed By: Prepared By:	CG
]	RL				
Parameter	Flag	Res	ult	Unit	s]	Dilution	RL
Benzene		< 0.001	00	mg/I	J	1	0.00100
Toluene		< 0.001	100	ing/I		1	0.00100
Ethylbenzene		< 0.001	00	mg/I		1	0.00100
Xylene (isomers)		< 0.00	00	mg/I		1	0.00100
					Spike	Percent	Recovery
Surrogate	Fla	g Result	Unit	s Dilution	n Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.1	mg/	L 1	0.100	100	78.7 - 110
4-Bromofluorobenzene (4-BFE	5)	0.0989	mg/	L 1	0.100	99	77.8 - 110

Sample: 2280 - MW-21

Analysis: BTEX QC Batch: 365		Analytical M Date Analyze	ed:	S 8021B 2003-03-13	i	Prep Meth Analyzed	
Prep Batch: 325		Date Prepare	ed:	2003-03-13	5	Prepared	By: CG
			RL			•	
Parameter I	Flag	Res	ult	Un	its	Dilution	RL
Benzene		0.3	362	mg	;/L	1	0.00100
Toluene		< 0.001	100	mg	;/L	1	0.00100
Ethylbenzene		0.01	179	mg	;/L	1	0.00100
Xylene (isomers)		0.01	103	mg	;/L	1	0.00100
					Spike	e Percent	Recovery
Surrogate	Fla	g Result	Unit	s Dilut	ion Amou	nt Recovery	Limits
Trifluorotoluene (TFT)		0.0953	ing/	L 1	0.100) 95	78.7 - 110
4-Bromofluorobenzene (4-BFB)	0.096	mg/	L 1	0.100	96	77.8 - 110

Sample: 2281 - Duplicate

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	365	Date Analyzed:	2003-03-13	Analyzed By:	CG
Prep Batch:	325	Date Prepared:	2003-03-13	Prepared By:	CG

Report Date: March 21, 2003 Lee Gas Plant	Work Order: 3031310 Duke Energy Field Servieces			Page Number: 4 of 6 Lee Gas Plant			
Parameter Flag		I Rest	RL ult	Units	Di	Dilution	
Benzene		0.9	16	mg/L	······································	5	0.00100
Toluene		< 0.005	00	mg/L		5	0.00100
Ethylbenzene		0.04	88	mg/L	5		0.00100
Xylene (isomers)		0.03	67	mg/L		5	0.00100
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
$\overline{\text{Trifluorotoluene}(\mathrm{TF}'\Gamma)}$		0.457	mg/L	5	0.100	91	78.7 - 110
4-Bromofluorobenzene (4-BFB)		<u>~ 0.453</u>	nıg/L	5	0.100	0.100 91	

Sample: 2282 - Trip Blank

Analysis: BTEX QC Batch: 365 Prep Batch: 325		Analytical M Date Analyz Date Prepar	æd:	S 8021B 2003-03-13 2003-03-13		Prep Metho Analyzed E Prepared B	By: CG
•			RL				
Parameter F	lag	Re	sult	Un	its	Dilution	RL
Benzene		< 0.00	100	mg	/L	1	0.00100
Toluene		< 0.00	100	mg	;/L	1	0.00100
Ethylbenzene		< 0.00	100	mg	;/L	1	0.00100
Xylene (isomers)		<0.00	100	mg	;/L	1	0.00100
					Spike	Percent	Recovery
Surrogate	Fla	ag Result	Unit	ts Dilut	ion Amoun	t Recovery	Limits
Trifluorotoluene (TFT)		0.097	mg/	L 1	0.100	97	78.7 - 110
4-Bromofluorobenzene (4-BFB))	0.0962	mg/	L 1	0.100	96	77.8 - 110

Method Blank (1) QC Batch: 352

Parameter	Flag		Resu	lt	Units		Reporting Limits
Benzene			< 0.00041	10	mg/L		0.00041
Toluene			< 0.00076	50	ng/L.		0.00076
Ethylbenzene			< 0.0012	20	mg/L		0.0012
Xylene (isomers)			< 0.003	52	mg/L		0.00183
Sumorata	Flag	Result	Units	Dilution	Spike Amount	Percent	Recovery Limits
Surrogate Trifluorotoluene (TFT)	Flag	0.0958			0.100	Recovery 96	78.7 - 110
4-Bromofluorobenzene (4-BFB)		0.0938	mg/L mg/L	1	0.100	96 94	77.8 - 110

Method Blank (1) QC Batch: 365

							Reporting
Parameter	\mathbf{Flag}		Resu	lt	Units		Limits
Benzeue			< 0.0004	10	mg/L		0.00041
Toluene			< 0.0007	30	mg/L		0.00076
Ethylbenzene			< 0.0015	20	ing/L		0.0012
Xylene (isomers)			< 0.003	52	mg/L		0.00183
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0933	mg/L	1	0.100	93	78.7 - 110
						· · · · · · · · · · · · · · · · · · ·	continued

Report Date: March 21, 2003 Lee Gas Plant Work Order: 3031310 Duke Energy Field Servieces Page Number: 5 of 6 Lee Gas Plant

method blank continued ...

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
4-Bromofluorobenzene (4-BFB)		0.0943	mg/L	1	0.100	94	77.8 - 110

Laboratory Control Spike (LCS-1) QC Batch: 352

	LCS	LCSD			Spike	Matrix			Rec.	RPD
Param	\mathbf{Result}	Result	Units	Dil.	Amount	\mathbf{Result}	Rec.	RPD	Limit	Limit
Benzene	0.0938	0.0911	mg/L	1	0.100	< 0.000410	94	1	80.5 - 113	5
Toluene	0.0937	0.0922	mg/L	1	0.100	< 0.000760	94	1	81.2 - 112	5
Ethylbenzene	0.0925	0.0928	mg/L	1	0.100	< 0.00120	92	0	82.2 - 112	6
Xylene (isomers)	0.281	0.282	$\mathrm{mg/L}$	1	0.300	< 0.00183	94	0	80.6 - 112	6

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0921	0.0936	mg/L	1	0.100	92	94	78.7 - 110
4-Bromofluorobenzene (4-BFB)	0.0929	0.0937	mg/L	1	0.100	93	94	77.8 - 110

Laboratory Control Spike (LCS-1) QC Batch: 365

	LCS	LCSD			Spike	Matrix			Rec.	RPD
Param	Result	Result	Units	Dil.	Amount	\mathbf{Result}	Rec.	RPD	\mathbf{Limit}	Limit
Benzene	0.0935	0.0921	mg/L	1	0.100	< 0.000410	94	1	80.5 - 113	5
Toluene	0.0945	0.0935	mg/L	1	0.100	< 0.000760	94	0	81.2 - 112	5
Ethylbenzene	0.0949	0.0939	mg/L	1	0.100	< 0.00120	95	0	82.2 - 112	6
Xylene (isomers)	0.288	0.286	mg/L	1	0.300	< 0.00183	96	0	80.6 - 112	6

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0951	0.0950	mg/L	1	0.100	95	95	78.7 - 110
4-Bromofluorobenzene (4-BFB)	0.0973	0.0963	mg/L	1	0.100	97	96	77.8 - 110

Standard (CCV-1) QC Batch: 352

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/L	0.100	0.0938	94	85 - 115	2003-03-13
Benzene		mg/L	0.100	0.0938	94	85 - 115	2003-03-13
Toluene		mg/L	0.100	0.0957	96	85 - 115	2003-03-13
Toluene		mg/L	0.100	0.0957	96	85 - 115	2003-03-13
Ethylbenzene		mg/L	0.100	0.0952	95	85 - 115	2003-03-13
Ethylbenzene		$\mathrm{mg/L}$	0.100	0.0952	95	85 - 115	2003-03-13
Xylene (isomers)		mg/L	0.300	0.289	96	85 - 115	2003-03-13
Xylene (isomers)		mg/L	0.300	0.289	96	85 - 115	2003-03-13

Standard (CCV-2) QC Batch: 352

	Date
Param Flag Units Conc. Conc. Recovery Limits	Analyzed
Benzene mg/L 0.100 0.0928 93 85 - 115	2003-03-13

continued . . .

Report Date: March 21, 2003 Work Order: 3031310 Page Number: 6 of 6 Lee Gas Plant Duke Energy Field Servieces Lee Gas Plant standard continued ... CCVs CCVs CCVs Percent True Found Date Percent Recovery Units Conc. Param Flag Conc. Recovery Limits Analyzed Benzene mg/L 0.100 0.0928 93 85 - 115 2003-03-13 Toluene mg/L 0.100 0.093794 85 - 115 2003-03-13 Toluene 0.1000.093794 85 - 115 2003-03-13 mg/L Ethylbenzene mg/L 0.1000.094194 85 - 115 2003-03-13 Ethylbenzene 0.1000.0941 94 2003-03-13 mg/L 85 - 115 Xylene (isomers) 0.300mg/L 0.2859585 - 115 2003-03-13 mg/L 0.30095 Xylene (isomers) 0.2852003-03-13 85 - 115

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Standard (ICV-1) QC Batch: 365

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0918	92	85 - 115	2003-03-13
Toluene		mg/L	0.100	0.0930	93	85 - 115	2003-03-13
Ethylbenzene		mg/L	0.100	0.0936	94	85 - 115	2003-03-13
Xylene (isomers)		mg/L	0.300	0.284	94	85 - 115	2003-03-13

Standard (CCV-2) QC Batch: 365

			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/L	0.100	0.0912	91	85 - 115	2003-03-13
Toluene		mg/L	0.100	0.0923	92	85 - 115	2003-03-13
Ethylbenzene		mg/L	0.100	0.0922	92	85 - 115	2003-03-13
Xylene (isomers)		mg/L	0.300	0.280	93	85 - 115	2003-03-13

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Report Date: October 8, 2003

Summary Report

Dale Littlejohn Trident Environmental P.O. Box 7624 Midland, TX 79708 Report Date: October 8, 2003 Work Order: 3092108

Cost Center #:V-101Project Location:Lee Gas PlantProject Name:Duke Energy Field Servieces

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
17809	MW-7	water	2003-09-16	15:00	2003-09-20
17810	MW-9	water	2003-09-16	15:05	2003-09-20
17811	MW-10	water	2003-09-16	16:02	2003-09-20
17812	MW-11	water	2003-09-16	09:10	2003-09-20
17813	MW-12	water	2003-09-15	18:00	2003-09-20
17814	MW-13	water	2003-09-15	17:30	2003-09-20
17815	MW-14	water	2003-09-16	12:20	2003-09-20
17816	MW-16	water	2003-09-16	13:58	2003-09-20
17817	MW-17	water	2003-09-16	10:30	2003-09-20
17818	MW-18	water	2003-09-16	09:45	2003-09-20
17819	MW-19	water	2003-09-15	16:25	2003-09-20
17820	MW-20	water	2003-09-15	15:35	2003-09-20
17821	MW-21	water	2003-09-16	11:50	2003-09-20
17822	MW-22	water	2003-09-16	14:00	2003-09-20
17823	RW-2	water	2003-09-16	17:30	2003-09-20
17824	RW-3	water	2003-09-16	17:00	2003-09-20
17825	Duplicate	water	2003-09-16	00:00	2003-09-20
17826	Rinsate	water	2003-09-16	16:35	2003-09-20
17827	Trip Blank	water	2003-04-18	00:00	2003-09-20

			BTEX	
	Benzene	Toluene	Ethylbenzene	Xylene (isomers)
Sample - Field Code	(mg/L)	(mg/L)	(mg/L)	(mg/L)
17809 - MW-7	0.00760	< 0.00100	0.00120	< 0.00100
17810 - MW-9	8.67	< 0.100	0.146	< 0.100
17811 - MW-10	2.42	< 0.100	< 0.100	< 0.100
17812 - MW-11	< 0.00500	< 0.00500	< 0.00500	< 0.00500
17813 - MW-12	0.00610	< 0.00100	< 0.00100	< 0.00100
17814 - MW-13	0.00170	< 0.00100	< 0.00100	< 0.00100
17815 - MW-14	0.00170	< 0.00100	< 0.00100	< 0.00100
17816 - MW-16	0.0807	< 0.00100	< 0.00100	0.00220
17817 - MW-17	0.00950	< 0.00100	< 0.00100	< 0.00100
17818 - MW-18	< 0.00100	< 0.00100	< 0.00100	< 0.00100
17819 - MW-19	< 0.00100	<0.00100	< 0.00100	< 0.00100
17820 - MW-20	< 0.00100	< 0.00100	< 0.00100	< 0.00100
17821 - MW-21	5.58	< 0.0500	0.153	0.148

continued ...

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Report Date: October 8, 2		Work Order: 309210 Duke Energy Field Serv		Page Number: 2 of 4 Lee Gas Plan
continued				
T			BTEX	
	Benzene	Toluene	Ethylbenzene	Xylene (isomers
Sample - Field Code	(mg/L)	(mg/L)	(mg/L)	(mg/L)
17822 - MW-22	<0.00500	< 0.00500	<0.00500	< 0.00500
17823 - RW-2	0.625	< 0.0100	< 0.0100	< 0.0100
17824 - RW-3 17825 - Duplicate	12.4 9.20	5.01 <0.0500	1.78	2.04
17826 - Rinsate	0.0131	<0.00500	0.155 < < 0.00500	<0.0500 <0.00500
17827 - Trip Blank	<0.00100	0.00190	<0.00100	0.00180
Sample: 17809 - MW-7				
Param	Flag	Result	Units	RI
Total Iron		2.40	mg/L	0.0500
Total Manganese		1.09	mg/L	0.0250
Sample: 17810 - MW-9		Decel	TT T	, n
Param	Flag	Result	Units	RI
Total Iron Total Manganese		6.25 1.46	mg/L mg/L	0.050
Sample: 17811 - MW-1	.0			
Param	Flag	Result	Units	RI
Total Iron		13.2	mg/L	0.050
Total Manganese		3.36	mg/L	0.025
	_			
Sample: 17812 - MW-1	.1			
Param	1 Flag	Result	Units	
Param Total Iron		< 0.0500	mg/L	0.050
Param Total Iron				0.050
	Flag	< 0.0500	mg/L	0.050
Param Total Iron Total Manganese Sample: 17813 - MW-1 Param	Flag	<0.0500 0.783 Result	mg/L mg/L Units	0.050 0.025 RJ
Param Total Iron Total Manganese Sample: 17813 - MW-1 Param Total Iron	Flag 2	<0.0500 0.783 Result 0.0860	mg/L mg/L Units mg/L	0.050 0.025 RJ 0.050
Param Total Iron Total Manganese Sample: 17813 - MW-1	Flag 2	<0.0500 0.783 Result	mg/L mg/L Units	0.050 0.025 R. 0.050
Param Total Iron Total Manganese Sample: 17813 - MW-1 Param Total Iron	Flag 2 Flag	<0.0500 0.783 Result 0.0860	mg/L mg/L Units mg/L	0.050 0.025 RJ 0.050
Param Total Iron Total Manganese Sample: 17813 - MW-1 Param Total Iron Total Manganese Sample: 17814 - MW-1 Param	Flag 2 Flag	<0.0500 0.783 Result 0.0860 0.724 Result	mg/L mg/L Units mg/L mg/L Units	0.050 0.025 RJ 0.050 0.025
Param Total Iron Total Manganese Sample: 17813 - MW-1 Param Total Iron Total Manganese Sample: 17814 - MW-1	Flag 2 Flag .3	<0.0500 0.783 Result 0.0860 0.724	mg/L mg/L Units mg/L mg/L	RI 0.050 0.025 RI 0.050 0.025 R. 0.050 0.025

.

Total Iron	Flag	Result 2.15 5.80	Units mg/L mg/L	RL 0.0500 0.0250
Total Iron Total Manganese Sample: 17816 - MW-16 Param Total Iron		2.15	mg/L	0.0500
Total Manganese Sample: 17816 - MW-16 Param Total Iron	Flag			
Sample: 17816 - MW-16 Param Total Iron	Flag	5.80	mg/L	0.0250
Param Total Iron	Flag			
Total Iron	Flag			
		Result	Units	RL
		<0.0500	mg/L	0.0500
Total Manganese		0.0640	mg/L	0.0250
Sample: 17817 - MW-17				
Param	Flag	Result	Units	RL
Total Iron		0.704	mg/L	0.0500
Total Manganese		0.417	mg/L	0.0250
Sample: 17818 - MW-18				
Param	Flag	Result	Units	RL
Total Iron		< 0.0500	mg/L	0.0500
Total Manganese		0.366	mg/L	0.0250
Sample: 17819 - MW-19				
Param	Flag	Result	Units	RL
Total Iron		<0.0500	mg/L	0.0500
Total Manganese	•••••	<0.0250	mg/L	0.0250
Sample: 17820 - MW-20				
Param	Flag	Result	Units	RI
Total Iron	<u>v</u>	< 0.0500	mg/L	0.0500
Total Manganese		< 0.0250	mg/L	0.0250
Sample: 17821 - MW-21				
Param	Flag	Result	Units	RI
Total Iron		4.99	mg/L	0.0500
Total Manganese		0.632	mg/L	0.0250
Sample: 17822 - MW-22				continued

Report Date: October 8, 2003		Work Order: 3092108 Duke Energy Field Servieces		Page Number: 4 of 4 Lee Gas Plant
sample 17822 continued				
Param	Flag	Result	Units	RL
Param	Flag	Result	Units	RL
Total Iron		1.29	mg/L	0.0500
Total Manganese		0.190	mg/L	0.0250
Sample: 17823 - RW-2				
Param	Flag	Result	Units	RL
Total Iron		3.60	mg/L	0.0500
Total Manganese		1.22	mg/L	0.0250

i

Sample: 17824 - RW-3

Param	Flag	Result	Units	RL
Total Iron		12.3	mg/L	0.0500
Total Manganese		1.07	mg/L	0.0250

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Analytical and Quality Control Report

Dale Littlejohn Trident Environmental P.O. Box 7624 Midland, TX 79708

Report Date: October 8, 2003

Work Order: 3092108

Cost Center #: V-101 Project Location: Lee Gas Plant Duke Energy Field Servieces Project Name: Lee Gas Plant Project Number:

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
17809		water	2003-09-16	15:00	2003-09-20
17810	MW-9	water	2003-09-16	15:05	2003-09-20
17811	MW-10	water	2003-09-16	16:02	2003-09-20
17812	MW-11	water	2003-09-16	09:10	2003-09-20
17813	MW-12	water	2003-09-15	18:00	2003-09-20
17814	MW-13	water	2003-09-15	17:30	2003-09-20
17815	MW-14	water	2003-09-16	12:20	2003-09-20
17816	MW-16	water	2003-09-16	13:58	2003-09-20
17817	MW-17	water	2003-09-16	10:30	2003-09-20
17818	MW-18	water	2003-09-16	09:45	2003-09-20
17819	MW-19	water	2003-09-15	16:25	2003-09-20
17820	MW-20	water	2003-09-15	15:35	2003-09-20
17821	MW-21	water	2003-09-16	11:50	2003-09-20
17822	MW-22	water	2003-09-16	14:00	2003-09-20
17823	RW-2	water	2003-09-16	17:30	2003-09-20
17824	RW-3	water	2003-09-16	17:00	2003-09-20
17825	Duplicate	water	2003-09-16	00:00	2003-09-20
17826	Rinsate	water	2003-09-16	· 16:35	2003-09-20
17827	Trip Blank	water	2003-04-18	00:00	2003-09-20

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 24 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

T.AL lair Leftwich, Director

Report Date: October 8, 2003 Lee Gas Plant Work Order: 3092108 Duke Energy Field Servieces

Analytical Report

Sample: 17809 - MW-7

Analysis: BTEX QC Batch: 4645		Analytical M Date Analyze		S 8021B 2003-09-23		Prep Metho Analyzed B	
Prep Batch: 4098		Date Prepare	ed:	2003-09-23		Prepared B	y: BS
]	RL				
Parameter Fla	ıg	Res	ult	Unit	S	Dilution	RL
Benzene		0.007	760	mg/l	L	1	0.00100
Toluene		< 0.001	00	mg/l	L	1	0.00100
Ethylbenzene		0.001	20	mg/l	L	1	0.00100
Xylene (isomers)		< 0.001	100	mg/l	L	1	0.00100
					Spike	Percent	Recovery
Surrogate	Flag	Result	Unit	s Dilutio	n Amoun	t Recovery	Limits
Trifluorotoluene (TFT)		0.0790	mg/l	L 1	0.100	79	61 - 127
4-Bromofluorobenzene (4-BFB)		0.0839	mg/l		0.100	84	72.6 - 130

Sample: 17809 - MW-7

Analysis:	Fe, Total	Analytical Method:	S 6010B	Prep Method:	S 3010A
QC Batch:	4893	Date Analyzed:	2003-10-02	Analyzed By:	RR
Prep Batch:	4096	Date Prepared:	2003-09-23	Prepared By:	TP
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Total Iron		2.40	mg/L	1	0.0500

Sample: 17809 - MW-7

Analysis:	Mn, Total		Analytical Method:	S 6010B	Prep Method:	S 3010A
QC Batch:	4893		Date Analyzed:	2003-10-02	Analyzed By:	RR
Prep Batch:	4096		Date Prepared:	2003-09-23	Prepared By:	TP
			RL			
Parameter		\mathbf{F} lag	\mathbf{Result}	Units	• Dilution	\mathbf{RL}
Total Manga	nese	·····	1.09	mg/L	1	0.0250

Sample: 17810 - MW-9

Analysis: QC Batch: Prep Batch:	BTEX 4700 4216		Analytical Method: Date Analyzed: Date Prepared:	S 8021B 2003-09-26 2003-09-26	Prep Method: Analyzed By: Prepared By:	MT
			\mathbf{RL}			
Parameter		\mathbf{Flag}	Result	Units	Dilution	RL
Benzene			8.67	mg/L	100	0.00100
Toluene			< 0.100	mg/L	100	0.00100
Ethylbenzene	2		0.146	mg/L	100	0.00100

continued ...

Surrogate Flag Result Units Dilution Amount Recovery Lim Trifluorotoluene (TFT) 10.4 mg/L 100 0.100 104 61 - 4-Bromoffluorobenzene (4-BFB) 9.38 mg/L 100 0.100 94 72.6 - Sample: 17810 - MW-9 Analysis: Fe, Total Analytical Method: S 6010B Prep Method: S 30 QC Batch: 4893 Date Analyzed: 2003-10-02 Analyzed By: RP Prep Batch: 4096 Date Prepared: 2003-09-23 Prepared By: TP Parameter Flag Result Units Dilution 0.1 Sample: 17810 - MW-9 Analysis: Mn, Total Analytical Method: S 6010B Prep Method: S 30 QC Batch: 4893 Date Analyzed: 2003-10-02 Analysis: RR Prep Batch: 4096 Date Prepared: 2003-10-02 Analysis: RR Prep Batch: 4096 Date Analyzed: 2003-10-02 Analysis: RR Prep Batch:<	Lee Gas Plan	October 8,	2003			ler: 3092108 Field Servieces		Page Numb Lee	er: 3 of 2 Gas Plar
ParameterFlagResultUnitsDilutionSylee (isomers)<0.100mg/L1000.00SurrogateFlagResultUnitsDilutionAmountRecoreDiffuctoroluene (TFT)10.4mg/L1000.10010461 -4-Bromofluorobenzene (4-BFB)9.38mg/L1000.1009472.6 -Sample:17810 - MW-9Analysis:Fe, TotalAnalytical Method:S 6010BPrep Method:S 30QC Batch:4893Date Analyzed:2003-10-02Analyzed By:RFPrep Batch:4096Date Prepared:2003-09-23Prepared By:TPParameterFlagResultUnitsDilution0.0Total Iron6.25mg/L10.0Sample:17810 - MW-9Analyzed:2003-10-02Analyzed By:RRParameterFlagResultUnitsDilution0.10Sample:17810 - MW-9Analyzed:2003-10-02Analyzed By:RRPrep Batch:4096Date Prepared:2003-10-02Analyzed By:RTPrep Batch:4096Date Prepared:2003-10-02Analyzed By:RTParameterFlagResultUnitsDilution0.10Total Manganese1.46mg/L10.1Sample:17811 - MW-10Analyzed:2003-09-26Prep Method:S 50Analysis:BTEXAnalytical Method:S 8021B	sample 17810	continued.							
Xylene (isomers)<0.100				RI	L				
Xylene (isomers) <0.100 mg/L 100 0.00 Surrogate Flag Result Units Dilution Amount Recovery Lim Trifluorotoloene (TFT) 10.4 mg/L 100 0.100 104 61- 4-Bromofluorobenzene (4-BFB) 9.38 mg/L 100 0.100 94 72.6 - Sample: 17810 - MW-9 Analytical Method: S 6010B Prep Method: S 30 QC Batch: 4893 Date Analyzed: 2003-10-02 Analyzed By: RR Prep Batch: 4096 Date Prepared: 2003-10-02 Analyzed By: RT Parameter Flag Result Units Dilution Total Total Total O.4 Sample: 17810 - MW-9 Analyzed: 2003-10-02 Analyzed By: RT QC Batch: 4893 Date Analyzed: 2003-10-02 Analyzed By: RT QC Batch: 4893 Date Analyzed: 2003-10-02 Analyzed By: RT Prep Batch: 4096 Date Prepared: 2003-10-02 Anal	Parameter		Flag			Units	Dil	ution	RI
SurrogateFlagResultUnitsDilutionAmountRecoveryLimTriflorotoluene (TFT)10.4mg/L1000.10010461+Bromofluorobenzene (4-BFB)9.38mg/L1000.1009472.6Sample: 17810 - MW-9Analysis: Fe, TotalAnalytical Method: S 6010BPrep Method: S 30QC Batch: 4893Date Analyzed:2003-10-02Analyzed By: RRPrep Batch: 4096Date Prepared:2003-09-23Prepared By: TPParameterFlagResultUnitsDilutionTotal Iron6.25mg/L10.0Sample: 17810 - MW-9Analysic:QC Batch: 4893Date Analyzed:2003-10-02Analysis: Mn, TotalAnalytical Method: S 6010BPrep Method: S 30Cl Batch: 4893Date Analyzed:2003-10-02Analyzed By: RRPere Batch: 4096Date Prepared:2003-10-02Analyzed Method: S 6010BPrep Method: S 50Sample: 17810 - MW-9Analyzed EOneRLPrep Batch: 4096Date Prepared: 2003-10-02Analyzed By: RRPrep Method: S 6010BPrep Method: S 6010BOnePrep Batch: 4096Date Prepared: 2003-09-26 <tr< td=""><td>Xylene (isome</td><td>ers)</td><td></td><td>< 0.100</td><td>0</td><td>mg/L</td><td></td><td>100</td><td>0.0010</td></tr<>	Xylene (isome	ers)		< 0.100	0	mg/L		100	0.0010
Trifloorotoluene (TFT) 10.4 mg/L 100 0.100 104 61 4-Bromofluorobenzene (4-BFB) 9.38 mg/L 100 0.100 94 72.6 Sample: 17810 - MW-9 Analysis: Fe, Total Analyzed: 2003-10-02 Analyzed By: RR Prep Batch: 4096 Date Analyzed: 2003-10-02 Analyzed By: RR Parameter Flag Result Units Dilution Total Total Total Iron 6.25 mg/L 1 0.4 Sample: 17810 - MW-9 Analyzed: 2003-10-02 Analyzed By: RR Analysis: Mn, Total Analyzed: 2003-10-02 Analyzed By: RR Prep Batch: 4096 Date Prepared: 2003-09-23 Prepared By: TP Prep Batch: 4096 Date Prepared: 2003-10-02 Analyzed By: RR Prep Batch: 4096 Date Prepared: 2003-09-26 Analyzed By: MT Diate Prepared: 2003-09-26 Prep Method: S 50	Sumorato		Flor	Decult	IInita	Dilution	-		Recovery
4-Bromofluorobenzene (4-BFB) 9.38 mg/L 100 0.100 94 72.6 Sample: 17810 - MW-9 Analysis: Fe, Total Analytical Method: S 6010B Prep Method: S 30 QC Batch: 4893 Date Analyzed: 2003-10-02 Analyzed By: RR Prep Batch: 4096 Date Prepared: 2003-09-23 Prep Method: S 30 Parameter Flag Result Units Dilution Total Iron 6.25 mg/L 1 0.0 Sample: 17810 - MW-9 Analyzed: 2003-10-02 Analyzed By: RR Prep Batch: 4996 Date Analyzed: 2003-10-02 Analyzed By: RR Prep Batch: 4996 Date Analyzed: 2003-09-23 Prep Method: S 30 QC Batch: 4893 Date Analyzed: 2003-09-23 Prepared By: RR Prep Batch: 4096 Date Prepared: 2003-09-23 Prepared By: RT Sample: 17811 - MW-10 RL Dilution MI Dilution MI Satc			r lag						
Sample: 17810 - MW-9 Analysis: Fe, Total Analytical Method: S 6010B Prep Method: S 30 QC Batch. 4893 Date Analyzed: 2003-10-02 Analyzed By: RR Prep Batch: 4096 Date Prepared: 2003-09-23 Prepared By: TP RL Rit Dilution Old Old Old Old Old Sample: 17810 - MW-9 Analytical Method: S 6010B Prep Method: S 30 Analysis: Mn, Total Analytical Method: S 6010B Prep Method: S 30 QC Batch: 4893 Date Analyzed: 2003-10-02 Analyzed By: RR Prep Batch: 4096 Date Prepared: 2003-09-23 Prepared By: TP Prep Batch: 4096 Date Analyzed: 2003-09-23 Prepared By: TP Sample: 1.46 mg/L 1 0.1 Sample: 17811 - MW-10 Analyzed: 2003-09-26 Analyzed By: MT Prep Batch: 4216 Date Analyzed: 2003-09-26 Prepared By:			-BFB)		÷.				72.6 - 13
Analysis: Fe, Total Analytical Method: S 6010B Prep Method: S 30 QC Batch: 4893 Date Analyzed: 2003-10-02 Analyzed By: RR Prep Batch: 4096 Date Prepared: 2003-09-23 Prepared By: TP Parameter Flag Result Units Dilution T 0.0 Sample: 17810 - MW-9 6.25 mg/L 1 0.0 Sample: 17810 - MW-9 Analytical Method: S 6010B Prep Method: S 30 QC Batch: 4893 Date Analyzed: 2003-10-02 Analyzed By: RR Prep Batch: 4096 Date Prepared: 2003-09-23 Prep Method: S 30 QC Batch: 4893 Date Analyzed: 2003-09-23 Prepared By: RP Prep Batch: 4096 Date Prepared: 2003-09-23 Prepared By: TP Parameter Flag Result Units Dilution Dilution South: 4700 Date Analyzed: 2003-09-26 Analyzed By: MT Prep Batch: 421			•						
QC Batch: 4893 Prep Batch: Date Analyzed: 2003-10-02 2003-09-23 Analyzed By: RR Parameter Flag Result Units Dilution Total Iron 6.25 mg/L 1 0.0 Sample: 17810 - MW-9 Analytical Method: S 6010B Prep Method: S 30 QC Batch: 4893 Date Analyzed: 2003-10-02 Analyzed By: RR Prep Batch: 4096 Date Analyzed: 2003-10-02 Analyzed By: RR Prep Batch: 4096 Date Prepared: 2003-09-23 Prepared By: TP Parameter Flag Result Units Dilution Total Manganese 1 0.0 Sample: 17811 - MW-10 Analytical Method: S 8021B Prep Method: S 5 00 Sample: 17811 - MW-10 Analyzed: 2003-09-26 Prepared By: MT Prep Batch: 4216 Date Prepared: 2003-09-26 Prepared By: MT Parameter Flag Result Units Dilution Encente 20.100 0.0 0.0	-		9	A	f	C 6010D		Deen Mathal	C 2010
Prep Batch: 4096 Date Prepared: 2003-09-23 Prepared By: TP RL Image: Constraint of the state of	-								
RL Result Units Dilution Fotal Iron 6.25 mg/L 1 0.0 Sample: 17810 - MW-9 Analysis: Mn, Total Analytical Method: S 6010B Prep Method: S 30 QC Batch: 4893 Date Analyzed: $2003-10-02$ Analyzed By: RR Prep Batch: 4096 Date Prepared: $2003-09-23$ Prepared By: TP Parameter Flag Result Units Dilution Dilution Fotal Manganese 1.46 mg/L 1 0.4 Sample: 17811 - MW-10 Analytical Method: S 8021B Prep Method: S 56 QC Batch: 4700 Date Prepared: $2003-09-26$ Analyzed By: MT Prep Batch: 4216 Date Prepared: $2003-09-26$ Prep Method: S 56 QC Batch: 4700 Date Prepared: $2003-09-26$ Prepared By: MT Parameter Flag Result Units Dilution Dilution Benzene 2.42 mg/L 100 0	•			•					
Parameter Flag Result Units Dilution Fotal Iron 6.25 mg/L 1 0.0 Sample: 17810 - MW-9 Analysis: Mn, Total Analytical Method: S 6010B Prep Method: S 30 QC Batch: 4893 Date Analyzed: 2003-10-02 Analyzed By: RR Prep Batch: 4096 Date Prepared: 2003-09-23 Prepared By: TP Parameter Flag Result Units Dilution Total Manganese 1 0.0 Sample: 17811 - MW-10 Analysis: BTEX Analytical Method: S 8021B Prep Method: S 50 QC Batch: 4700 Date Analyzed: 2003-09-26 Analyzed By: MT Prep Batch: 4216 Date Prepared: 2003-09-26 Prep Method: S 50 QC Batch: 4700 Date Analyzed: 2003-09-26 Prepared By: MT Parameter Flag Result Units Dilution Dilution Dilution	Tep Daten:	7090		Date Trebat	.cu.	2003-03-23		ттератей Бу:	ΤĽ
Total Iron 6.25 mg/L 1 0.0 Sample: 17810 - MW-9 Analysis: Mn, Total Analytical Method: S 6010B Prep Method: S 30 QC Batch: 4893 Date Analyzed: 2003-10-02 Analyzed By: RR Prep Batch: 4096 Date Prepared: 2003-09-23 Prepared By: TP Parameter Flag Result Units Dilution Dilution Fotal Manganese 1.46 mg/L 1 0.4 Sample: 17811 - MW-10 Analysis: BTEX Analytical Method: S 8021B Prep Method: S 50 QC Batch: 4700 Date Analyzed: 2003-09-26 Analyzed By: MT Prep Batch: 4216 Date Prepared: 2003-09-26 Prepared By: MT Parameter Flag Result Units Dilution Benzene 2.42 mg/L 100 0.0 Chuene <0.100				RL					
Total Iron 6.25 mg/L 1 0.1 Sample: 17810 - MW-9 Analysis: Mn, Total Analytical Method: S 6010B Prep Method: S 30 QC Batch: 4893 Date Analyzed: 2003-10-02 Analyzed By: RR Prep Batch: 4096 Date Prepared: 2003-09-23 Prepared By: TP RL Result Units Dilution Dilution Fotal Manganese 1.46 mg/L 1 0.4 Sample: 17811 - MW-10 Analysis: BTEX Analytical Method: S 8021B Prep Method: S 50 QC Batch: 4700 Date Analyzed: 2003-09-26 Analyzed By: MT Prep Batch: 4216 Date Prepared: 2003-09-26 Prep Method: S 50 QC Batch: 4700 Date Prepared: 2003-09-26 Prepared By: MT Parameter Flag Result Units Dilution Benzene 2.42 mg/L 100 0.0 Chulphenzene <0.100	Parameter		Flag	Result		Units	Dil	ution	R
Sample: 17810 - MW-9 Analysis: Mn, Total Analytical Method: S 6010B Prep Method: S 30 QC Batch: 4893 Date Analyzed: 2003-10-02 Analyzed By: RR Prep Batch: 4096 Date Prepared: 2003-09-23 Prepared By: TP Parameter Flag Result Units Dilution Fotal Manganese 1.46 mg/L 1 0.4 Sample: 17811 - MW-10 Analysis: BTEX Analytical Method: S 8021B Prep Method: S 50 QC Batch: 4700 Date Analyzed: 2003-09-26 Analyzed By: MT Prep Batch: 4216 Date Prepared: 2003-09-26 Prepared By: MT Parameter Flag Result Units Dilution 3anzene 2.42 mg/L 100 0.0 Sanzene 2.42 mg/L 100 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 <td>Total Iron</td> <td></td> <td></td> <td>6.25</td> <td></td> <td>mg/L</td> <td></td> <td>1</td> <td>0.050</td>	Total Iron			6.25		mg/L		1	0.050
ParameterFlagResultUnitsDilutionTotal Manganese1.46mg/L10.0Sample: 17811 - MW-10Analysis:BTEXAnalytical Method:S 8021BPrep Method:S 50QC Batch:4700Date Analyzed:2003-09-26Analyzed By:MTPrep Batch:4216Date Prepared:2003-09-26Prepared By:MTParameterFlagResultUnitsDilutionBenzene2.42mg/L1000.0Toluene<0.100mg/L1000.0Ethylbenzene<0.100mg/L1000.0Xylene (isomers)<0.100mg/L1000.0SurrogateFlagResultUnitsDilutionRecoveryLim	-		9	Analytical 1	Method:	S 6010B		Prep Method:	S 30104
Total Manganese1.46mg/L10.0Sample: 17811 - MW-10Analysis:BTEXAnalytical Method:\$ 8021BPrep Method:\$ 50QC Batch:4700Date Analyzed:2003-09-26Analyzed By:MTPrep Batch:4216Date Prepared:2003-09-26Prepared By:MTParameterFlagResultUnitsDilutionBenzene2.42mg/L1000.0Toluene<0.100	- Analysis: QC Batch:	Mn, Total 4893	9	Date Analy	zed:	2003-10-02		Analyzed By:	RR
Sample: 17811 - MW-10 Analysis: BTEX Analytical Method: S 8021B Prep Method: S 50 QC Batch: 4700 Date Analyzed: 2003-09-26 Analyzed By: MT Prep Batch: 4216 Date Prepared: 2003-09-26 Prepared By: MT RL RL RL Parameter Flag Result Units Dilution Benzene 2.42 mg/L 100 0.0 Toluene <0.100	- Analysis: QC Batch:	Mn, Total 4893	9	Date Analy Date Prepa	zed: .red:	2003-10-02		Analyzed By:	RR
Analysis:BTEXAnalytical Method:S 8021BPrep Method:S 50QC Batch:4700Date Analyzed:2003-09-26Analyzed By:MTPrep Batch:4216Date Prepared:2003-09-26Prepared By:MTRLRLPrepared By:MTParameterFlagResultUnitsDilutionBenzene2.42mg/L1000.0Toluene<0.100	Analysis: QC Batch: Prep Batch:	Mn, Total 4893		Date Analy Date Prepa R	zed: .red: L	2003-10-02 2003-09-23	D	Analyzed By: Prepared By:	RR TP R
ParameterFlagResultUnitsDilutionBenzene2.42mg/L1000.0Foluene<0.100	Analysis: QC Batch: Prep Batch: Parameter	Mn, Total 4893 4096		Date Analy Date Prepa R Resul	rzed: .red: L lt	2003-10-02 2003-09-23 Units	D	Analyzed By: Prepared By: ilution	RR TP R
Benzene 2.42 mg/L 100 0.0 Foluene <0.100	Analysis: QC Batch: Prep Batch: Parameter Total Mangan Sample: 178 Analysis: QC Batch:	Mn, Total 4893 4096 hese 811 - MW- BTEX 4700	Flag	Date Analy Date Prepa R Resul 1.4 Analytical M Date Analyze	zed: .red: L lt 6 	2003-10-02 2003-09-23 Units mg/L S 8021B 2003-09-26	D	Analyzed By: Prepared By: ilution 1 Prep Method: Analyzed By:	RR TP 0.025 S 5030 MT
Toluene <0.100 mg/L 100 0.0 Ethylbenzene <0.100	Analysis: QC Batch: Prep Batch: Parameter Total Mangan Sample: 178 Analysis: QC Batch: Prep Batch:	Mn, Total 4893 4096 hese 811 - MW- BTEX 4700	Flag	Date Analy Date Prepa R Result 1.4 Analytical M Date Analyze Date Prepare R	zed: .red: L lt .6 	2003-10-02 2003-09-23 <u>Units</u> mg/L S 8021B 2003-09-26 2003-09-26		Analyzed By: Prepared By: ilution 1 Prep Method: Analyzed By: Prepared By:	RR TP 0.025 S 5030 MT MT
Ethylbenzene<0.100mg/L1000.0Xylene (isomers)<0.100	Analysis: QC Batch: Prep Batch: Parameter Fotal Mangan Sample: 178 Analysis: QC Batch: Prep Batch: Prep Batch: Parameter	Mn, Total 4893 4096 hese 811 - MW- BTEX 4700	Flag	Date Analy Date Prepa R Result 1.4 Analytical M Date Analyze Date Prepare R Result	zed: .red: L lt .6 Cethod: ed: ed: L lt	2003-10-02 2003-09-23 Units mg/L S 8021B 2003-09-26 2003-09-26 Units		Analyzed By: Prepared By: ilution 1 Prep Method: Analyzed By: Prepared By: lution	RR TP 0.025 S 5030 MT MT R
Xylene (isomers)<0.100mg/L1000.0SpikePercentRecoSurrogateFlagResultUnitsDilutionAmountRecoveryLim	Analysis: QC Batch: Prep Batch: Parameter Total Mangan Sample: 178 Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Benzene	Mn, Total 4893 4096 hese 811 - MW- BTEX 4700	Flag	Date Analy Date Prepa R Result 1.4 Analytical M Date Analyze Date Prepare R Result 2.4	zed: .red: L lt .6 	2003-10-02 2003-09-23 <u>Units</u> mg/L S 8021B 2003-09-26 2003-09-26 2003-09-26 Units mg/L		Analyzed By: Prepared By: ilution 1 Prep Method: Analyzed By: Prepared By: lution 100	RR TP 0.025 S 50301 MT MT R 0.0010
Surrogate Flag Result Units Dilution Amount Recovery Lim	Analysis: QC Batch: Prep Batch: Parameter Fotal Mangan Sample: 178 Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Benzene Foluene	Mn, Total 4893 4096 nese 311 - MW- BTEX 4700 4216	Flag	Date Analy Date Prepa R Result 1.4 Analytical M Date Analyze Date Prepare R Result 2.4 <0.10	zed: red: L lt .6 Cethod: ed: ed: L L L 2 0	2003-10-02 2003-09-23 <u>Units</u> mg/L S 8021B 2003-09-26 2003-09-26 2003-09-26 <u>Units</u> mg/L mg/L		Analyzed By: Prepared By: ilution 1 Prep Method: Analyzed By: Prepared By: lution 100 100	RR TP 0.025 S 5030 MT MT R 0.0010 0.0010
	Analysis: QC Batch: Prep Batch: Parameter Total Mangar Sample: 178 Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene	Mn, Total 4893 4096 nese 311 - MW- BTEX 4700 4216	Flag	Date Analy Date Prepa R Result 1.4 Analytical M Date Analyze Date Prepare R Result 2.4 <0.10 <0.10	zed: red: L lt .6 Cethod: ed: ed: L t t 2 0 0 0	2003-10-02 2003-09-23 Units mg/L S 8021B 2003-09-26 2003-09-26 2003-09-26 Units mg/L mg/L mg/L		Analyzed By: Prepared By: ilution 1 Prep Method: Analyzed By: Prepared By: lution 100 100 100	RR TP 0.025 S 5030 MT MT R 0.0010 0.0010 0.0010
11111111111111111111111111111111111111	Analysis: QC Batch: Prep Batch: Parameter Total Mangan Sample: 178 Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene (isomo	Mn, Total 4893 4096 nese 311 - MW- BTEX 4700 4216	Flag 10 Flag	Date Analy Date Prepa R Result 1.4 Analytical M Date Analyze Date Prepare R Result 2.4 <0.10 <0.10 <0.10	zed: red: L lt 66 fethod: ed: ed: ed: L lt 2 00 00 00	2003-10-02 2003-09-23 Units mg/L S 8021B 2003-09-26 2003-09-26 2003-09-26 Units mg/L mg/L mg/L mg/L	Di Spike	Analyzed By: Prepared By: ilution 1 Prep Method: Analyzed By: Prepared By: lution 100 100 100 100 100 200 Percent	RR TP 0.025 S 5030 MT MT MT R 0.0010 0.0010 0.0010 0.0010 Recover
4-Bromofluorobenzene (4-BFB) 9.42 mg/L 100 0.100 94 72.6 -	Analysis: QC Batch: Prep Batch: Parameter Total Mangan Sample: 178 Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene (isomo	Mn, Total 4893 4096 nese 811 - MW- BTEX 4700 4216	Flag 10 Flag	Date Analy Date Prepa R Result	zed: red: L lt 6 6 6 6 6 6 6 6 6 6 7 6 6 7 6 7 7 7 7	2003-10-02 2003-09-23 Units mg/L S 8021B 2003-09-26 2003-09-26 Units mg/L mg/L mg/L mg/L	Di Spike Amount	Analyzed By: Prepared By: ilution 1 Prep Method: Analyzed By: Prepared By: lution 100 100 100 100 100 200 Percent Recovery	RR TP R. 0.025 S 50301 MT MT MT R 0.0010 0.0010 0.0010 0.0010 0.0010 0.0010 0.0010

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Lee Gas Plan	October 8, nt	2003		der: 3092108 y Field Servieces		Page Numb Lee	Gas Plai
Sample: 17	811 - MW-	-10					
Analysis:	Fe, Total		Analytical Method	: S 6010B		Prep Method:	S 30104
QC Batch:	4893		Date Analyzed:	2003-10-02		Analyzed By:	RR
Prep Batch:	4096		Date Prepared:	2003-09-23		Prepared By:	TP
			RL				
Parameter	•	Flag	Result	Units	Dil	ution	R
Total Iron			13.2	mg/L	,	1	0.050
Sample: 17	811 - MW-	-10					
Analysis:	Mn, Total		Analytical Method	l: S 6010B		Prep Method:	S 30104
QC Batch:	4893		Date Analyzed:	2003-10-02		Analyzed By:	RR
Prep Batch:	4096		Date Prepared:	2003-09-23		Prepared By:	TP
			RL			-	
Parameter		Flag	Result	Units	מ	ilution	R
			3.36	mg/L	D	1	0.025
		11					
Sample: 17	812 - MW-	-11					
Sample: 17 Analysis:	812 - MW - BTEX	-11	Analytical Method:	S 8021B		Prep Method:	
Sample: 17 Analysis: QC Batch:	812 - MW BTEX 4700	-11	Date Analyzed:	2003-09-26		Analyzed By:	MT
Sample: 17 Analysis: QC Batch:	812 - MW - BTEX	-11	Date Analyzed: Date Prepared:				
Sample: 17 Analysis: QC Batch: Prep Batch:	812 - MW BTEX 4700		Date Analyzed: Date Prepared: RL	2003-09-26 2003-09-26	Ĩ	Analyzed By: Prepared By:	MT MT
Sample: 17 Analysis: QC Batch: Prep Batch: Parameter	812 - MW BTEX 4700	-11 Flag	Date Analyzed: Date Prepared: RL Result	2003-09-26 2003-09-26 Units	Di	Analyzed By: Prepared By: ilution	MT MT R
Sample: 17 Analysis: QC Batch: Prep Batch: Parameter Benzene	812 - MW BTEX 4700		Date Analyzed: Date Prepared: RL Result <0.00500	2003-09-26 2003-09-26 Units mg/L	Di	Analyzed By: Prepared By: ilution 5	MT MT
Sample: 17 Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene	812 - MW- BTEX 4700 4216		Date Analyzed: Date Prepared: RL Result <0.00500 <0.00500	2003-09-26 2003-09-26 Units mg/L mg/L	Di	Analyzed By: Prepared By: ilution 5 5	MT MT
Sample: 17 Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene	812 - MW- BTEX 4700 4216		Date Analyzed: Date Prepared: RL Result <0.00500	2003-09-26 2003-09-26 Units mg/L	Di	Analyzed By: Prepared By: ilution 5	MT MT 0.0010 0.0010 0.0010
Sample: 17 Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene (isom	812 - MW- BTEX 4700 4216	Flag	Date Analyzed: Date Prepared: RL Result <0.00500 <0.00500 <0.00500 <0.00500	2003-09-26 2003-09-26	Spike	Analyzed By: Prepared By: ilution 5 5 5 5 5 Percent	MT MT 0.0010 0.0010 0.0010 0.0010 Recover
Sample: 17 Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene (isom Surrogate	812 - MW- BTEX 4700 4216 ers)		Date Analyzed: Date Prepared: RL Result <0.00500 <0.00500 <0.00500 <0.00500 <0.00500	2003-09-26 2003-09-26 <u>Units</u> mg/L mg/L mg/L ts Dilution	Spike Amount	Analyzed By: Prepared By: ilution 5 5 5 5 Percent Recovery	MT MT 0.0010 0.0010 0.0010 0.0010 Recover Limits
Sample: 17 Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene (isom Surrogate Trifluorotolue	812 - MW- BTEX 4700 4216 e ers) ene (TFT)	Flag Fla	Date Analyzed: Date Prepared: RL Result <0.00500	2003-09-26 2003-09-26 Units mg/L mg/L mg/L ts Dilution L 5	Spike Amount 0.100	Analyzed By: Prepared By: ilution 5 5 5 5 Percent Recovery 104	MT MT 0.0010 0.0010 0.0010 0.0010 Recover Limits 61 - 127
Total Mangar Sample: 17 Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene (isom Surrogate Trifluorotolue 4-Bromofluor	812 - MW- BTEX 4700 4216 e ers) ene (TFT)	Flag Fla	Date Analyzed: Date Prepared: RL Result <0.00500 <0.00500 <0.00500 <0.00500 <0.00500	2003-09-26 2003-09-26 Units mg/L mg/L mg/L ts Dilution L 5	Spike Amount	Analyzed By: Prepared By: ilution 5 5 5 5 Percent Recovery	MT
Sample: 17 Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene (isom Surrogate Trifluorotolue 4-Bromofluor	812 - MW- BTEX 4700 4216 e ers) ene (TFT) obenzene (4	Flag Fla	Date Analyzed: Date Prepared: RL Result <0.00500	2003-09-26 2003-09-26 Units mg/L mg/L mg/L ts Dilution L 5	Spike Amount 0.100	Analyzed By: Prepared By: ilution 5 5 5 5 Percent Recovery 104	MT MT 0.0010 0.0010 0.0010 0.0010 Recover Limits 61 - 127
Sample: 17 Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene (isom Surrogate Trifluorotolue 4-Bromofluor Sample: 17 Analysis:	812 - MW- BTEX 4700 4216 e ers) ene (TFT) obenzene (4 812 - MW- Fe, Total	Flag Fla	Date Analyzed: Date Prepared: RL Result <0.00500 <0.00500 <0.00500 <0.00500 <0.00500 g Result Uni 0.521 mg/ 0.458 mg/	2003-09-26 2003-09-26 <u>Units</u> mg/L mg/L mg/L ts Dilution L 5 L 5 : S 6010B	Spike Amount 0.100	Analyzed By: Prepared By: ilution 5 5 5 5 Percent Recovery 104 92 Prep Method:	MT MT 0.0010 0.0010 0.0010 0.0010 Recover Limits 61 - 127 72.6 - 13
Sample: 17 Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene (isom Surrogate Trifluorotolue 4-Bromofluor Sample: 17 Analysis: QC Batch:	812 - MW- BTEX 4700 4216 e ers) ene (TFT) obenzene (4 812 - MW- Fe, Total 4893	Flag Fla	Date Analyzed: Date Prepared: RL Result <0.00500 <0.00500 <0.00500 <0.00500 <0.00500 g Result Uni 0.521 mg/ 0.458 mg/ Analytical Method Date Analyzed:	2003-09-26 2003-09-26 <u>Units</u> mg/L mg/L mg/L ts Dilution L 5 L 5 : S 6010B 2003-10-02	Spike Amount 0.100	Analyzed By: Prepared By: ilution 5 5 5 5 Percent Recovery 104 92 Prep Method: Analyzed By:	MT MT 0.0010 0.0010 0.0010 0.0010 0.0010 Recover Limits 61 - 127 72.6 - 13 S 3010 RR
Sample: 17 Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene (isom Surrogate Trifluorotolue 4-Bromofluor Sample: 17	812 - MW- BTEX 4700 4216 e ers) ene (TFT) obenzene (4 812 - MW- Fe, Total	Flag Fla	Date Analyzed: Date Prepared: RL Result <0.00500 <0.00500 <0.00500 <0.00500 <0.00500 g Result Uni 0.521 mg/ 0.458 mg/	2003-09-26 2003-09-26 <u>Units</u> mg/L mg/L mg/L ts Dilution L 5 L 5 : S 6010B	Spike Amount 0.100	Analyzed By: Prepared By: ilution 5 5 5 5 Percent Recovery 104 92 Prep Method:	MT MT 0.0010 0.0010 0.0010 0.0010 Recover Limits 61 - 127 72.6 - 13
Sample: 17 Analysis: QC Batch: Prep Batch: Prep Batch: Benzene Toluene Ethylbenzene Xylene (isom Surrogate Trifluorotolue 4-Bromofluor Sample: 17 Analysis: QC Batch: Prep Batch:	812 - MW- BTEX 4700 4216 e ers) ene (TFT) obenzene (4 812 - MW- Fe, Total 4893	Flag Fla -BFB) -11	Date Analyzed: Date Prepared: RL Result <0.00500 <0.00500 <0.00500 <0.00500 g Result Uni 0.521 mg/ 0.458 mg/ Analytical Method Date Analyzed: Date Prepared: RL	2003-09-26 2003-09-26 <u>Units</u> mg/L mg/L mg/L ts Dilution L 5 L 5 : S 6010B 2003-10-02 2003-09-23	Spike Amount 0.100 0.100	Analyzed By: Prepared By: ilution 5 5 5 5 Percent Recovery 104 92 Prep Method: Analyzed By: Prepared By:	MT MT 0.0010 0.0010 0.0010 0.0010 Recover Limits 61 - 127 72.6 - 13 S 3010 RR TP
Sample: 17 Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene (isom Surrogate Trifluorotolue 4-Bromofluor Sample: 17 Analysis: QC Batch:	812 - MW- BTEX 4700 4216 e ers) ene (TFT) obenzene (4 812 - MW- Fe, Total 4893	Flag Fla	Date Analyzed: Date Prepared: RL Result <0.00500 <0.00500 <0.00500 <0.00500 <0.00500 g Result Uni 0.521 mg/ 0.458 mg/ Analytical Method Date Analyzed: Date Prepared:	2003-09-26 2003-09-26 <u>Units</u> mg/L mg/L mg/L ts Dilution L 5 L 5 : S 6010B 2003-10-02	Spike Amount 0.100 0.100	Analyzed By: Prepared By: ilution 5 5 5 5 Percent Recovery 104 92 Prep Method: Analyzed By:	MT MT 0.0010 0.0010 0.0010 0.0010 0.0010 Recover Limits 61 - 127 72.6 - 13 S 3010 RR

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Lee Gas Plan	: October 8, nt	2003		der: 3092108 Field Servieces		Page Number Lee	er: 5 of 24 Gas Plan
Analysis: QC Batch: Prep Batch:	Mn, Total 4893 4096		Analytical Method: Date Analyzed: Date Prepared:	S 6010B 2003-10-02 2003-09-23		Prep Method: Analyzed By: Prepared By:	S 3010A RR TP
			RL				
Parameter		\mathbf{Flag}	Result	Units	Di	lution	RI
Total Manga	nese		0.783	mg/L		1	0.0250
Sample: 17	813 - MW-	-12					
Analysis:	BTEX		Analytical Method:	S 8021B		Prep Method:	S 5030E
QC Batch:	4630		Date Analyzed:	2003-09-24		Analyzed By:	MT
Prep Batch:	4153		Date Prepared:	2003-09-24		Prepared By:	MT
			\mathbf{RL}				
Parameter		Flag	Result	Units	Dil	ution	RI
Benzene			0.00610	mg/L		1	0.0010
Toluene			<0.00100	mg/L		1	0.0010
Ethylbenzene			< 0.00100	mg/L		1	0.0010
Xylene (isom	ers)		< 0.00100	mg/L		1	0.0010
Surrogate		Flag	Result Unit	s Dilution	Spike Amount	Percent Recovery	Recovery
		1.005	1000410 01110				
	ene (TFT)		0.0825 mg/l	L 1	0.100	82	70 - 130
Trifluorotolu		-BFB)	0.0825 mg/l 0.0905 mg/l		0.100 0.100	82 90	
Trifluorotolue 4-Bromofluor Sample: 17 Analysis: QC Batch:	robenzene (4	- <u>, , , , , , , , , , , , , , , , , , , </u>	0.0905 mg/l Analytical Method: Date Analyzed: Date Prepared:	L <u>1</u>			70 - 130
Trifluorotolue 4-Bromofluor Sample: 17 Analysis: QC Batch: Prep Batch:	813 - MW- Fe, Total 4893	-12	0.0905 mg/l Analytical Method: Date Analyzed: Date Prepared: RL	L 1 S 6010B 2003-10-02 2003-09-23	0.100	90 Prep Method: Analyzed By: Prepared By:	70 - 130 S 3010A RR TP
Trifluorotolue 4-Bromofluor Sample: 17 Analysis: QC Batch: Prep Batch: Parameter	813 - MW- Fe, Total 4893	- <u>, , , , , , , , , , , , , , , , , , , </u>	0.0905 mg/l Analytical Method: Date Analyzed: Date Prepared:	L 1 S 6010B 2003-10-02	0.100	90 Prep Method: Analyzed By:	70 - 130 S 3010A RR TP RJ
Trifluorotolue 4-Bromofluor Sample: 17 Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Total Iron Sample: 17 Analysis:	813 - MW- Fe, Total 4893 4096 813 - MW- Mn, Total	-12 Flag	0.0905 mg/l Analytical Method: Date Analyzed: Date Prepared: RL Result 0.0860 Analytical Method	L 1 S 6010B 2003-10-02 2003-09-23 Units mg/L : S 6010B	0.100	90 Prep Method: Analyzed By: Prepared By: Ition I Prep Method:	70 - 130 S 3010A RR TP RI 0.0500 S 3010A
Trifluorotolud 4-Bromofluor Sample: 17 Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Total Iron Sample: 17 Analysis: QC Batch:	813 - MW- Fe, Total 4893 4096 813 - MW- Mn, Total 4893	-12 Flag	0.0905 mg/l Analytical Method: Date Analyzed: Date Prepared: RL Result 0.0860 Analytical Method Date Analyzed:	L 1 S 6010B 2003-10-02 2003-09-23 Units mg/L : S 6010B 2003-10-02	0.100	90 Prep Method: Analyzed By: Prepared By: Ition I Prep Method: Analyzed By:	70 - 130 S 30104 RR TP RJ 0.0500 S 30104 RR
Trifluorotolue 4-Bromofluor Sample: 17 Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Total Iron Sample: 17	813 - MW- Fe, Total 4893 4096 813 - MW- Mn, Total	-12 Flag	0.0905 mg/l Analytical Method: Date Analyzed: Date Prepared: RL Result 0.0860 Analytical Method	L 1 S 6010B 2003-10-02 2003-09-23 Units mg/L : S 6010B	0.100	90 Prep Method: Analyzed By: Prepared By: Ition I Prep Method:	70 - 130 S 3010A RR TP RI 0.0500 S 3010A
Trifluorotolud 4-Bromofluor Sample: 17 Analysis: QC Batch: Prep Batch: Parameter Total Iron Sample: 17 Analysis: QC Batch: Prep Batch: Prep Batch: Prep Batch:	813 - MW- Fe, Total 4893 4096 813 - MW- Mn, Total 4893 4096	-12 Flag	0.0905 mg/l Analytical Method: Date Analyzed: Date Prepared: RL Result 0.0860 Analytical Method Date Analyzed: Date Prepared: RL Result	L 1 S 6010B 2003-10-02 2003-09-23 Units mg/L : S 6010B 2003-10-02	0.100 Dilu	90 Prep Method: Analyzed By: Prepared By: Ition I Prep Method: Analyzed By:	TP RI 0.0500 S 3010A RR TP RI
Trifluorotolud 4-Bromofluor Sample: 17 Analysis: QC Batch: Prep Batch: Parameter Total Iron Sample: 17 Analysis: QC Batch: Prep Batch: Prep Batch: Prep Batch:	813 - MW- Fe, Total 4893 4096 813 - MW- Mn, Total 4893 4096	-12 Flag -12	0.0905 mg/l Analytical Method: Date Analyzed: Date Prepared: RL Result 0.0860 Analytical Method Date Analyzed: Date Prepared: RL	L 1 S 6010B 2003-10-02 2003-09-23 Units mg/L : S 6010B 2003-10-02 2003-09-23	0.100 Dilu	90 Prep Method: Analyzed By: Prepared By: Ition I Prep Method: Analyzed By: Prepared By:	70 - 130 S 3010A RR TP RI 0.0500 S 3010A RR TP
Trifluorotolud 4-Bromofluor Sample: 17 Analysis: QC Batch: Prep Batch: Parameter Total Iron Sample: 17 Analysis: QC Batch: Prep Batch:	813 - MW- Fe, Total 4893 4096 813 - MW- Mn, Total 4893 4096 	-12 Flag -12 Flag	0.0905 mg/l Analytical Method: Date Analyzed: Date Prepared: RL Result 0.0860 Analytical Method Date Analyzed: Date Prepared: RL Result 0.724	L 1 S 6010B 2003-10-02 2003-09-23 Units mg/L : S 6010B 2003-10-02 2003-09-23 Units mg/L	0.100 Dilu	90 Prep Method: Analyzed By: Prepared By: 1tion 1 Prep Method: Analyzed By: Prepared By: lution 1	70 - 130 RR TP R: 0.050 S 3010 RR TP R 0.025
Trifluorotolue 4-Bromofluor Sample: 17 Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Total Iron Sample: 17 Analysis: QC Batch: Prep Batch: Prep Batch: Prep Batch: Parameter Total Manga	813 - MW- Fe, Total 4893 4096 813 - MW- Mn, Total 4893 4096 .nese	-12 Flag -12 Flag	0.0905 mg/l Analytical Method: Date Analyzed: Date Prepared: RL Result 0.0860 Analytical Method Date Analyzed: Date Prepared: RL Result	L 1 S 6010B 2003-10-02 2003-09-23 Units mg/L : S 6010B 2003-10-02 2003-09-23 Units	0.100 Dilu	90 Prep Method: Analyzed By: Prepared By: Ition I Prep Method: Analyzed By: Prepared By: Iution	70 - 130 RR TP R. 0.050 S 3010 RR TP R

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Report Date: October 8, 2003 Lee Gas Plant			Work Order: 3092108 Duke Energy Field Servieces			Page Number: 6 of 2 Lee Gas Pla			
Prep Batch: 4153		D	ate Prepare	d:	2003-09-	24		Prepared By:	MT
			F	RL					
Parameter F	lag		Resu	ılt	ĩ	Units	Di	lution	RL
Benzene			0.001	70	r	ng/L		1	0.00100
Toluene			< 0.001	00	r	ng/L		1	0.00100
Ethylbenzene			< 0.001	00	r	ng/L		1	0.00100
Xylene (isomers)			< 0.001	00	I	ng/L		1	0.00100
							Spike	Percent	Recovery
Surrogate	Fla	ıg	Result	Units	s Dil	ution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.0805	mg/I	 _/	1	0.100	80	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0866	mg/I		1	0.100	87	70 - 130

Sample: 17814 - MW-13

Analysis:	Fe, Total	Analytical Method:	S 6010B	Prep Method:	S 3010A [°]
QC Batch:	4893	Date Analyzed:	2003-10-02	Analyzed By:	RR
Prep Batch:	4096	Date Prepared:	2003-09-23	Prepared By:	TP
		\mathbf{RL}			
Parameter	Flag	Result	Units	Dilution	RL
Total Iron	·	0.135	mg/L	1	0.0500

Sample: 17814 - MW-13

Analysis:	Mn, Total		Analytical Method:	S 6010B	Prep Method:	S 3010A
QC Batch:	4893		Date Analyzed:	2003-10-02	Analyzed By:	\mathbf{RR}
Prep Batch:	4096		Date Prepared:	2003-09-23	Prepared By:	TP
			RL			
Parameter		Flag	Result	Units	Dilution	RL
Total Manga	nese		2.32	mg/L	1	0.0250

Sample: 17815 - MW-14

Analysis: BTEX QC Batch: 4630 Prep Batch: 4153		Analytical M Date Analyze Date Prepare	d:	S 8021B 2003-09-2 2003-09-2			Prep Method: Analyzed By: Prepared By:	S 5030B MT MT
		F	RL					
Parameter Fla	g	Rest	ılt	τ	Units	Di	lution	RL
Benzene		0.001	70	r	ng/L		1	0.00100
Toluene		< 0.001	00	n	ng/L		1	0.00100
Ethylbenzene		< 0.001	00	r	ng/L		1	0.00100
Xylene (isomers)		< 0.001	00	r	ng/L		1	0.00100
						Spike	Percent	Recovery
Surrogate	Flag	Result	Unit	ts Dil	lution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.0742	mg/	L	1	0.100	74	70 - 130
4-Bromofluorobenzene (4-BFB)		0.0826	mg/	L	1	0.100	83	70 - 130

Lee Gas Plan	: October 8, nt	2003	E		der: 3092108 Field Servieces		Page Numb Lee	er: 7 of 2 Gas Plan
Sample: 178	815 - MW-	14						
Analysis: QC Batch: Prep Batch:	Fe, Total 4893 4096		Analytic Date An Date Pre		S 6010B 2003-10-02 2003-09-23		Prep Method: Analyzed By: Prepared By:	S 3010A RR TP
			RJ	J				
Parameter		Flag	Resul		Units	Dilu	ition	RI
Total Iron			2.1	5	mg/L		1	0.0500
Sample: 178	815 - MW-	14						
Analysis:	Mn, Total		Analyti	cal Method:	S 6010B		Prep Method:	S 3010A
QC Batch:	4893		Date A		2003-10-02		Analyzed By:	RR
Prep Batch:	4096		Date Pr		2003-09-23		Prepared By:	TP
				\mathbf{RL}				
Parameter		Flag	B	esult	Units	Di	lution	RI
Total Mangar		I lag_		5.80	mg/L		1	0.025
-	816 - MW- btex	16	Analytica	l Method:	S 8021B		Prep Method:	S 50301
Analysis: QC Batch:		16	Analytica Date Ana Date Prej	lyzed:	S 8021B 2003-09-24 2003-09-24		Prep Method: Analyzed By: Prepared By:	S 50301 MT MT
Analysis: QC Batch:	BTEX 4630		Date Ana Date Prej	lyzed: pared: RL	2003-09-24		Analyzed By: Prepared By:	\mathbf{MT}
Analysis: QC Batch: Prep Batch: Parameter	BTEX 4630	16 Flag	Date Ana Date Pre	lyzed: pared: RL Result	2003-09-24 2003-09-24 Units	Dil	Analyzed By: Prepared By: ution	MT MT Ri
Analysis: QC Batch: Prep Batch: Parameter Benzene	BTEX 4630		Date Ana Date Pre	lyzed: pared: RL Result 0.0807	2003-09-24 2003-09-24 Units mg/L	Dil	Analyzed By: Prepared By: ution	MT MT R. 0.0010
Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene	BTEX 4630 4153		Date Ana Date Pre	lyzed: pared: RL Result 0.0807 00100	2003-09-24 2003-09-24 Units mg/L mg/L	Dil	Analyzed By: Prepared By: ution 1 1	MT MT 0.0010 0.0010
Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene	BTEX 4630 4153		Date Ana Date Pres	lyzed: pared: RL Result 0.0807	2003-09-24 2003-09-24 Units mg/L	Dil	Analyzed By: Prepared By: ution	
Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene	BTEX 4630 4153	Flag	Date Ana Date Pres	lyzed: pared: RL Result 0.0807 .00100 .00100 .00220	2003-09-24 2003-09-24 <u>Units</u> mg/L mg/L mg/L mg/L	Dil	Analyzed By: Prepared By: ution 1 1 1	MT MT 0.0010 0.0010 0.0010 0.0010
Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene (isome Surrogate	BTEX 4630 4153 ers)	Flag	Date Ana Date Pres <0 <0 Clag Result	lyzed: pared: RL Result 0.0807 00100 .00100 .00220 t Unit:	2003-09-24 2003-09-24 <u>Units</u> <u>mg/L</u> <u>mg/L</u> <u>mg/L</u> <u>mg/L</u> s Dilution	Spike Amount	Analyzed By: Prepared By: ution 1 1 1 1 1 Percent Recovery	MT MT 0.0010 0.0010 0.0010 0.0010 Recover Limits
Sample: 178 Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene (isome Surrogate Trifluorotolue 4-Bromofluor	BTEX 4630 4153 e ers) ene (TFT)	Flag	Date Ana Date Pres	lyzed: pared: RL Result 0.0807 00100 .00100 .00220 t Unit: 4 mg/l	2003-09-24 2003-09-24 <u>Units</u> mg/L mg/L mg/L s Dilution L 1	Spike	Analyzed By: Prepared By: ution 1 1 1 1 2 Percent	MT MT 0.0010 0.0010 0.0010 Recover Limits 70 - 13
Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene (isome Surrogate Trifluorotolue 4-Bromofluor Sample: 178 Analysis: QC Batch:	BTEX 4630 4153 eres) ene (TFT) obenzene (4- 816 - MW- Fe, Total 4893	Flag H -BFB)	Date Ana Date Pres <0 <0 <0 0 Tag Resul 0.071 0.096 Analytic Date Ar	lyzed: pared: RL Result 0.0807 .00100 .00220 t Unit: 4 mg/J 2 mg/J 2 mg/J cal Method: alyzed:	2003-09-24 2003-09-24 <u>Units</u> mg/L mg/L mg/L s Dilution L 1 L 1 S 6010B 2003-10-02	Spike Amount 0.100	Analyzed By: Prepared By: ution 1 1 1 1 Percent Recovery 71 96 Prep Method: Analyzed By:	MT MT 0.0010 0.0010 0.0010 0.0010 0.0010 Recover Limits 70 - 130 70 - 130 70 - 130 70 - 130 70 - 130
Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene (isome Surrogate Trifluorotolue	BTEX 4630 4153 ers) ene (TFT) obenzene (4- 816 - MW- Fe, Total	Flag H -BFB)	Date Ana Date Pres <0 <0 0 0 Flag Resul 0.071 0.096 Analytic Date Ar Date Pr	lyzed: pared: RL Result 0.0807 .00100 .00220 t Unit: 4 mg/J 2 mg/J cal Method: alyzed: epared:	2003-09-24 2003-09-24 <u>Units</u> mg/L mg/L mg/L s Dilution L 1 L 1 S 6010B	Spike Amount 0.100 0.100	Analyzed By: Prepared By: ution 1 1 1 1 Percent Recovery 71 96 Prep Method:	MT MT 0.0010 0.0010 0.0010 0.0010 0.0010 Recover Limits 70 - 130 70 - 130 70 - 130
Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene (isome Surrogate Trifluorotolue 4-Bromofluor Sample: 178 Analysis: QC Batch:	BTEX 4630 4153 eres) ene (TFT) obenzene (4- 816 - MW- Fe, Total 4893	Flag H -BFB)	Date Ana Date Pres <0 <0 0 0 Flag Resul 0.071 0.096 Analytic Date Ar Date Pr	lyzed: pared: RL Result 0.0807 .00100 .00220 t Unit: 4 mg/l 2 mg/l cal Method: alyzed: epared: &L	2003-09-24 2003-09-24 <u>Units</u> mg/L mg/L mg/L s Dilution L 1 L 1 S 6010B 2003-10-02	Spike Amount 0.100 0.100	Analyzed By: Prepared By: ution 1 1 1 1 Percent Recovery 71 96 Prep Method: Analyzed By:	MT MT 0.0010 0.0010 0.0010 0.0010 0.0010 Recover Limits 70 - 130 70 - 130 70 - 130 70 - 130 RR

Sample: 17816 - MW-16

Report Date Lee Gas Pla			Page Numb Lee	er: 8 of 24 Gas Plant		
Analysis:	Mn, Total		Analytical Method:		Prep Method:	
QC Batch:	4893		Date Analyzed:	2003-10-02	Analyzed By:	
Prep Batch:	4096		Date Prepared:	2003-09-23	Prepared By:	TP
			\mathbf{RL}			
Parameter		Flag	Result	Units	Dilution	RL
Total Manganese		0.0640	mg/L	1	0.0250	

Sample: 17817 - MW-17

Analysis:BTEXQC Batch:4630Prep Batch:4153		Analytical M Date Analyze Date Prepare	ed:	S 8021B 2003-09-24 2003-09-24		Prep Meth Analyzed I Prepared E	By: MT
		I	RL				
Parameter	Flag	Rest	ult	\mathbf{Un}	its	Dilution	RL
Benzene		0.009	50	mg	/L	1	0.00100
Toluene		< 0.001	00	mg	/L	1	0.00100
Ethylbenzene		< 0.001	00	mg	/L	1	0.00100
Xylene (isomers)		< 0.001	00	mg,	/L	1	0.00100
					Spike	e Percent	Recovery
Surrogate	Flag	Result	Unit	s Diluti	ion Amou	nt Recovery	Limits
Trifluorotoluene (TFT)		0.0957	mg/	L 1	0.100) 96	70 - 130
4-Bromofluorobenzene (4-BFB))	0.0979	mg/	L 1	0.100) 98	70 - 130

Sample: 17817 - MW-17

Analysis: QC Batch: Prep Batch:	Fe, Total 4893 4096	Analytical Method: Date Analyzed: Date Prepared:	S 6010B 2003-10-02 2003-09-23	Prep Method: Analyzed By: Prepared By:	RR
		\mathbf{RL}			
Parameter	\mathbf{Flag}	Result	Units	Dilution	RL
Total Iron		0.704	mg/L	1	0.0500

Sample: 17817 - MW-17

Analysis:	Mn, Total		Analytical Method:	S 6010B	Prep Method:	S 3010A
QC Batch:	4893		Date Analyzed:	2003-10-02	Analyzed By:	RR
Prep Batch:	4096		Date Prepared:	2003-09-23	Prepared By:	TP
			RL			
Parameter		Flag	Result	Units	Dilution	RL
Total Manga	nese		0.417	mg/L	1	0.0250

Sample: 17818 - MW-18

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	4630	Date Analyzed:	2003-09-24	Analyzed By:	MT

Report Date: October 8, 2003 Lee Gas Plant			Work Order: 3092108 Duke Energy Field Servieces			Page Number: 9 of 24 Lee Gas Plant			
Prep Batch: 4153		Date	e Prepar	ed:	2003-09	-24		Prepared By:	MT
				RL					
Parameter F	lag		Res	ult		Units	•	Dilution	RL
Benzene			< 0.001	100		mg/L		1	0.00100
Toluene			< 0.001	100		mg/L		1	0.00100
Ethylbenzene			< 0.001	100		mg/L		1	0.00100
Xylene (isomers)			< 0.001	100		mg/L		1	0.00100
							Spike	Percent	Recovery
Surrogate	\mathbf{Fla}	ag	Result	Units	s Di	lution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.0880	mg/I		1	0.100	88	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0987	mg/L		1	0.100	99	70 - 130

Sample: 17818 - MW-18

Total Iron		< 0.0500	mg/L	1	0.0500
Parameter	Flag	RL Result	Units	Dilution	RL
Prep Batch:	4096	Date Prepared:	2003-09-23	Prepared By:	TP
QC Batch:	4893	Date Analyzed:	2003-10-02	Analyzed By:	$\mathbf{R}\mathbf{R}$
Analysis:	Fe, Total	Analytical Method:	S 6010B	Prep Method:	S 3010A

Sample: 17818 - MW-18

Analysis:	Mn, Total		Analytical Method:	S 6010B	Prep Method:	S 3010A
QC Batch:	4893		Date Analyzed:	2003-10-02	Analyzed By:	RR
Prep Batch:	4096		Date Prepared:	2003-09-23	Prepared By:	TP
			RL			
Parameter		Flag	Result	Units	Dilution	RL
Total Manga	nese		0.366	mg/L	1	0.0250

Sample: 17819 - MW-19

Analysis:BTEXQC Batch:4630Prep Batch:4153		Analytical M Date Analyze Date Prepare	ed:	S 8021B 2003-09-2 2003-09-2	-		Prep Method: Analyzed By: Prepared By:	S 5030B MT MT
		F	۲L					
Parameter Fl	ag	Rest	ılt	U	nits	Di	ilution	RL
Benzene		< 0.001	00	m	g/L		1	0.00100
Toluene		< 0.001	00	m	lg/L		1	0.00100
Ethylbenzene		< 0.001	00	m	g/L		1	0.00100
Xylene (isomers)		< 0.001	00		ıg/L		1	0.00100
						Spike	Percent	Recovery
Surrogate	Flag	\mathbf{Result}	Unit	ts Dilu	ition	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.0877	mg/	L	1	0.100	88	70 - 130
4-Bromofluorobenzene (4-BFB)		0.0987	mg/	L	1	0.100	99	70 - 130

Method: vzed: ared: Method: yzed: ared: RL sult 250	2003-10-02 2003-09-23 Units mg/L		Prep Method: Analyzed By: Prepared By: Dilution 1 Prep Method: Analyzed By: Prepared By:	S 3010A RR TP <u>RI</u> 0.0500 S 3010A RR TP
Vzed: ared: Method: yzed: ared: RL sult	2003-10-02 2003-09-23 Units mg/L : S 6010B 2003-10-02 2003-09-23 Unit:		Analyzed By: Prepared By: Dilution 1 Prep Method: Analyzed By:	RR TP 0.0500 S 3010A RR
Method: yzed: ared: RL sult	2003-09-23 Units mg/L : S 6010B 2003-10-02 2003-09-23 Units		Prepared By: Dilution 1 Prep Method: Analyzed By:	TP <u>RI</u> 0.0500 S 3010A RR
Method: yzed: ared: RL sult	Units mg/L : S 6010B 2003-10-02 2003-09-23 Unit:		Prepared By: Dilution 1 Prep Method: Analyzed By:	RI 0.0500 S 3010A RR
yzed: ared: RL sult	mg/L : S 6010B 2003-10-02 2003-09-23 Unit:		1 Prep Method: Analyzed By:	0.0500 S 3010A RR
yzed: ared: RL sult	mg/L : S 6010B 2003-10-02 2003-09-23 Unit:		1 Prep Method: Analyzed By:	0.0500 S 3010A RR
yzed: ared: RL sult	mg/L : S 6010B 2003-10-02 2003-09-23 Unit:		Prep Method: Analyzed By:	0.0500 S 3010A RR
yzed: ared: RL sult	2003-10-02 2003-09-23 Unit:		Analyzed By:	RR
yzed: ared: RL sult	2003-10-02 2003-09-23 Unit:		Analyzed By:	RR
yzed: ared: RL sult	2003-10-02 2003-09-23 Unit:		Analyzed By:	RR
ared: RL sult	2003-09-23 Unit			
RL sult	Unit			TΡ
sult				τŗ
sult				
250	mg/I	ts	Dilution	RI
		L	1	0.025
red:	2003-09-24		Prepared By:	MTMT
RL sult	¥ 1		Dilution	וס
100				<u>R</u> 0.0010
100				0.0010
				0.0010
			1	0.0010
100 100	mg/I	and the second s		
100	mg/L		Percent	Recover
100		Spike	Percent Recovery	Recover Limits
100	s Dilutio	Spike		
rec R su	1: L lt 00	d: 2003-09-24 d: 2003-09-24 L	l: 2003-09-24 l: 2003-09-24 lt Units I 00 mg/L 00 mg/L	d: 2003-09-24 Analyzed By: d: 2003-09-24 Prepared By: L Dilution 00 mg/L 1 00 mg/L 1

Sample: 17820 - MW-20

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Report Date: October 8, 2003 Lee Gas Plant		Work Orde Duke Energy I	er: 3092108 Field Servieces	Page Number: 11 of 24 Lee Gas Plant		
Analysis:	Mn, Total		Analytical Method:	S 6010B	Prep Method:	S 3010A
QC Batch:	4893		Date Analyzed:	2003-10-02	Analyzed By:	RR
Prep Batch:	4096		Date Prepared:	2003-09-23	Prepared By:	TP
			RL			
Parameter		Flag	Result	Units	Dilution	RL
Total Manga	nese		< 0.0250	mg/L	1	0.0250

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Sample: 17821 - MW-21

Analysis: BTEX		Analytical M		S 8021B		Prep Me		30B
QC Batch: 4700		Date Analyz		2003-09-26		Analyzed	By: MT	
Prep Batch: 4216		Date Prepare	ed:	2003-09-26		Prepared	By: MT	
		F	₹L					
Parameter F	Flag	Resu	ılt	Un	its	Dilution		RL
Benzene		5.	58	mg	/L	50	0.00)100
Toluene		< 0.05	00	mg	/L	50	0.00)100
Ethylbenzene		0.1	53	mg	/L	50	0.00)100
Xylene (isomers)		0.14	48	mg	/L	50	0.00)100
					Spike	e Percent	Recov	very
Surrogate	Flag	\mathbf{Result}	Unit	s Dilut	ion Amou	nt Recovery	· Limi	its
Trifluorotoluene (TFT)		5.27	mg/	L 50	0.100) 105	61 - 1	127
4-Bromofluorobenzene (4-BFB)		4.80	mg/	L 50	0.100) 96	72.6 -	130

Sample: 17821 - MW-21

Analysis: QC Batch: Prep Batch:	Fe, Total 4893 4096	Analytical Method: Date Analyzed: Date Prepared:	S 6010B 2003-10-02 2003-09-23	Prep Method: Analyzed By: Prepared By:	RR
		\mathbf{RL}			
Parameter	Flag	Result	Units	Dilution	RL
Total Iron		4.99	mg/L	1	0.0500

Sample: 17821 - MW-21

Analysis:	Mn, Total		Analytical Method:	S 6010B	Prep Method:	S 3010A
QC Batch:	4893		Date Analyzed:	2003-10-02	Analyzed By:	RR
Prep Batch:	4096		Date Prepared:	2003-09-23	Prepared By:	TP
			RL			
Parameter		Flag	Result	Units	Dilution	RL
Total Manga	nese		0.632	mg/L	1	0.0250

Sample: 17822 - MW-22

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	4700	Date Analyzed:	2003-09-26	Analyzed By:	MT

Report Date Lee Gas Plan		2003			er: 3092108 Field Servieces		Page Number: 12 of 24 Lee Gas Plan		
Prep Batch:	4216		Date Prepare	d:	2003-09-26		Prepared By:	MT	
			R	RL					
Parameter		Flag	Resu		Units	Di	lution	RI	
Benzene			< 0.0050	00	mg/L		5	0.00100	
Foluene			< 0.0050	00	mg/L		5	0.0010	
Ethylbenzene	9		< 0.0050	00	mg/L		5	0.0010	
Xylene (isom			< 0.0050	00	mg/L		5	0.0010	
						Spike	Percent	Recovery	
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits	
Trifluorotolue	ene (TFT)		0.507	mg/L		0.100	101	61 - 127	
4-Bromofluor		-BFB)	0.459	mg/L		0.100	92	72.6 - 13	
Sample: 17 Analysis: QC Batch: Prep Batch:	Fe, Total 4893 4096	- 2 2	Analytical M Date Analyz Date Prepar	zed:	S 6010B 2003-10-02 2003-09-23		Prep Method: Analyzed By: Prepared By:	S 3010A RR TP	
		Flag	RL Result		Units	וים		D	
		riag	nesun		Units	Din	ution	R	
Total Iron	822 - MW-		1.29	·	mg/L		1	0.050	
Total Iron Sample: 17 Analysis: QC Batch:	Mn, Total 4893		Analytical M Date Analy:	zed:	S 6010B 2003-10-02		Prep Method: Analyzed By:	S 30102 RR	
Total Iron Sample: 17 Analysis: QC Batch:	Mn, Total		Analytical I Date Analy: Date Prepa	zed: red:	S 6010B		Prep Method:	S 30104	
Total Iron Sample: 17 Analysis: QC Batch: Prep Batch:	Mn, Total 4893	-22	Analytical I Date Analy: Date Prepa: Rl	zed: red: L	S 6010B 2003-10-02 2003-09-23		Prep Method: Analyzed By: Prepared By:	S 3010. RR TP	
Total Iron Sample: 17 Analysis: QC Batch: Prep Batch: Parameter	Mn, Total 4893 4096		Analytical I Date Analy: Date Prepa	zed: red: L	S 6010B 2003-10-02	D	Prep Method: Analyzed By:	S 3010. RR TP R	
Parameter Total Iron Sample: 17 Analysis: QC Batch: Prep Batch: Parameter Total Manga Sample: 17 Analysis: QC Batch: Prep Batch: Prep Batch:	Mn, Total 4893 4096 nese	-22 Flag	Analytical I Date Analy: Date Prepa Rl Resul	zed: red: L t 0 ethod: ed:	S 6010B 2003-10-02 2003-09-23 Units	D	Prep Method: Analyzed By: Prepared By: ilution	S 30104 RR TP R: 0.025	
Total Iron Sample: 17 Analysis: QC Batch: Prep Batch: Parameter Total Manga Sample: 17 Analysis: QC Batch: Prep Batch:	Mn, Total 4893 4096 nese 823 - RW- BTEX 4700	-22 Flag 2	Analytical M Date Analy: Date Prepa: RI Resul 0.19 Analytical Me Date Analyze Date Prepare R	zed: red: L t 0 ethod: ed: ed: d: L	S 6010B 2003-10-02 2003-09-23 Units mg/L S 8021B 2003-09-26 2003-09-26		Prep Method: Analyzed By: Prepared By: ilution 1 Prep Method: Analyzed By: Prepared By:	S 30104 RR TP 0.025 S 50301 MT MT	
Total Iron Sample: 17 Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Total Manga Sample: 17 Analysis: QC Batch: Prep Batch: Prep Batch: Prep Batch: Prep Batch: Prep Batch: Parameter	Mn, Total 4893 4096 nese 823 - RW- BTEX 4700	-22 Flag	Analytical M Date Analy: Date Prepar RI Resul 0.19 Analytical M Date Analyze Date Prepare R Resu	zed: red: L t 0 ethod: ed: ed: d: L lt	S 6010B 2003-10-02 2003-09-23 Units mg/L S 8021B 2003-09-26 2003-09-26 Units		Prep Method: Analyzed By: Prepared By: ilution 1 Prep Method: Analyzed By: Prepared By: lution	S 30104 RR TP 0.025 S 50301 MT MT R	
Total Iron Sample: 17 Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Total Manga Sample: 17 Analysis: QC Batch: Prep Batch: Prep Batch: Prep Batch: Parameter Benzcne	Mn, Total 4893 4096 nese 823 - RW- BTEX 4700	-22 Flag 2	Analytical M Date Analy: Date Prepar RI Resul 0.19 Analytical M Date Analyze Date Prepare R Resu 0.62	zed: red: L t 0 ethod: ed: ed: d: L lt 25	S 6010B 2003-10-02 2003-09-23 Units mg/L S 8021B 2003-09-26 2003-09-26 Units mg/L		Prep Method: Analyzed By: Prepared By: ilution 1 Prep Method: Analyzed By: Prepared By: lution 10	S 30104 RR TP 0.025 S 50301 MT MT MT R. 0.0010	
Total Iron Sample: 17 Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Total Manga Sample: 17 Analysis: QC Batch: Prep Batch: Prep Batch: Prep Batch: Parameter Benzene Toluene	Mn, Total 4893 4096 nese 823 - RW-2 BTEX 4700 4216	-22 Flag 2	Analytical M Date Analy: Date Prepar RI Resul 0.199 Analytical Me Date Analyze Date Prepare R Resu 0.62 <0.010	zed: red: L t 0 ethod: ed: ed: d: L lt 25 00	S 6010B 2003-10-02 2003-09-23 Units mg/L S 8021B 2003-09-26 2003-09-26 2003-09-26 Units mg/L mg/L		Prep Method: Analyzed By: Prepared By: ilution 1 Prep Method: Analyzed By: Prepared By: lution 10 10	S 30104 RR TP 0.025 S 50300 MT MT MT R 0.0010 0.0010	
Total Iron Sample: 17 Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Total Manga Sample: 17 Analysis: QC Batch: Prep Batch: Prep Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene	Mn, Total 4893 4096 nese 823 - RW-2 BTEX 4700 4216	-22 Flag 2	Analytical M Date Analy: Date Prepar RI Resul 0.19 Analytical M Date Analyze Date Prepare R Resu 0.62	zed: red: L t 0 ethod: ed: ed: d: L lt 25 00 00	S 6010B 2003-10-02 2003-09-23 Units mg/L S 8021B 2003-09-26 2003-09-26 Units mg/L		Prep Method: Analyzed By: Prepared By: ilution 1 Prep Method: Analyzed By: Prepared By: lution 10	S 3010. RR TP 0.025 S 5030 MT MT MT R 0.0010 0.0010 0.0010	
Total Iron Sample: 17 Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Total Manga Sample: 17 Analysis: QC Batch: Prep Batch: Prep Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene (isom	Mn, Total 4893 4096 nese 823 - RW-2 BTEX 4700 4216	-22 Flag 2 Flag	Analytical M Date Analy: Date Prepar RI Resul 0.19 Analytical M Date Analyze Date Prepare R Resu 0.62 <0.010 <0.010	zed: red: L t 0 ethod: ed: ed: ed: L lt 25 00 00 00	S 6010B 2003-10-02 2003-09-23 Units mg/L S 8021B 2003-09-26 2003-09-26 2003-09-26 Units mg/L mg/L mg/L mg/L	Di Spike	Prep Method: Analyzed By: Prepared By: ilution 1 Prep Method: Analyzed By: Prepared By: Prepared By: lution 10 10 10 10 10 10	S 3010, RR TP 8 0.025 S 50300 MT MT MT R 0.0010 0.0010 0.0010 0.0010 0.0010 Recover	
Total Iron Sample: 17 Analysis: QC Batch: Prep Batch: Prep Batch: Cotal Manga Sample: 17 Analysis: QC Batch: Prep Batch: Prep Batch: Prep Batch: Prep Batch: Cotal Manga Surrogate	Mn, Total 4893 4096 nese 823 - RW-2 BTEX 4700 4216	-22 Flag 2	Analytical M Date Analy: Date Prepar RI Resul 0.19 Analytical M Date Analyze Date Prepare R Resu 0.62 <0.010 <0.010 <0.010	zed: red: L t 0 ethod: ed: ed: d: L lt 25 00 00 00 Units	S 6010B 2003-10-02 2003-09-23 Units mg/L S 8021B 2003-09-26 2003-09-26 2003-09-26 Units mg/L mg/L mg/L mg/L	Di Spike Amount	Prep Method: Analyzed By: Prepared By: ilution 1 Prep Method: Analyzed By: Prepared By: Prepared By: lution 10 10 10 10 10 20 20 20 20 20 20 20 20 20 20 20 20 20	S 3010, RR TP R 0.025 S 5030 MT MT MT R 0.0010 0.0010 0.0010 0.0010 0.0010 Recover Limits	
Total Iron Sample: 17 Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Total Manga Sample: 17 Analysis: QC Batch: Prep Batch: Prep Batch: Prep Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene (isom	Mn, Total 4893 4096 nese 823 - RW-2 BTEX 4700 4216	-22 Flag 2 Flag Flag	Analytical M Date Analy: Date Prepar RI Resul 0.19 Analytical M Date Analyze Date Prepare R Resu 0.62 <0.010 <0.010	zed: red: L t 0 ethod: ed: ed: ed: L lt 25 00 00 00	S 6010B 2003-10-02 2003-09-23 Units mg/L S 8021B 2003-09-26 2003-09-26 2003-09-26 Units mg/L mg/L mg/L mg/L mg/L 10	Di Spike	Prep Method: Analyzed By: Prepared By: ilution 1 Prep Method: Analyzed By: Prepared By: Prepared By: lution 10 10 10 10 10 10	S 30104 RR TP R: 0.025 S 50301 MT MT R 0.0010 0.0010 0.0010 0.0010 0.0010 Recover	

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Report Date Lee Gas Plan		2003				er: 3092108 Field Servieces		Page Numbe Lee	e Gas Pla
Sample: 17	823 - RW-2	2		_					
Analysis:	Fe, Total			Analytical Meth	od:	S 6010B		Prep Method:	S 3010.
QC Batch:	4893			Date Analyzed:		2003-10-02		Analyzed By:	RR
Prep Batch:	4096			Date Prepared:		2003-09-23		Prepared By:	TP
				\mathbf{RL}					
Parameter		Flag		Result		Units	Dil	ution	R
Total Iron				3.60		mg/L		1	0.050
Sample: 17	823 - RW-:	2							
Analysis:	Mn, Total			Analytical Metl	hod.	S 6010B		Prep Method:	S 3010
QC Batch:	4893			Date Analyzed:		2003-10-02		Analyzed By:	RR
Prep Batch:	4096			Date Prepared:		2003-09-23		Prepared By:	TP
				RL					
Parameter		Flag		Result		Units	D	ilution	R
Total Manga	nese			1.22		mg/L	· <u>.</u>	1	0.025
Analysis:	BTEX	3		Analytical Metho		S 8021B		Prep Method:	
Analysis: QC Batch:		3		Analytical Metho Date Analyzed: Date Prepared:		S 8021B 2003-09-26 2003-09-26		Prep Method: Analyzed By: Prepared By:	S 5030) MT MT
Sample: 17 Analysis: QC Batch: Prep Batch:	BTEX 4700			Date Analyzed: Date Prepared: RL		2003-09-26 2003-09-26		Analyzed By: Prepared By:	MT MT
Analysis: QC Batch: Prep Batch: Parameter	BTEX 4700	3 Flag		Date Analyzed: Date Prepared: RL Result		2003-09-26 2003-09-26 Units	Di	Analyzed By: Prepared By: lution	MT MT R
Analysis: QC Batch: Prep Batch: Parameter Benzene	BTEX 4700			Date Analyzed: Date Prepared: RL Result 12.4		2003-09-26 2003-09-26 <u>Units</u> mg/L	Di	Analyzed By: Prepared By: lution 200	MT MT
Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene	BTEX 4700 4216			Date Analyzed: Date Prepared: RL Result 12.4 5.01		2003-09-26 2003-09-26 <u>Units</u> mg/L mg/L	Di	Analyzed By: Prepared By: lution 200 200	MT MT 0.0010 0.0010
Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene	BTEX 4700 4216			Date Analyzed: Date Prepared: RL Result 12.4		2003-09-26 2003-09-26 <u>Units</u> mg/L	Di	Analyzed By: Prepared By: lution 200	MT MT
Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene (isom	BTEX 4700 4216	Flag		Date Analyzed: Date Prepared: RL Result 12.4 5.01 1.78 2.04		2003-09-26 2003-09-26 <u>Units</u> mg/L mg/L mg/L mg/L	Di	Analyzed By: Prepared By: lution 200 200 200	MT MT 0.0010 0.0010 0.0010 0.0010 Recover
Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene (isom Surrogate	BTEX 4700 4216 ers)	Flag	Flag	Date Analyzed: Date Prepared: RL Result 12.4 5.01 1.78 2.04 Result	Jnits	2003-09-26 2003-09-26 <u>Units</u> mg/L mg/L mg/L Dilution	Spike Amount	Analyzed By: Prepared By: lution 200 200 200 200 200 Percent Recovery	MT MT 0.0010 0.0010 0.0010 0.0010 Recover Limits
Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene (isom Surrogate Trifluorotolue	BTEX 4700 4216 e ers) ene (TFT)	Flag	Flag	Date Analyzed: Date Prepared: RL Result 12.4 5.01 1.78 2.04 Result U 21.2 n	Jnits ng/L	2003-09-26 2003-09-26 <u>Units</u> mg/L mg/L mg/L Dilution 200	Spike Amount 0.100	Analyzed By: Prepared By: 200 200 200 200 200 Percent Recovery 106	MT MT 0.0010 0.0010 0.0010 0.0010 Recover Limits 61 - 127
Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene (isom	BTEX 4700 4216 e ers) ene (TFT)	Flag	Flag	Date Analyzed: Date Prepared: RL Result 12.4 5.01 1.78 2.04 Result U 21.2 n	Jnits	2003-09-26 2003-09-26 <u>Units</u> mg/L mg/L mg/L Dilution 200	Spike Amount	Analyzed By: Prepared By: lution 200 200 200 200 200 Percent Recovery	MT MT 0.0010 0.0010 0.0010 0.0010 Recover Limits
Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene (isom Surrogate Trifluorotolue 4-Bromofluor	BTEX 4700 4216 e ers) ene (TFT) robenzene (4	Flag -BFB)	Flag	Date Analyzed: Date Prepared: RL Result 12.4 5.01 1.78 2.04 Result U 21.2 n	Jnits ng/L	2003-09-26 2003-09-26 <u>Units</u> mg/L mg/L mg/L Dilution 200	Spike Amount 0.100 0.100	Analyzed By: Prepared By: 200 200 200 200 200 Percent Recovery 106	MT MT 0.0010 0.0010 0.0010 0.0010 Recover Limits 61 - 127
Analysis: QC Batch: Prep Batch: Prep Batch: Benzene Toluene Ethylbenzene Xylene (isom Surrogate Trifluorotolue 4-Bromofluor Sample: 17 Analysis:	BTEX 4700 4216 e ers) ene (TFT) obenzene (4 824 - RW-: Fe, Total	Flag -BFB)	Flag	Date Analyzed: Date Prepared: RL Result 12.4 5.01 1.78 2.04 Result L 21.2 m 18.8 m	Jnits ng/L ng/L	2003-09-26 2003-09-26 <u>Units</u> mg/L mg/L mg/L Dilution 200 200 S 6010B	Spike Amount 0.100 0.100	Analyzed By: Prepared By: lution 200 200 200 200 200 200 Percent Recovery 106 94 Prep Method:	MT MT 0.0010 0.0010 0.0010 0.0010 Recover Limits 61 - 127 72.6 - 13
Analysis: QC Batch: Prep Batch: Prep Batch: Benzene Toluene Ethylbenzene Xylene (isom Surrogate Trifluorotolue 4-Bromofluor Sample: 17 Analysis: QC Batch:	BTEX 4700 4216 e ers) ene (TFT) obenzene (4 824 - RW-: Fe, Total 4893	Flag -BFB)	Flag	Date Analyzed: Date Prepared: RL Result 12.4 5.01 1.78 2.04 Result U 21.2 n 18.8 n Analytical Meth Date Analyzed:	Jnits ng/L ng/L	2003-09-26 2003-09-26 <u>Units</u> mg/L mg/L mg/L Dilution 200 200 200 S 6010B 2003-10-02	Spike Amount 0.100 0.100	Analyzed By: Prepared By: lution 200 200 200 200 200 200 Percent Recovery 106 94 Prep Method: Analyzed By:	MT MT 0.0010 0.0010 0.0010 0.0010 0.0010 Recover Limits 61 - 127 72.6 - 13 S 3010 RR
Analysis: QC Batch: Prep Batch: Prep Batch: Benzene Toluene Ethylbenzene Xylene (isom Surrogate Trifluorotolue 4-Bromofluor Sample: 17 Analysis: QC Batch:	BTEX 4700 4216 e ers) ene (TFT) obenzene (4 824 - RW-: Fe, Total	Flag -BFB)	Flag	Date Analyzed: Date Prepared: RL Result 12.4 5.01 1.78 2.04 Result L 21.2 m 18.8 m	Jnits ng/L ng/L	2003-09-26 2003-09-26 <u>Units</u> mg/L mg/L mg/L Dilution 200 200 S 6010B	Spike Amount 0.100 0.100	Analyzed By: Prepared By: lution 200 200 200 200 200 200 Percent Recovery 106 94 Prep Method:	MT MT 0.0010 0.0010 0.0010 0.0010 Recover Limits 61 - 127 72.6 - 13
Analysis: QC Batch: Prep Batch: Perp Batch: Benzene Toluene Ethylbenzene Xylene (isom Surrogate Trifluorotolue 4-Bromofluor Sample: 17 Analysis: QC Batch: Prep Batch:	BTEX 4700 4216 e ers) ene (TFT) obenzene (4 824 - RW-: Fe, Total 4893	Flag -BFB) 3	Flag	Date Analyzed: Date Prepared: RL Result 12.4 5.01 1.78 2.04 Result U 21.2 n 18.8 n Analytical Meth Date Analyzed: Date Prepared: RL	Jnits ng/L ng/L	2003-09-26 2003-09-26 <u>Units</u> mg/L mg/L mg/L Dilution 200 200 200 S 6010B 2003-10-02 2003-09-23	Spike Amount 0.100 0.100	Analyzed By: Prepared By: 100 200 200 200 200 200 200 200 200 200	MT MT 0.0010 0.0010 0.0010 0.0010 Recover Limits 61 - 127 72.6 - 13 S 3010 RR TP
Analysis: QC Batch: Prep Batch: Prep Batch: Benzene Toluene Ethylbenzene Xylene (isom Surrogate Trifluorotolue 4-Bromofluor	BTEX 4700 4216 e ers) ene (TFT) obenzene (4 824 - RW-: Fe, Total 4893	Flag -BFB)	Flag	Date Analyzed: Date Prepared: RL Result 12.4 5.01 1.78 2.04 Result U 21.2 n 18.8 n Analytical Meth Date Analyzed: Date Prepared:	Jnits ng/L ng/L	2003-09-26 2003-09-26 <u>Units</u> mg/L mg/L mg/L Dilution 200 200 200 S 6010B 2003-10-02	Spike Amount 0.100 0.100	Analyzed By: Prepared By: lution 200 200 200 200 200 200 Percent Recovery 106 94 Prep Method: Analyzed By:	MT MT 0.0010 0.0010 0.0010 0.0010 0.0010 Recover Limits 61 - 127 72.6 - 13 S 3010 RR

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Report Date Lee Gas Plan	: October 8, 2003 nt	}		er: 3092108 Field Servieces	Page Number Lee	r: 14 of 24 Gas Plant
Analysis:	Mn, Total		Analytical Method:	S 6010B	Prep Method:	S 3010A
QC Batch:	4893		Date Analyzed:	2003-10-02	Analyzed By:	RR
Prep Batch:	4096		Date Prepared:	2003-09-23	Prepared By:	TP
			\mathbf{RL}			
Parameter		Flag	Result	Units	Dilution	RL
Total Manga	nese		1.07	mg/L	1	0.0250

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Sample: 17825 - Duplicate

Analysis:BTEXQC Batch:4700Prep Batch:4216		Analytical M Date Analyze Date Prepare	ed:	S 8021B 2003-09-26 2003-09-26		Prep Metho Analyzed B Prepared B	y: MT
		F	٤L				
Parameter	Flag	Resu	ılt	Un	its	Dilution	\mathbf{RL}
Benzene		9.:	20	mg	/L	50	0.00100
Toluene		< 0.05	00	mg	/L	50	0.00100
Ethylbenzene		0.1	55	\mathbf{mg}	/L	50	0.00100
Xylene (isomers)		< 0.05	00	mg	/L	50	0.00100
					Spike	Percent	Recovery
Surrogate	Flag	Result	Unit	s Dilut	ion Amount	t Recovery	Limits
Trifluorotoluene (TFT)	·	5.08	mg/	L 50	0.100	102	61 - 127
4-Bromofluorobenzene (4-BFB)	4.60	mg/	L 50	0.100	92	72.6 - 130

Sample: 17826 - Rinsate

Analysis: BTEX QC Batch: 4700 Prep Batch: 4216		Analytical M Date Analyz Date Prepare	ed:	S 8021B 2003-09-26 2003-09-26		Prep Metho Analyzed B Prepared B	y: MT
]	RL				
Parameter	Flag	Res	ult	Unit	S	Dilution	RL
Benzene		0.01	.31	mg/	L	5	0.00100
Toluene		< 0.005	500	mg/	L	5	0.00100
Ethylbenzene		< 0.005	500	mg/	L.	5	0.00100
Xylene (isomers)		< 0.005	500	mg/	L	55	0.00100
					Spike	Percent	Recovery
Surrogate	Flag	g Result	Unit	s Dilutio	n Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.516	mg/l	L 5	0.100	103	61 - 127
4-Bromofluorobenzene (4-BFB)	0.453	mg/1	L 5	0.100	91	72.6 - 130

Sample: 17827 - Trip Blank

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	4781	Date Analyzed:	2003-10-01	Analyzed By:	MT
Prep Batch:	4291	Date Prepared:	2003-10-01	Prepared By:	MT

Report Date: October 8, 2003	Work Order: 3092108	Page Number: 15 of 24
Lee Gas Plant	Duke Energy Field Servieces	Lee Gas Plant

		F	RL				
Parameter F	lag	Rest	ılt	Units	Dil	lution	RL
Benzene		< 0.001	00	mg/L		1	0.00100
Toluene		0.001	90	mg/L		1	0.00100
Ethylbenzene		< 0.001	00	mg/L		1	0.00100
Xylene (isomers)		0.001	80	mg/L		1	0.00100
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)	1	0.0624	mg/L	1	0.100	62	70 - 130
4-Bromofluorobenzene (4-BFB)		0.0706	mg/L	1	0.100	71	70 - 130

Method Blank (1) QC Batch: 4630

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Parameter	\mathbf{F} lag		Re	sult	Uni	ts	RL
Benzene			< 0.00	100	mg/	L	0.001
Toluene			<0.00	100	mg/	L	0.001
Ethylbenzene			< 0.00	100	mg/	L	0.001
Xylene (isomers)			<0.00	100	mg/	Ľ	0.001
					Spike	Percent	Recovery
Surrogate	\mathbf{F} lag	\mathbf{Result}	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.0869	mg/L	1	0.100	87	70 - 130
4-Bromofluorobenzene (4-BFB)		0.0969	mg/L	1	0.100	97	70 - 130

Method Blank (1) QC Batch: 4631

Parameter	Flag		Re	sult	Uni	ts	RL
Benzene			< 0.00	100	mg/	L	0.001
Toluene			< 0.00	100	mg/	L	0.001
Ethylbenzene			<0.00	100	mg/	'L	0.001
Xylene (isomers)			<0.00	100	mg/	Ľ	0.001
					Spike	Percent	Recovery
Surrogate	\mathbf{Flag}	\mathbf{Result}	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.0857	mg/L	1	0.100	86	70 - 130
4-Bromofluorobenzene (4-BFB)		0.0971	mg/L	1	0.100	97	70 - 130

Method Blank (1) QC Batch: 4645

Parameter	Flag	Result	Units	\mathbf{RL}
Benzene		< 0.00100	mg/L	0.001
Toluene		< 0.00100	mg/L	0.001
Ethylbenzene		< 0.00100	mg/L	0.001
Xylene (isomers)		< 0.00100	mg/L	0.001

¹Low TFT surrogate recovery due to matrix interference. BFB surrogate recovery shows the method to be in control.

teport Date: October 8, 2003 see Gas Plant		Work Order: 3092108 Duke Energy Field Servieces				Page Number: 16 of 24 Lee Gas Plant		
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits	
Trifluorotoluene (TFT)		0.103	mg/L ·	1	0.100	103	61 - 127	
4-Bromofluorobenzene (4-BFB)		0.0940	mg/L	1	0.100	94	72.6 - 130	
、 <i>,</i> , .	atch: 4700		2					
Parameter	atch: 4700 Flag			sult	Uni mg		RL	
Parameter Benzene			Re: <0.00 <0.00	100	mg,	/L	RL 0.001 0.001	
Method Blank (1) QC Ba Parameter Benzene Toluene Ethylbenzene			<0.00	100 100		/L /L	0.001	
Parameter Benzene Toluene Ethylbenzene			<0.00 <0.00	100 100 100	mg,	/L /L /L	0.001 0.001 0.001	
Parameter Benzene Toluene			<0.00 <0.00 <0.00	100 100 100	mg, mg, mg,	/L /L /L	0.001	
Parameter Benzene Toluene Ethylbenzene		Result	<0.00 <0.00 <0.00	100 100 100	mg, mg, mg, mg,	/L /L /L /L	0.001 0.001 0.001 0.001	
Parameter Benzene Toluene Ethylbenzene Xylene (isomers)	Flag	Result 0.107 0.0960	<0.00 <0.00 <0.00 <0.00	100 100 100 100	mg, mg, mg, mg, Spike	/L /L /L /L Percent	0.00 0.00 0.00 0.00 Recovery	

Method Blank (1) QC Batch: 4781

Parameter	Flag		Re	sult	Unit	s	\mathbf{RL}
Benzene		<0.00100		mg/L		0.001	
Toluene		< 0.00100		mg/L		0.001	
Ethylbenzene			< 0.00100		mg/L		0.001
Xylene (isomers)			< 0.00	100	mg/	L	0.001
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.0739	mg/L	1	0.100	74	70 - 130
4-Bromofluorobenzene (4-BFB)		0.0822	mg/L	1	0.100	82	70 - 130

Method Blank (1) QC Batch: 4893

Parameter	Flag	Result	Units	RL
Total Iron		< 0.0500	mg/L	0.05

Method Blank (1) QC Batch: 4893

Parameter	Flag	Result	Units	RL
Total Manganese		< 0.0250	mg/L	0.025

Laboratory Control Spike (LCS-1) QC Batch: 4630 Report Date: October 8, 2003 Lee Gas Plant Work Order: 3092108 Duke Energy Field Servieces

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Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Benzene	0.100	0.0989	mg/L	1	0.100	< 0.000410	100	1	79.7 - 110	20
Toluene	0.0989	0.0976	mg/L	1	0.100	< 0.000760	99	1	81.7 - 108	20
Ethylbenzene	0.0971	0.0957	mg/L	1	0.100	< 0.00100	97	1	80.4 - 109	20
Xylene (isomers)	0.281	0.277	mg/L	1	0.300	< 0.00100	94	1	81 - 109	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	0.0932	0.0943	mg/L	1	0.100	93	94	65.5 - 119
4-Bromofluorobenzene (4-BFB)	0.0936	0.0961	mg/L	1	0.100	94	96	68.6 - 120

Laboratory Control Spike (LCS-1) QC Batch: 4631

	LCS	LCSD			Spike	Matrix			Rec.	RPD
Param	\mathbf{Result}	Result	Units	Dil.	Amount	Result	Rec.	RPD	Limit	Limit
Benzene	0.0965	0.0971	mg/L	1	0.100	< 0.000410	96	1	79.7 - 110	20
Toluene	0.0951	0.0959	mg/L	1	0.100	< 0.000760	95	1	81.7 - 108	20
Ethylbenzene	0.0930	0.0941	mg/L	1	0.100	< 0.00100	93	1	80.4 - 109	20
Xylene (isomers)	0.269	0.272	mg/L	1	0.300	< 0.00100	90	1	81 - 109	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	0.0933	0.0916	mg/L	1	0.100	93	92	65.5 - 119
4-Bromofluorobenzene (4-BFB)	0.0961	0.0956	mg/L	1	0.100	96	96	68.6 - 120

Laboratory Control Spike (LCS-1)

QC Batch: 4645

	LCS	LCSD			Spike	Matrix			Rec.	RPD
Param	Result	Result	Units	Dil.	Amount	Result	Rec.	RPD	Limit	Limit
Benzene	0.0976	0.0978	mg/L	1	0.100	< 0.000350	98	0	81.2 - 118	20
Toluene	0.0968	0.0974	mg/L	1	0.100	< 0.000550	97	1	81.2 - 118	20
Ethylbenzene	0.0964	0.0963	mg/L	1	0.100	< 0.000690	96	0	80.7 - 122	20
Xylene (isomers)	0.286	0.286	mg/L	1	0.300	< 0.000610	95	0	79.8 - 118	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	0.0924	0.0958	mg/L	1	0.100	92	96	69.5 - 125
4-Bromofluorobenzene (4-BFB)	0.0924	0.0926	mg/L	1	0.100	92	93	66.2 - 129

Laboratory Control Spike (LCS-1) QC Batch: 4700

Param	$\begin{array}{c} \mathrm{LCS} \\ \mathrm{Result} \end{array}$	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Benzene	0.103	0.106	mg/L	1	0.100	< 0.000350	103	2	81.2 - 118	20
Toluene	0.103	0.106	mg/L	11	0.100	< 0.000550	103	3	81.2 - 118	20

continued ...

Report Date: October 8, 2003 Lee Gas Plant Work Order: 3092108 Duke Energy Field Servieces Page Number: 18 of 24 Lee Gas Plant

control spikes continued ...

	LCS	LCSD			Spike	Matrix			Rec.	RPD
Param	\mathbf{Result}	Result	Units	Dil.	Amount	Result	Rec.	RPD	Limit	Limit
Ethylbenzene	0.103	0.106	mg/L	1	0.100	< 0.000690	103	3	80.7 - 122	20
Xylene (isomers)	0.306	0.313	mg/L	1	0.300	<0.000610	102	2	79.8 - 118	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	0.101	0.106	mg/L	1	0.100	101	106	69.5 - 125
4-Bromofluorobenzene (4-BFB)	0.0998	0.105	mg/L	1	0.100	100	105	66.2 - 129

Laboratory Control Spike (LCS-1) QC Batch: 4781

	LCS	LCSD			Spike	Matrix			Rec.	RPD
Param	\mathbf{Result}	Result	Units	Dil.	Amount	Result	Rec.	RPD	Limit	Limit.
Benzene	0.103	0.104	mg/L	1	0.100	< 0.000410	103	0	79.7 - 110	20
Benzene	0.103	0.104	mg/L	1	0.100	< 0.000410	103	0	79.7 - 110	20
Toluene	0.104	0.104	mg/L	1	0.100	< 0.000760	104	0	81.7 - 108	20
Toluene	0.104	0.104	mg/L	1	0.100	< 0.000760	104	0	81.7 - 108	20
Ethylbenzene	0.103	0.103	mg/L	1	0.100	< 0.00100	103	0	80.4 - 109	20
Ethylbenzene	0.103	0.103	mg/L	1	0.100	< 0.00100	103	0	80.4 - 109	20
Xylene (isomers)	0.308	0.309	mg/L	1	0.300	< 0.00100	102	0	81 - 109	20
Xylene (isomers)	0.308	0.309	mg/L	1	0.300	< 0.00100	102	0	81 - 109	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	\mathbf{Result}	Units	Dil.	Amount	Rec.	Rec.	\mathbf{Limit}
Trifluorotoluene (TFT)	0.0935	0.0912	mg/L	1	0.100	94	91	65.5 - 119
Trifluorotoluene (TFT)	0.0935	0.0912	mg/L	1	0.100	94	91	65.5 - 119
4-Bromofluorobenzene (4-BFB)	0.0937	0.0922	mg/L	1	0.100	94	92	68.6 - 120
4-Bromofluorobenzene (4-BFB)	0.0937	0.0922	mg/L	1	0.100	94	9 <u>2</u> .	68.6 - 120

Laboratory Control Spike (LCS-1) QC Batch: 4893

	LCS	LCSD			Spike	Matrix			Rec.	RPD
Param	Result	\mathbf{Result}	Units	Dil.	Amount	Result	Rec.	RPD	Limit	Limit
Total Iron	0.499	0.501	mg/L	1	0.500	< 0.00220	100	0	85 - 115	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1) QC Batch: 4893

	LCS	LCSD			Spike	Matrix			Rec.	RPD
Param	\mathbf{Result}	Result	Units	Dil.	Amount	Result	Rec.	RPD	Limit	Limit
Total Manganese	0.237	0.237	mg/L	1	0.250	< 0.000275	95	0	85 - 115	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) QC Batch: 4893

Report Date: October 8, 2003	Work Order: 3092108	Page Number: 19 of 24
Lee Gas Plant	Duke Energy Field Servieces	Lee Gas Plant
		·

Param	MS Result	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Total Iron	1.24	1.25	mg/L	1	0.500	0.725	103	1	75 - 125	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) QC Batch: 4893

	MS	MSD			Spike	Matrix			Rec.	RPD
Param	Result	Result	Units	Dil.	Amount	Result	Rec.	RPD	Limit	Limit
Total Manganese	0.620	0.624	mg/L	1	0.250	0.377	97	1	75 - 125	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-2) QC Batch: 4893

_	MS	MSD	** •	D .1	Spike	Matrix	~		Rec.	RPD ⁻
Param	Result	Result	Units	Dil.	Amount	Result	Rec.	RPD	Limit	Limit
Total Iron	0.523	0.524	mg/L	1	0.500	0.012	102	0	75 - 125	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-2) QC Batch: 4893

	MS	MSD			Spike	Matrix			Rec.	RPD
Param	\mathbf{Result}	Result	Units	Dil.	\mathbf{Amount}	Result	Rec.	RPD	\mathbf{Limit}	Limit
Total Manganese	0.301	0.301	mg/L	1	0.250	0.064	95	0	75 - 125	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Standard (CCV-1) QC Batch: 4630

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	\mathbf{Units}	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/L	0.100	0.100	100	85 - 115	2003-09-24
Toluene		mg/L	0.100	0.0995	100	85 - 115	2003-09-24
Ethylbenzene		mg/L	0.100	0.0970	97	85 - 115	2003-09-24
Xylene (isomers)		mg/L	0.300	0.281	94	85 - 115	2003-09-24

Standard (CCV-2) QC Batch: 4630

			CCVs		CCVs	Percent		
			True	Found	Percent	Recovery	Date	
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed	
Benzene		mg/L	0.100	0.0975	98	85 - 115	2003-09-24	
Toluene		mg/L	0.100	0.0960	96	85 - 115	2003-09-24	
Ethylbenzene		mg/L	0.100	0.0935	94	85 - 115	2003-09-24	
Xylene (isomers)		mg/L	0.300	0.271	90	85 - 115	2003-09-24	

Standard (CCV-1) QC Batch: 4631

Report Date: Octol Lee Gas Plant			Order: 30921 ergy Field Ser	Page Number: 20 of 24 Lee Gas Plant			
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0985	98	85 - 115	2003-09-24
Toluene		mg/L	0.100	0.0965	96	85 - 115	2003-09-24
Ethylbenzene		mg/L	0.100	0.0944	94	85 - 115	2003-09-24
Xylene (isomers)		mg/L	0.300	0.273	91	85 - 115	2003-09-24

Standard (CCV-2) QC Batch: 4631

			CCVs		CCVs	Percent		
			True	Found	Percent	Recovery	Date	
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed	
Benzene	<u> </u>	mg/L	0.100	0.0958	96	85 - 115	2003-09-24	
Toluene		mg/L	0.100	0.0945	94	85 - 115	2003-09-24	
Ethylbenzene		mg/L	0.100	0.0933	93	85 - 115	2003-09-24	
Xylene (isomers)		mg/L	0.300	0.272	91	85 - 115	2003-09-24.	

Standard (CCV-1) QC Batch: 4645

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/L	0.100	0.100	100	85 - 115	2003-09-23
Toluene		mg/L	0.100	0.0992	99	85 - 115	2003-09-23
Ethylbenzene		mg/L	0.100	0.0977	98	85 - 115	2003-09-23
Xylene (isomers)		mg/L	0.300	0.289	96	85 - 115	2003-09-23

Standard (CCV-2) QC Batch: 4645

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/L	0.100	0.0978	98	85 - 115	2003-09-23
Toluene		m mg/L	0.100	0.0968	97	85 - 115	2003-09-23
Ethylbenzene		mg/L	0.100	0.0982	98	85 - 115	2003-09-23
Xylene (isomers)		mg/L	0.300	0.281	94	85 - 115	2003-09-23

Standard (ICV-1) QC Batch: 4700

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.106	106	85 - 115	2003-09-26
Toluene		mg/L	0.100	0.107	107	85 - 115	2003-09-26
Ethylbenzene		mg/L	0.100	0.107	107	85 - 115	2003-09-26
Xylene (isomers)		mg/L	0.300	0.316	105	85 - 115	2003-09-26

Standard (CCV-1) QC Batch: 4700

Report Date: Octob Lee Gas Plant	er 8, 2003			Order: 30921 ergy Field Ser		Page N	umber: 21 of 24 Lee Gas Plant
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.103	103	85 - 115	2003-09-26
Toluene		mg/L	0.100	0.102	102	85 - 115	2003-09-26
Ethylbenzene		mg/L	0.100	0.102	102	85 - 115	2003-09-26
Xylene (isomers)		mg/L	0.300	0.300	100	85 - 115	2003-09-26

Standard (CCV-2) QC Batch: 4700

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene	· · · · · · · ·	mg/L	0.100	0.103	103	85 - 115	2003-09-26
Toluene		$\mathrm{mg/L}$	0.100	0.103	103	85 - 115	2003-09-26
Ethylbenzene		mg/L	0.100	0.102	102	85 - 115	2003-09-26
Xylene (isomers)		mg/L	0.300	0.301	100	85 - 115	2003-09-26

Standard (CCV-1) QC Batch: 4781

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/L	0.100	0.101	101	85 - 115	2003-10-01
Toluene		mg/L	0.100	0.0991	99	85 - 115	2003-10-01
Ethylbenzene		mg/L	0.100	0.101	101	85 - 115	2003-10-01
Xylene (isomers)		$\mathrm{mg/L}$	0.300	0.301	100	85 - 115	2003-10-01

Standard (CCV-2) QC Batch: 4781

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/L	0.100	0.0970	97	85 - 115	2003-10-01
Toluene		m mg/L	0.100	0.0969	97	85 - 115	2003-10-01
Ethylbenzene		mg/L	0.100	0.0958	96	85 - 115	2003-10-01
Xylene (isomers)		mg/L	0.300	0.286	95	85 - 115	2003-10-01

Standard (ICV-1) QC Batch: 4893

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Iron		mg/L	1.00	0.998	100	90 - 110	2003-10-02

Standard (ICV-1) QC Batch: 4893

			CCVs	$\rm CCVs$	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Manganese		mg/L	1.00	0.967	97	90 - 110	2003-10-02

Report Date: O Lee Gas Plant	ctober a	8, 2003			k Order: 3092 nergy Field Se		Page Nu	umber: 22 of 24 Lee Gas Plant		
Standard (CC	V-1)	QC Bat	ch: 4893							
				CCVs	CCVs	CCVs	Percent			
				True	Found	Percent	Recovery	Date		
Param	Flag	U	nits	Conc.	Conc.	Recovery	Limits	Analyzed		
Total Iron		mį	g/L	1.00	1.00	100	90 - 110	2003-10-02		
Standard (CC	V-1)	QC Bat	ch: 4893							
				CCVs	CCVs	CCVs	Percent			
				True	Found	Percent	Recovery	Date		
Param		Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed		
Total Manganes	e		mg/L	1.00	0.963	96	90 - 110	2003-10-02		
Standard (CC	V-2)	QC Bat	ch: 4893							
				CCVs	CCVs	CCVs	Percent			
				True	Found	Percent	Recovery	Date		
Param	Flag	U	nits	Conc.	Conc.	Recovery	Limits	Analyzed		
Total Iron		m	g/L	1.00	1.02	102	90 - 110	2003-10-02		
Standard (CC	(V-2)	QC Bat	ch: 4893							
				CCVs	CCVs	CCVs	Percent			
				True	Found	Percent	Recovery	Date		
Param		Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed		
Total Manganes	e		mg/L	1.00	0.976	98	90 - 110	2003-10-02		

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Report Date: October 8, 2003 Lee Gas Plant

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Work Order: 3092108 Duke Energy Field Servieces

Page Number: 23 of 24 Lee Gas Plant

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	Care cricity i rola o	Duke Energy Field Syrs Attn: Steve Weathers PO Box 5493 Denver CO 80217 (Story No)	Special Instructions/Comments:	All to (see below):	Shipping ID No.:	Cost Center No.:	Project Manager:	Project Location:	Project Name:	Pro	MW-18	CI-MW	MW-16	MW-14	MM-13	MW-12	MW-11	MW-10	MW-9	MW-7	RIDEN ENVIRONMENTAL Lab Name: Trace Address: 6701 Telephone: 806-7 Samplerg/SIGNATURES) Sample identification
		ics. Attn: Steve \	mments:			V-101	Gil Van Deventer	Lee Gas Plant	Duke Energy Field Services	Project Information	81	17	16	15	14	13 .	۳/	11	10	17809	TAL TAL TOG-794
		Veathers. PO B	Diease send		1				<u> </u>					Water	<u> </u>		<u> </u>		ì	Vister	Trident Environmental P.O. Box 7624 (915) 682-0808 (915) 682-0727 (Fax) (915) 682-072 (Fax) (915) (Fax) (Fax) (915) (Fax)
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Report Date: October 8, 2003 Lee Gas Plant

Work Order: 3092108 Duke Energy Field Servieces

Page Number: 24 of 24 Lee Gas Plant

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		Duke Energy Field Svcs, Attn: Steve Weathers, PO Box 5493, Denver, CO 80217 (Standy)	Special Instructions/Comments: Please send i	Bill to (see below):	Shipping ID No.:	V-101	Gil Van Deventer	Project Location: Lee Gas Plant co	Project Name: Duke Energy Field Services To	Project Information		Water	26 Water	Water	Water	-2 23 Water		Water	20 Jo Water	MW-19 19 Water 10	Trident Env P.O. Box 7 Midland, Te (915) 682-0 (915) (
		x 5493, Denver, CO 8021;	Please send invoice direct to client:		Lab No.:	Conforms to Records:	Rec'd Good Cond/Cold:	COC Seals:	Total Containers:	Sample Receipt	-	4-12-03 42291/3 6	1635	-		1730	2-16-03 1400 C			97503 1625 6	Date Time	
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PHONE (325) 673-7001 · 2111 BEECHWOOD · ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR TRIDENT ENVIRONMENTAL ATTN: GIL VAN DEVENTER P.O. BOX 7624 MIDLAND, TX 79708 FAX TO: (432) 682-0727

Receiving Date: 09/15/03 Reporting Date: 09/16/03 Project Number: V-101 Project Name: DUKE ENERGY FIELD SERVICES Project Location: LEE GAS PLANT Sampling Date: 09/15/03 Sample Type: WATER Sample Condition: COOL & INTACT Sample Received By: BC Analyzed By: AH

	SO₄	NO ₃
LAB NUMBER SAMPLE ID	(mg/L)	(mg/L)
ANALYSIS DATE:	09/16/03	09/16/03
H8005-1 MW 12	9.57	0.12
H8005-2 MW 13	3.38	<0.1
H8005-3 MW 19	18.3	3.58
H8005-4 MW 20	26.1	1.95
Quality Control	53.65	2.98
True Value QC	50.00	3.00
% Recovery	107	99.2
Relative Percent Difference	1.5	2.0
METHODS: EPA 600/4-79-020	375.4	353.3

PLEASE NOTE: Llability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise. H8005

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PHONE (325) 673-7001 · 2111 BEECHWOOD · ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR TRIDENT ENVIRONMENTAL ATTN: GIL VAN DEVENTER P.O. BOX 7624 MIDLAND, TX 79708 FAX TO: (432) 682-0727

Receiving Date: 09/17/03 Reporting Date: 09/17/03 Project Number: V-101 Project Name: DUKE ENERGY FIELD SERVICES Project Location: LEE GAS PLANT Sampling Date: 09/16/03 Sample Type: WATER Sample Condition: COOL & INTACT Sample Received By: GP Analyzed By: AH

		SO₄	NO3
LAB NUMBER	SAMPLE ID	(mg/L)	(mg/L)
ANALYSIS DAT	ſ E :	09/16/03	09/17/03
H8007-1	MW 11	19.3	1.93
H8007-2	MW 18	40.9	0.45
H8007-3	MW 17	24.9	0.73
H8007-4	MW 7	21.5	1.61
H8007-5	MW 21	11.2	1.41
H8007-6	MW 14	37.2	1.09
H8007-7	MW 16	34.9	3.05
H8007-8	MW 22	25.2	0.70
H8007-9	MW 9	6.64	1.53
H8007-10	MW 10	44.8	1.88
H8007-11	MW3 RW-3 100	8.38	1.29
H8007-12	MW-2 RW-2 b)	20.2	1.93
Quality Control		53.65	2.98
True Value QC		50.00	3.00
% Recovery		107	99.2
Relative Percen	t Difference	1.5	2.0
METHODS: EF	PA 600/4-79-020	375.4	353.3

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PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

V-101-0903-\$4 Chain of Custody			ite (SO₄) tron of Conte	eIuč	-	-	-	7	-	-	1	2	-		ad By: vi		(0)		(Time)	ž	No. Cor	0 4. Portan	i Mater	17/2433 (Time), 10 BM
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rental 79708 (Fax)			X	Date	6/3		(03	603	63	03	103	4 03	116/03	16/03	Şamı	Total Containers:	eals:	Good C	ms to I			ce dir	193, D	
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Trident Environmental P.O. Box 7624 Midland, Texas 79708 (915) 682-0727 (Fax) (915) 682-0727 (Fax)	atories	l Blvd. 240	GOU.	Matrix	Weter	Water	water	Water	luctor	Water	water	Water	Water	Water		Duke Energy Field Services	Int	nter				Please send invoice direct to client:	Duke Energy Field Svcs, Attn: Steve Weathers, PO Box 5493, Denver, CO 80217	
	Cardinal Laboratories	101 E. Marland Blvd Hobbs, NM 88240 505-393-2326					-		-	~					tion	ergy Fie	Lee Gas Plant	Gil Van Deventer	-				Steve W	
	ardina	101 E. Marlan Hobbs, NM 88 505-393-2326	- AZ	ation											Project Information	uke En	ee G	il Var	V-101			ients:	, Attn: 5	
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RIDEN	Lab Name:	Address: Telephone:	Samplers (SIGNATURES)	Sample Identification	mw-11	Mw-18	Mw-17	2-mW	12-mW	mw-14	Mw-16	Mw-23	M-9	MW-10	-	ame:	Project Location:	Project Manager:	Cost Center No.:	Shipping ID No.:	Bill to (see below):	Special Instructions/Comments:	iergy Fielc	
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			2 1 Little Ru	1700	1730							Sample Receipt	iers:		Rec'd Good Cond/Cold:	Conforms to Records:			rect to cli	enver, C(
nental 79708 (Fax)			J'ru	/11/13	16/03							Sarr	Total Containers:	COC Seals:	d Good (forms to	Lab No.:		oice di	5493, C		
víronu 624 exas 0808 0727	(as			ŝ	5					 	╞			_	Rec	Con	Lab	_	vui pu) Box		
Trident Environmental P.O. Box 7624 Midland, Texas 7970 (915) 682-0808 (915) 682-0727 (Fax)	Lab of Te	20 East 9765		Water	Water								eld Services	ant	enter				Please send invoice direct to client:	/eathers, PC		
	4 '		BIGNATURES)									Project Information	Duke Energy Field Services	Lee Gas Plant	Gil Van Deventer	V-101			Comments:	Ouke Energy Field Svcs, Attn: Steve Weathers, PO Box 5493, Denver, CO 80217		
TRIDEN	Lab Name:	Address: Telephone:	Samplers (BRONATURES)	RW-3	RW-2							α.	Project Name:	Project Location:	Project Manager:	Cost Center No.:	Shipping ID No.:	Bill to (see below):	Special Instructions/Comments:	Juke Energy Field		

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Appendix **B**

Well Sampling Data Forms

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	CLIENT:	DUKE ENE	RGY FIELD	SERVICES		WELL ID:	MW-11
SI	TE NAME:	LE	E GAS PLAN	<u>ит</u>		DATE:	3/9/03
PRC	JECT NO.		V-101		. 5	SAMPLER:	Van Deventer
PURGING	METHOD	:	🗌 Hand Ba	iled 🗹 Pu	imp If Pu	mp, Type:	3" Grundfos Pump
SAMPLIN	G METHO	D:	🗹 Disposat	le Bailer	Direct	from Disch	arge Hose 🔲 Other
DESCRIB	E EQUIPM	ENT DECC	NTAMINAT	ION METH	OD BEFC	ORE SAMP	LING THE WELL:
 Glove	s 🗹 Alcono	ox 🗹 Disti	lled Water F	Rinse 🔲 🤇	Other:		
					Dischar		ms IDisposal Facility
					Discharg		
			118.03 106.30				
			11.73			23.0	Minimum Gallons to purge 3 well volumes
WELL DIA	METER:	4.0	Inch		-		(Water Column Height x 1.96)
TIME	VOLUME		COND.	pН	DO	ORP	PHYSICAL APPEARANCE AND REMARKS
	PURGED	°F	mS/cm	pri	_mg/L	_mV	
1316	0	-	-	-	-	-	Pump On
1319	5	73.6	15.77	7.49			
1322	10	70.2	17.61	7.33		-	
1326	15	69.5	17.00	7.35			
1330	20	69.4	16.20	7.43			
1332	25	69.0	15.87	7.49		-	
1334	30	69.3	15.30	7.51		-	
1337	35	68.5	15.15	7.52		-	
1340	40	68.2	14.85	7.56		-	Pump Off
_							-
						1346	= sample collection time (MST)
	· · · · · · · · · · · · · · · · · · ·						

COMMENTS:

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C:/FORMS/SAMPLING DATA FORM

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	CLIENT:	DUKE ENE		SERVICES	-	WELL ID:	MW-12
S		LE	EE GAS PLAN	NT	-	DATE:	3/9/03
PRC	DJECT NO.		V-101		-	SAMPLER:	Van Deventer
PURGING	G METHOD	:	Hand Ba	iled 🗹 Pu	imp If Pu	imp, Type:	3" Grundfos Pump
SAMPLIN		D :	Disposat	ole Bailer [] Direct	from Disch	arge Hose
DESCRIE		ENT DECC	NTAMINAT	ION METH		ORE SAMP	LING THE WELL:
J Glove	es 🗹 Alcono	ox 团 Dist	illed Water F	Rinse 🔲	Other:		
					e Dischar	ge 🗌 Dru	ms Disposal Facility
	EPTH OF V O WATER:		<u>117.60</u> 106.79				
HEIGHT	OF WATER		10.81	Feet		21.2	Minimum Gallons to purge 3 well volumes
WELL DI	AMETER:	4.0	Inch		·		(Water Column Height x 1.96)
TIME	VOLUME		COND. mS/cm	рН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
1249	0	-	-	-	-	-	Pump On
1250	5	70.6	9.87	7.69		-	
1251	10	68.6	9.79	7.70		_	
1253	15	68.7	9.62	7.82		-	
1254	20	68.4	9.27	7.69		-	
1256	25	68.4	9.24	7.88		-	
1257	30	68.3	9.14	7.84		-	
1258	35	68.2	9.10	7.83		-	
1300	40	68.4	9.05	7.88		-	Pump Off
						······································	· · · · · · · · · · · · · · · · · · ·
						1310	= sample collection time (MST)

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	CLIENT:	DUKE EN	ERGY FIELD	SERVICES	_	WELL ID:	MW-13
S	ITE NAME:	L	EE GAS PLAN	NT	_	DATE:	3/9/03
PRO	DJECT NO.		V-101		_ *	SAMPLER:	Van Deventer
VRGIN	G METHOD	:	Hand Ba	iled 🗹 Pu	ump lf Pu	ımp, Type:	3" Grundfos Pump
		D:	Disposat	le Bailer	Direct	from Disch	arge Hose 🔲 Other:
DESCRIE				ION METH	OD BEF	ORE SAMF	PLING THE WELL:
Glove	es 🗹 Alcono	ox 🗹 Dist	illed Water F	Rinse 🔲	Other:		
					n Diachan		ms Disposal Facility
					e Discharg		
OTAL D	EPTH OF V O WATER:	VELL:	117.40	Feet Feet			
IEIGHT	OF WATER	COLUMN:	8.74			17.1	Minimum Gallons to purge 3 well volume
VELL DI	AMETER:	4.0	Inch				(Water Column Height x 1.96)
TIME	VOLUME PURGED		COND. mS/cm	pН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARK
1146	0	-	-	-	-	•	Pump On
			1 1		1		1
1149	5	78.6	12.45	7.02		-	
1149 1153	5 10	78.6 68.9	12.45 14.47	7.02		-	
						-	
1153	10	68.9	14.47	7.20			
1153 1156	10 15	68.9 69.3	14.47 14.50	7.20 7.28		-	
1153 1156 1202	10 15 20	68.9 69.3 71.4	14.47 14.50 15.01	7.20 7.28 7.19		-	
1153 1156 1202 1210	10 15 20 25	68.9 69.3 71.4 70.8	14.47 14.50 15.01 13.44	7.20 7.28 7.19 7.18		- - - - -	Pump Off
1153 1156 1202 1210 1214	10 15 20 25 28	68.9 69.3 71.4 70.8 70.4	14.47 14.50 15.01 13.44 13.20	7.20 7.28 7.19 7.18 7.19		- - - - -	Pump Off
1153 1156 1202 1210 1214	10 15 20 25 28	68.9 69.3 71.4 70.8 70.4	14.47 14.50 15.01 13.44 13.20	7.20 7.28 7.19 7.18 7.19		- - - - -	Pump Off
1153 1156 1202 1210 1214	10 15 20 25 28	68.9 69.3 71.4 70.8 70.4	14.47 14.50 15.01 13.44 13.20	7.20 7.28 7.19 7.18 7.19		- - - - -	Pump Off
1153 1156 1202 1210 1214	10 15 20 25 28	68.9 69.3 71.4 70.8 70.4	14.47 14.50 15.01 13.44 13.20	7.20 7.28 7.19 7.18 7.19		-	Pump Off = sample collection time (MST)
1153 1156 1202 1210 1214	10 15 20 25 28	68.9 69.3 71.4 70.8 70.4	14.47 14.50 15.01 13.44 13.20	7.20 7.28 7.19 7.18 7.19		-	
1153 1156 1202 1210 1214	10 15 20 25 28	68.9 69.3 71.4 70.8 70.4	14.47 14.50 15.01 13.44 13.20	7.20 7.28 7.19 7.18 7.19		-	

	CLIENT:	DUKE ENE	RGY FIELD	SERVICES	_	WELL ID:	MW-19
SI		L8	E GAS PLAN	NT	_	DATE:	3/9/03
PRC	JECT NO.		V-101		- 8	SAMPLER:	Van Deventer
PURGING		:	Hand Ba	iled 🔽 Pu	ump if Pu	mp. Type:	3" Grundfos Pump
							arge Hose Other:
							LING THE WELL:
Glove			med vvater F	kinse 🛄	Other:		
DISPOSA	L METHOD	OF PURG	E WATER:	Surface	e Dischar	ge 🗌 Dru	ms Disposal Facility
DEPTH T HEIGHT (O WATER: OF WATER		126.57 109.72 16.85 Inch	Feet		33.0	Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)
TIME	VOLUME PURGED		COND. mS/cm	рН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
1056	0	-	-		-	-	Pump On
1058	5	71.4	10.88	9.05		-	
1100	10	68.4	11.90	8.71		-	
1101	15	68.9	11.87	8.69			
1103	20	68.3	11.82	8.46			
1106	25	67.9	11.72	8.24		-	
1108	30	68.1	11.62	8.09			
1109	35	67.3	11.64	8.20		-	
1110	40	67.0	11.76	7.99			Pump Off
						1120	= sample collection time (MST)

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	CLIENT:	DUKE ENE		SERVICES		WELL ID	MW-20
SI	TE NAME:	LE	EE GAS PLAN	1T		DATE	: 3/9/03
PRC	JECT NO.		V-101		. 5	SAMPLER	: Van Deventer
							arge Hose 🔲 Other:
							PLING THE WELL:
Glove	s 🗹 Alcono	Dist	illed Water F	kinse 🗋 🤇	Other:	<u> </u>	
DISPOSA		OF PURG	E WATER:		Dischar	je 🗌 Dru	ums 🗹 Disposal Facility
DEPTH T HEIGHT (O WATER:	COLUMN:	128.05 112.41 15.64 Inch	Feet		30.6	_Minimum Gallons to purge 3 well volume: (Water Column Height x 1.96)
TIME	VOLUME PURGED		COND. mS/cm	рН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
1000	0	-	-	-	-	-	Pump On
1001	5	67.0	5.94	7.51		*	
1002	10	67.0	5.82	7.57			
1003	15	67.0	6.04	7.50			
1004	20	67.1	5.63	7.58		-	
1006	25	67.1	5.35	7.61		<i>.</i>	
1007	30	67.2	5.19	7.62		*	
1007	35	67.2	5.21	7.63		-	
1008	40	67.2	5.16	7.64		-	Pump off
							· · · · · · · · · · · · · · · · · · ·
						1020	= sample collection time (MST)

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	CLIENT:	DUKE ENE	RGY FIELD	SERVICES	-	WELL ID:	MW-21
SI	TE NAME:	LE	EE GAS PLAN	NT	-	DATE:	3/9/03
PRC	JECT NO.	<u></u>	V-101	<u> </u>	-	SAMPLER:	Van Deventer
PURGING		:	✓ Hand Ba	iled 🔲 P	ump If Pu	ump, Type:	
SAMPLIN		D:	🗹 Disposat	le Bailer	Direct	from Disch	arge Hose Other:
DESCRIE	BE EQUIPM	ENT DECC	ONTAMINAT	ION METH	IOD BEF	ORE SAMP	LING THE WELL:
Glove	s 🗹 Alcono	ox 🗹 Disti	illed Water F	Rinse 🗌	Other:	. <u></u>	
DISPOSA		O OF PURG	SE WATER:	Surfac	e Dischar	ge 🗌 Dru	ms IDisposal Facility
DEPTH T HEIGHT	O WATER: OF WATER		123.48 108.03 15.45 Inch	Feet		7.6	Minimum Gallons to purge 3 well volume (Water Column Height x 0.49)
TIME	VOLUME		COND. mS/cm	рН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARK
1430	2	74.1	7.09	7.23			Hand bailed
1441	4	71.6	6.51	7.16			
1501	6	71.4	5.92	7.12			
1509	8	71.5	6.54	7.14			
						1520	= sample collection time (MST)
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	CLIENT:	DUKE ENE	RGY FIELD	SERVICES	-	WELL ID:	MW-7
S	ITE NAME:	LE	EE GAS PLAN	NT		DATE:	9/16/03
PRC	DJECT NO.		V-101		-	SAMPLER:	Littlejohn / Van Deventer
PURGING			I Hand Bai		imp If Du	mn Tune:	
							arge Hose 🔲 Other:
						JRE SAIVIP	PLING THE WELL:
		DX 🗹 DISU	illed Water F	kinse 🛄 🤇	Other:	<u> </u>	· · · · · · · · · · · · · · · · · · ·
DISPOSA		OF PURG	E WATER:	Surface	e Discharg	je 🔲 Dru	ms 🗹 Disposal Facility
FOTAL D	EPTH OF V	VELL:	111.65	Feet			
			105.56				
	OF WATER		6.09 Inch	reet		11.9	Minimum Gallons to purge 3 well volume (Water Column Height x 1.96)
TIME	VOLUME PURGED		COND. <i>m</i> \$/cm	рН	DO mg/L		PHYSICAL APPEARANCE AND REMARKS
1100	1.5	75.7	1.55	7.37			
1110	2.5	74.5	1.50	7.33	-		Well pumped off. Discontinued pumping.
1500	6.5	70.7	1.01	7.45	-		Hand bailed 4 more gallons.
						1.22	mg/L Ferrous Iron concentration*
		: 			0.77**		DO reading taken on 09/19/03 in the we
						1500	= sample collection time (MST)
							· · · · · · · · · · · · · · · · · · ·
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** Due to malfunctioning DO meter, readings were taken on 09/19/03 with a newly rented Hanna Model 9143 DO meter.

	CLIENT:	DUKE ENE	RGY FIELD	SERVICES	-	WELL IC	0: MW-9
S	ITE NAME:	LE	EE GAS PLAN	1T		DATE	9/16/03
PRO	DJECT NO.		V-101		_ *	SAMPLER	Littlejohn / Van Deventer
PURGIN	G METHOD	:	🔲 Hand Ba	iled 🗹 P	ump If Pu	imp, Type	: 3" Grundfos Pump
SAMPLIN		D:	🗹 Disposat	ole Bailer	Direct	from Disc	harge Hose 🔲 Other:
DESCRIE		ENT DECC	NTAMINAT	ION METH	OD BEFO	ORE SAM	PLING THE WELL:
✓ Glove	as 🗹 Alcono	ox 🔽 Disti	illed Water F	Rinse 🔲	Other:		
DISPOSA	AL METHOD) of purg	E WATER:	🔲 Surfac	e Dischar	ge 🔲 Dri	ums 🗹Disposal Facility
	EPTH OF V	VELL:	117.02	Feet			
DEPTH T	O WATER:		107.23	Feet		40.0	
	AMETER:		9.79 Inch	reet	-	19.2	_Minimum Gallons to purge 3 well volume (Water Column Height x 1.96)
	VOLUME		COND.				
TIME	PURGED		m S/cm	рН	DO mg/Ľ		PHYSICAL APPEARANCE AND REMARKS
1449	5	73.4	1.44	7.02	-		Pump On
1451	10	71.9	1.29	7.15	-		
1453	15	71.6	1.3	7.13	-		
1456	20	72.0	1.28	7.11			
1459	25	71.7	1.31	7.10	-		
1501	30	71.0	1.36	7.09	-		
1503	35	70.6	1.33	7.10	-		
1505	40	71.9	1.32	7.11			Pump Off
						3.22	mg/L Ferrous Iron concentration*
					0.00**		DO reading taken on 09/19/03 in the we
ļ				<u></u>		1505	= sample collection time (MST)
							Collected duplicate sample for BTEX
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** Due to malfunctioning DO meter, readings were taken on 09/19/03 with a newly rented Hanna Model 9143 DO meter.

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	CLIENT:	DUKE ENE	RGY FIELD	SERVICES	-	WELL ID:	MW-10
S	ITE NAME:	LE	EE GAS PLAN	NT	_	DATE:	9/16/03
PRC	DJECT NO.		V-101		-	SAMPLER:	Littlejohn / Van Deventer
PURGING	G METHOD	:	Hand Ba	iled 🗹 Pı	amp lf Pu	imp, Type:	3" Grundfos Pump
SAMPLIN	IG METHOI	D:	I Disposat	ole Bailer [Direct	from Disch	arge Hose 🔲 Other:
DESCRIE			NTAMINAT	ION METH		DRE SAMP	LING THE WELL:
J Glove	s 🗹 Alcone	ox 🗹 Dist	illed Water F	Rinse 🔲	Other:		
JISPUSA		J OF PURG	E WATER:		e Discharg	ge 🛄 Dru	ms IDisposal Facility
OTAL D	EPTH OF V O WATER:	VELL:	<u>117.50</u> 106.91				
EIGHT	OF WATER	COLUMN:	10.59	Feet		20.7	Minimum Gallons to purge 3 well volume
VELL DI	AMETER:	4.0	Inch	_			(Water Column Height x 1.96)
TIME	VOLUME		COND.	pН	DO	. <u></u>	PHYSICAL APPEARANCE AND REMARK
	PURGED	۴F	<u>mŠ/cm</u>		_mg/L_		
1548	5	75.3	1.82	7.22			Conductivity meter went bad
1550	10	73.4	1.78	7.22	-		
1552	15	72.3	1.74	7.21	-		
1554	20	71.8	1.75	7.22	-		
1556	25	71.3	1.76	7.22	-		
1558	30	71.0	1.76	7.21	-		
1600	35	71.0	1.76	7.21	-		
1602	40	71.0	1.76	7.21	-		Pump Off
						3.04	mg/L Ferrous Iron concentration*
					0.00**		DO reading taken on 09/19/03 in the we
						1602	= sample collection time (MST)
<u> </u>							

** Due to malfunctioning DO meter, readings were taken on 09/19/03 with a newly rented Hanna Model 9143 DO meter.

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	CLIENT:	DUKE ENE		SERVICES	-	WELL ID:	MW-11
SI	TE NAME:	LE	EE GAS PLAN	NT	_	DATE:	9/15/03
PRC	JECT NO.		V-101			SAMPLER:	Littlejohn / Van Deventer
PURGING		:	Hand Ba	iled 🗹 P	ump If Pu	mp, Type:	3" Grundfos Pump
SAMPLIN		D:	🗹 Disposat	ole Bailer	Direct	from Disch	arge Hose 🔲 Other:
DESCRIE	E EQUIPM	ENT DECC	NTAMINAT	ION METH		RE SAMP	PLING THE WELL:
Glove	s 🗹 Alcond	ox	illed Water F	Rinse 🔲	Other:		
	LMETHOR				o Diachean		
					e Discharg		ms IDisposal Facility
TOTAL D	EPTH OF V	VELL:	<u> 118.03</u> 106.16	Feet			
HEIGHT	OF WATER	COLUMN:	11.87	Feet		23.2	Minimum Gallons to purge 3 well volumes
WELL DI	AMETER:	4.0	Inch		_		(Water Column Height x 1.96)
TIME	VOLUME		COND. <i>m</i> S/cm	рН	DO mg/L		PHYSICAL APPEARANCE AND REMARKS
0840	0		-	4	_		Pump On
0843	5	69.2	1.73	7.33	-		
0846	10	69.4	1.56	7.46	-		
0848	15	69.4	1.50	7.52	-	1	
0850	20	69.3	1.53	7.52	-		
0853	25	69.6	1.43	7.58	-		
0856	. 30	69.8	1.45	7.58	-		
0859	35	69.8	1.49	7.57	-		
0901	40	69.9	1.52	7.57	-		Pump Off
						0.01	mg/L Ferrous Iron concentration*
					0.01**		DO reading taken on 09/19/03 in the well.
						0910	= sample collection time (MST)

COMMENTS:

* Hach Model 2010 Spectrophotometer used to measure ferrous iron in the field (Method 8146).

** Due to malfunctioning DO meter, readings were taken on 09/19/03 with a newly rented Hanna Model 9143 DO meter.

	CLIENT:	DUKE ENE	ERGY FIELD	SERVICES	-	WELL ID	MW-12
S	ITE NAME:	L	EE GAS PLAN	NT	_	DATE	9/15/03
PRO	DJECT NO.		V-101		- *	SAMPLER	Littlejohn / Van Deventer
PURGIN	G METHOD	•	Hand Ba	iled 🔽 Pi	ump If Pu	imp, Type:	3" Grundfos Pump
							narge Hose 🔲 Other:
DESCRIE		ENT DECC	ONTAMINAT	ION METH		ORE SAMP	PLING THE WELL:
J Glove	es 🗹 Alcono	ox 🗹 Disti	illed Water F	Rinse 🔲	Other:		
DISPOSA) of purg	E WATER:	Surfac	e Discharç	je 🗌 Dru	ims IDisposal Facility
DEPTH T HEIGHT	O WATER:		117.60 106.66 10.94 Inch	Feet		21.4	Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)
TIME	VOLUME PURGED		COND. <i>m</i> S/cm	рН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
1741	0	÷	-	-	-	<u>ب</u>	Pump On
1744	5	73.7	1.42	7.20	-	-12.2	
1746	10	71.5	1.37	7.21	-	-12.9	
1748	15	71.2	1.31	7.25	-	-14.8	
1751	20	71.0	1.3	7.27	-	-16.3	
1755	25	70.6	1.29	7.29	-	-17.0	
1758	30	70.6	1.3	7.30	-	-17.8	-
1800	35	70.4	1.29	7.29	-	-17.3	
1802	40	70.3	1.27	7.30	-	-18.3	Pump Off
						0.05	mg/L Ferrous Iron concentration*
			_		0.60**		DO reading taken on 09/19/03 in the we
						1800	= sample collection time (MST)
	<u> </u>			 		· · · · · · · · · · · · · · · · · · ·	
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** Due to malfunctioning DO meter, readings were taken on 09/19/03 with a newly rented Hanna Model 9143 DO meter.

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	CLIENT:			SERVICES	_	WELL ID:	MW-13
SI	TE NAME:	LE	EE GAS PLAN	NT	-	DATE:	9/15/03
PRC	JECT NO.		V-101	·	_	SAMPLER:	Littlejohn / Van Deventer
SAMPLIN DESCRIB	IG METHOI BE EQUIPM	D: ENT DECC	Disposat	ole Bailer ION METH		from Disch	3" Grundfos Pump arge Hose
DISPOSA TOTAL DI DEPTH T HEIGHT (EPTH OF V O WATER: OF WATER) of purg Well:	E WATER: <u>117.40</u> <u>108.30</u> 9,10	Surfac Feet Feet		-	ms ☑Disposal Facility Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)
TIME	VOLUME PURGED		COND. <i>m</i> Š/cm	pН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
1644	0	-	2	-	ai .	*	Pump On
1647	5	72.4	1.35	7.38	-	-	
1650	10	71.9	1.37	7.38	-	-	
1656	15	73.5	1.48	8.00	-	_	
1701	20	72.3	1.45	7.85	-	-	
1706	25	72.3	1.45	8.12	-	-	
1712	30	72.7	1.41	8.27	-	-	
1715	38	75.6	1.37	8.48	-	-	Pump Off
					0.44**		DO reading taken on 09/19/03 in the well.
						0.48	mg/L Ferrous Iron concentration*
						1730	= sample collection time (MST)
						; ;	
				<u> </u>		· i	L

COMMENTS: <u>* Hach Model 2010 Spectrophotometer used to measure ferrous iron in the field (Method 8146).</u>

** Due to malfunctioning DO meter, readings were taken on 09/19/03 with a newly rented Hanna Model 9143 DO meter.

	CLIENT:	DUKE ENE	ERGY FIELD	SERVICES	-	WELL ID	:MW-14			
S	ITE NAME:	L	EE GAS PLAN	NT	-	DATE	:9/16/03			
PRO	DJECT NO.		V-101		- 5	SAMPLER: Littlejohn / Van D				
PURGIN	G METHOD	:	Hand Ba	iled 🗹 P	ump If Pu	тр, Туре:	3" Grundfos Pump			
SAMPLIN	IG METHO	D :	I Disposat	ble Bailer	Direct	from Disch	narge Hose 🔲 Other:			
DESCRIE		ENT DECC	ONTAMINAT	ION METH	OD BEFO	ORE SAM	PLING THE WELL:			
ন বি Glove	es 🗹 Alcono	ox 🗹 Dist	illed Water F	Rinse 🔲	Other:					
)ISPOS/	AL METHOE	OF PURG	SE WATER:	Surfac	e Discharg	je 🔟 Dri	Ims IDisposal Facility			
	EPTH OF V	VELL:	118.49	Feet						
JEPTH I HEIGHT	O WATER: OF WATER		109.66	Feet		17.3	Minimum Gallons to purge 3 well volume			
NELL DI	AMETER:	4.0	Inch	•	-		(Water Column Height x 1.96)			
TIME	VOLUME		COND. mS/cm	pН	DO mg/L		PHYSICAL APPEARANCE AND REMARKS			
1155	0	71.2	1.56	6.95			Pump On			
1157	5	71.1	1.57	6.99	-	····:				
1200	10	70.9	1.58	6.99	-					
1203	15	70.9	1.58	6.99	-					
1206	20	71.1	1.59	6.96	-					
1209	0	71.1	1.59	6.98	-					
1211	30	71.3	1.59	6.98	-					
1214	35	71.9	1.56	6.97	-					
1217	40	71.8	1.55	6.97	-		Pump Off			
						1.73	mg/L Ferrous Iron concentration*			
					1.01**		DO reading taken on 09/19/03 in the well			
		· · · · · · · · · · · · · · · · · · ·			1.01**	1220	DO reading taken on 09/19/03 in the wel = sample collection time (MST)			
		· · · · · · · · · · · · · · · · · · ·			1.01**	1220				
					1.01**	1220				

** Due to malfunctioning DO meter, readings were taken on 09/19/03 with a newly rented Hanna Model 9143 DO meter.

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	TE NAME:	LE					
PRO			E GAS PLAN	NT	_	DATE:	9/16/03
	JECT NO.		V-101		- *	SAMPLER:	Littlejohn / Van Deventer
SAMPLING	G METHOD	D: ENT DECC	🗹 Disposab	ole Bailer (ION METH	Direct	from Disch	3" Grundfos Pump arge Hose
						ge 🗌 Dru	ms Disposal Facility
DEPTH TO HEIGHT O	O WATER: DF WATER		125.15 105.52 19.63 Inch	Feet		38.4	Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)
1 11071 - 1	VOLUME PURGED		COND. <i>m</i> \$/cm	pН	DO mg/L		PHYSICAL APPEARANCE AND REMARKS
1338	0	-	-	-	-		Pump On
1340	5	74.1	0.76	7.05	-		
1344	10	72.5	0.70	Ġ.99	-	<u></u>	
1346	15	71.6	0.68	7.07	-		
1349	20	71.2	0.65	7.31	-		
1351	25	70.7	0.64	7.35	-		
1354	30	70.6	0.64	7.40	-		
1356	35	70.8	0.64	7.61	-		
1358	40	71.2	0.65	7.79	-		Pump Off
						0.39	mg/L Ferrous Iron concentration*
					1.67**		DO reading taken on 09/19/03 in the well.
						1358	= sample collection time (MST)
├ ───- ├							

COMMENTS: * Hach Model 2010 Spectrophotometer used to measure ferrous iron in the field (Method 8146).

** Due to malfunctioning DO meter, readings were taken on 09/19/03 with a newly rented Hanna Model 9143 DO meter.

	CLIENT:	DUKE ENE	RGY FIELD	SERVICES	-	WELL ID:	MW-17	
S	TE NAME:	LE	E GAS PLAN	۱T	_	DATE	9/16/03	
PRC	JECT NO.	<u></u>	V-101		_	SAMPLER:	Littlejohn / Van Deventer	
							3" Grundfos Pump	
SAMPLIN	IG METHO	D:	Disposat	le Bailer	Direct	from Disch	arge Hose 🔲 Other:	
DESCRIE	BE EQUIPM	ENT DECC	NTAMINAT	ION METH	HOD BEF	ORE SAMP	PLING THE WELL:	
Glove	s 🗹 Alcono	ox 🗹 Disti	lled Water F	Rinse 🔲	Other:			
DISPOSA) of purg	E WATER:	Surfac	e Discharç	ge 🔲 Dru	ms 🗹 Disposal Facility	
DEPTH T HEIGHT (O WATER:	COLUMN;	124.09 108.04 16.05 Inch	Feet		31.4	Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)	
TIME	VOLUME PURGED		COND. <i>m</i> Š/cm	pН	DO mg/Ĺ		PHYSICAL APPEARANCE AND REMARKS	
1010	5	72.2	1.07	7.05			Pump On	
1012	10	71.0	1.06	7.04	-			
1015	15	70.8	1.07	7.08				
1019	20	70.6	1.05	7.16				
1022	25	70.5	1.04	7.20	-			
1024	30	70.5	1.03	7.21	-			
1026	35	70.6	1.03	7.24	-			
1028	40	70.4	1.03	7.25			Pump Off	
						0.65	mg/L Ferrous Iron concentration*	
					0.00**		DO reading taken on 09/19/03 in the wel	
						1030	= sample collection time (MST)	
				· · · · · · · · · · · · · · · · · · ·	<u> </u>	<u> </u>		
<u></u>								
COMMEN	<u> </u>			<u> </u>			re ferrous iron in the field (Method 8146).	

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** Due to malfunctioning DO meter, readings were taken on 09/19/03 with a newly rented Hanna Model 9143 DO meter.

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	CLIENT:	DUKE ENE	RGY FIELD	SERVICES	_	WELL ID:	MW-18
SITE NAME: LEE GAS PLANT					-	DATE:	9/16/03
PRC	DJECT NO.		V-101		- 5	SAMPLER:	Littlejohn / Van Deventer
PURGING	G METHOD	:	🔲 Hand Ba	iled 🗹 Pı	ump if Pu	mp, Type:	3" Grundfos Pump
							arge Hose Other:
DESCRIE		ENT DECC	NTAMINAT	ION METH		RE SAMP	PLING THE WELL:
☑ Glove	s 🗹 Alcond	x 🗹 Disti	illed Water F	Rinse 🔲	Other:		
					-		
					e Discharg		ms Disposal Facility
	EPTH OF V O WATER:		130.02				
HEIGHT	OF WATER	COLUMN:	20.63	Feet	-	40.4	Minimum Gallons to purge 3 well volumes
WELL DI	AMETER:	4.0	Inch			. •	(Water Column Height x 1.96)
TIME	VOLUME PURGED		COND. <i>m</i> S/cm	рH	DO mg/L		PHYSICAL APPEARANCE AND REMARKS
0924	0	÷	-	-	-		Pump On
0926	5	70.2	1.56	7.19	-		
0929	10	69.9	1.55	7.08	-		
0931	15	69.7	1.54	7.22	-		
0934	20	69.6	1.55	7.32	-		
0937	25	69.5	1.55	7.38	-		
0940	30	69.5	1.55	7.41	-		
0943	35	69.5	1.55	7.43	-		
0945	40	69.5	1.55	7.45	-		Pump Off
0947	40	69.1	0.60	7.69			
0948	40	70.5	0.59	7.65		·····	
						0.11	mg/L Ferrous Iron concentration*
					0.07		DO reading taken on 09/19/03 in the wel
						1750	= sample collection time (MST)

** Due to malfunctioning DO meter, readings were taken on 09/19/03 with a newly rented Hanna Model 9143 DO meter.

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	CLIENT:	DUKE ENE	RGY FIELD	SERVICES	_	WELL ID:	MW-19
S	TE NAME:	LE	E GAS PLAN	NT	_	DATE:	9/15/03
PRC	JECT NO.		V-101	<u></u>	-	SAMPLER:	Littlejohn / Van Deventer
PURGING		•	🗌 Hand Ba	iled 🔽 P	ump If Pu	ımp, Type:	3" Grundfos Pump
							arge Hose Other:
							PLING THE WELL:
DISPOSA) of Purg	E WATER:	Surfac	e Dischar	ge 🔲 Dru	ms IDisposal Facility
DEPTH T HEIGHT	O WATER:	COLUMN:	126.57 109.24 17.33	Feet		33.9	Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)
TIME	VOLUME	TEMP.	COND.	рH	DO	Turb	PHYSICAL APPEARANCE AND REMARKS
1558	PURGED 5	^⁰ F 77.4	<i>m</i> S/cm 1.42	7.19	mg/L		Pump On
1602	10	73.8	1.5	7.19	_		
1606	15	73.1	1.54	7.22		-	
1609	20	72.6	1.55	7.47		-	
1612	25	72.8	1.55	7.84		-	
1615	30	74.5	1.54	8.12			
1619	35	73.2	1.55	8.16	_	_	
1622	40	72.4	1.55	8.21		-	Pump Off
					0.31**		DO reading taken on 09/19/03 in the wel
						0	mg/L Ferrous Iron concentration*
						1625	= sample collection time (MST)
				 			· · · · · · · · · · · · · · · · · · ·

	CLIENT:	DUKE ENE	RGY FIELD	SERVICES	-	WELL ID:	MW-20
S	ITE NAME:	LE	E GAS PLA	NT	_	DATE:	9/15/03
PRO	DJECT NO.		V-101		- 5	SAMPLER:	Littlejohn / Van Deventer
PURGIN	G METHOD	:	🔲 Hand Ba	iled 🗹 Pi	ump If Pu	mp, Type:	3" Grundfos Pump
SAMPLIN		D:	Disposat	ole Bailer	Direct	from Disch	arge Hose 🔲 Other:
DESCRIE	BE EQUIPM	ENT DECC	NTAMINAT	ION METH	IOD BEFO	ORE SAMP	PLING THE WELL:
Glove		ox 🗹 Disti	lled Water F	Rinse 🔲	Other:		
					•		
JISPOSA	AL METHOD) of purg	E WATER:	Surfac	e Discharç	ge 🗌 Dru	ms 🗹 Disposal Facility
			128.05				
JEPTH T HEIGHT	O WATER:		<u> </u>	Feet		31 6	Minimum Gallons to purge 3 well volumes
	AMETER:		فالمستقل والمتكر والمتكر والمتكر والمتكر والمتكر والمتكر والمتكر والمتكر والمتكر والمتكر والمتكر والم	1 661	-	31.0	(Water Column Height x 1.96)
	VOLUME	TEMP.	COND.	r	DO	- <u></u>	r
TIME	PURGED		<i>m</i> S/cm	рН	mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
1504	5	74.8	0.77	7.32	-	-	Pump On
1506	10	72.1	0.78	7.30	-	-	
1509	15	72.3	0.76	7.31	_	-	
1512	20	72.0	0.76	7.46	-	-	
1515	25	72.4	0.72	8.33	-	-	
1519	30	72.4	0.74	8.50	-	-	
1522	35	71.5	0.74	8.45	_	-	
1525	40	72.4	0.72	8.41	-	-	Pump off. Total purge = 40 gallons
					0.24**		
						0.02	mg/L Ferrous Iron concentration*
						1535	= sample collection time (MST)
						<u>, , , , , , , , , , , , , , , , , , , </u>	
	<u> </u>					<u></u>	
OMMEN	ـــــــــــــــــــــــــــــــــــــ	* Uach Mar	L				re ferrous iron in the field (Method 8146).

** Due to malfunctioning DO meter, readings were taken on 09/19/03 with a newly rented Hanna Model 9143 DO meter.

	CLIENT:	DUKE ENE		SERVICES		WELL ID:	MW-21
SI	TE NAME:	LE	EE GAS PLAN	NT		DATE:	9/16/03
PRC	JECT NO.		V-101		-	SAMPLER:	Littlejohn / Van Deventer
						_	
					_		
	G METHO				_		arge Hose [] Other:
		_					PLING THE WELL:
Glove	s 🗹 Alcond	ox 🗹 Disti	illed Water F	Rinse 🔲 (Other:		
DISPOSA) of purg	E WATER:	Surface	e Dischar	ge 🔲 Dru	ms 🗹 Disposal Facility
TOTAL D	EPTH OF V	VELL:	123.48				
	O WATER:		<u> </u>			7.7	Minimum Gallons to purge 3 well volumes
	METER:			, reel		1.1	(Water Column Height x 0.49)
	VOLUME	TEMP.	COND.	(-	DO		r
TIME	PURGED	^o F	mŠ/cm	pН	mg/L		PHYSICAL APPEARANCE AND REMARKS
1150	8	72.3	0.90	7.38	8.15		DO reading taken on 09/19/03 in the well.
							DO readings affected by MW-23 air sparg
							well located nearby.
		l				1.75	mg/L Ferrous Iron concentration*
						1150	= sample collection time (MST)
COMMEN		* Hach Mor	L	ectrophoton	neter use	to measu	re ferrous iron in the field (Method 8146).
	-						newly rented Hanna Model 9143 DO mete

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SITE NAME: LEE GAS PLANT DATE: 9/16/03 PROJECT NO. V-101 SAMPLER: Littlejohn / Van Deventer PURGING METHOD: Ø Hand Bailed Pump If Pump, Type:		CLIENT:	DUKE ENE	RGY FIELD	SERVICES	-	WELL ID:	MW-22
PURGING METHOD: Image: Construct of the state of t	S		LE	E GAS PLAN		_	DATE:	9/16/03
SAMPLING METHOD: ☑ Disposable Bailer □ Direct from Discharge Hose □ Other: DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL: ☑ Gloves ☑ Alconox ☑ Distilled Water Rinse □ Other: ☑ Soves ☑ Alconox ☑ Distilled Water Rinse □ Other: ☑ DISPOSAL METHOD OF PURGE WATER: □ Surface Discharge □ Drums ☑Disposal Facility TOTAL DEPTH OF WELL: 148.58 Feet □ 107.92 Feet □ 107.92 Feet □ 107.92 Feet □ 107.92 Feet □ 107.92 Feet □ 107.92 Feet □ 107.92 Feet □ 107.92 Feet □ 107.92 Feet □ 107.92 Feet □ 107.92 Feet □ 107.92 Feet □ 107.92 Feet □ 100 RGED ○F mS/cm PURGED ○F mS/cm pH □ 0 □ 0 □ 1400 8 72.6 0.59 0.57 mg/L Ferrous Iron concentration* □ 0 □ 0 □ 0 □ 0 □ 0 □ 0 □ 0 □ 0 □ 0 □ 0 □ 0 □ 0	PRC	DJECT NO.		V-101	<u></u>	_ :	SAMPLER:	Littlejohn / Van Deventer
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DO reading taken on 09/19/03 in the wel							0.57	mg/L Ferrous Iron concentration*
							1400	
COMMENTS: * Hach Model 2010 Spectrophotometer used to measure ferrous iron in the field (Method 8146).	COMMEN	NTS:	* Hach Mod	lel 2010 Spe	ectrophoton	neter used	d to measu	re ferrous iron in the field (Method 8146).

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	CLIENT:	DUKE ENE	RGY FIELD	SERVICES	-	WELL ID:	RW-2
S			E GAS PLAN	IT	-	DATE:	9/16/03
PRC	DJECT NO.		V-101		. 8	SAMPLER:	Littlejohn / Van Deventer
PURGING	G METHOD:		Hand Bai	iled 🗌 Pı	imp If Pu	mp, Type:	
SAMPLIN	IG METHOD	D :	Disposat	ole Bailer [] Direct	from Disch	arge Hose 🔲 Other:
DESCRIE		ENT DECO	NTAMINAT	ION METH	OD BEFO	DRE SAMP	LING THE WELL:
J Glove	SI Alcono	x 🗹 Disti	lled Water F	Rinse 🔲 🤅	Other:		
DISPOSA		OF PURG	E WATER:	Surface	e Discharg	je 🗌 Drui	ms
			140.00				
	O WATER: OF WATER			Feet Feet			Recovery Well pumping continuously
	AMETER:			,	-		gal/1.5 min) with 1/2 hp submersible pump
TIME	VOLUME	TEMP.	COND.	pН	DO	Turb	PHYSICAL APPEARANCE AND REMARKS
1730	PURGED N/A	⁶ F 77.0	<i>m</i> Ś/cm 0.80	7.56	 1.05**		DO reading taken on 09/19/03 from tap.
						1.64	mg/L Ferrous Iron concentration*
<u>.</u>						······································	
							· · · · · · · · · · · · · · · · · · ·
	 						
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			KE ENERGY FIELD SERVICES				RW-3	
SITE NAME:		LE	LEE GAS PLANT		_	DATE:	9/16/03	
PROJECT NO.			V-101		- :	SAMPLER:	Littlejohn / Van Deventer	
PURGIN	G METHOD	•	🗹 Hand Ba	iled 🔲 P	ump If Pu	итр, Туре:		
SAMPLIN		D:	🗹 Disposat	ole Bailer	🔲 Direct	from Disch	arge Hose 🔲 Other:	
DESCRI	BE EQUIPM	ENT DECC	NTAMINAT	ION METH	IOD BEF	ORE SAMP	LING THE WELL:	
Glove	as I Alcond	ox 团 Disti	illed Water F	Rinse 🔲	Other:			
					a Dischar		ms Disposal Facility	
						ye <u>Li</u> Diu		
	DEPTH OF V		140.00	Feet				
HEIGHT OF WATER COLU			JMN:Feet			Recovery Well pumping continuously		
WELL DI	AMETER:	5.0	Inch			(5	gal/1.5 min) with 1/2 hp submersible p	
TIME	VOLUME PURGED		COND. <i>m</i> \$/cm	рН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMAR	
1700	N/A	77. 9	1.33	7.06	0.34**	*	DO reading taken on 09/19/03 from	
						2.48	mg/L Ferrous Iron concentration*	
			<u>, , , , , , , , , , , , , , , , , , , </u>				<u></u>	
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	+							
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2002 Annual Groundwater Monitoring and Sampling and Remediation System Performance Report Duke Energy Field Services Lee Gas Plant Lea County, New Mexico

MARCH 24, 2003

Prepared For:

Duke Energy Field Services P. O. Box 5493 Denver, Colorado 80217



Prepared By:



Trident Environmental P O Box 7624 Midland, Texas 79708

2002 Annual Groundwater Monitoring and Sampling Report Duke Energy Field Services – Lee Gas Plant Lea County, New Mexico

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APR 1 5 2003

ENVIRONMENTAL BUREAU OIL CONSERVATION DIVISION

SUBMITTED J

1/2 De Gilbert J. Van Deventer,

Project Manager

Dale T. Littlejohn 'Quality Assurance Officer

DATE:

03-24-03

3/26/03

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1.0 Executive Summary

Trident Environmental (Trident), was retained by Duke Energy Field Services LLP (DEFS) to perform the sampling and monitoring operations at the Lee Gas Plant. The plant is located in sections 30 and 31 of township 17 south and range 35 east in Lea County, New Mexico. This 2002 annual report summarizes the two sampling events performed by Trident at the DEFS Lee Gas Plant on February 11 through 12, 2002 and August 13 through 14, 2002.

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 crossgradient monitoring wells MW-18, MW-21, and MW-22 are below the WQCC standards and laboratory detection limits. The BTEX concentrations in crossgradient monitoring well MW-3 was also below WQCC standards during the semi-annual sampling event, however no samples could be obtained during the annual event due to lack of enough groundwater to obtain a sample. The hydrocarbon concentrations from these monitoring wells have remained below the WQCC standards since at least August 1998. Decreasing levels observed in MW-2, MW-3, MW-21, and MW-22 are due to the successful air sparge 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, with the exception of MW-14, which has decreased to below the WQCC standard for the first time since August 1998. Toluene, ethylbenzene, and xylene concentrations in all of the wells have remained below the WQCC standards since at least August 1995. The benzene concentrations measured over the past six years in MW-7, MW-10, and MW-16 are generally stable to decreasing while those measured in MW-9 and MW-14, appear to be periodically interrupted by isolated spikes of elevated concentrations. The benzene concentration in MW-17 has increased since August of 1997.
- During the August 13, 2002 monitoring event, light non-aqueous phase liquid (LNAPL) was measured in monitoring wells MW-5 (1.05 feet), MW-6 (4.66 feet), MW-8 (0.01 feet), and MW-15 (0.39 feet).
- A total of 5,259,575 gallons of groundwater was recovered by three recovery wells during the 1-year period of record (January 1, 2002 through December 31, 2002).



- 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 13, 2002.
- 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 LNAPL recovery at MW-6 with the Xitech system.
- Continue free product recovery from MW-5, MW-8, and MW-15 using passive bailers and/or hydrophobic adsorbent socks, and hand bailing methods as appropriate.
- Continue the program of monitoring natural attenuation that includes the analysis of dissolved oxygen (DO), nitrate (NO₃), sulfate (SO₄), ferric iron (Fe³⁺), ferrous iron (Fe²⁺), and manganese (Mn) to assess the efficacy of intrinsic bioremediation processes occurring on site.
- Continue the sampling and monitoring program on a semi-annual basis. The next sampling event is scheduled during the first quarter of 2003.



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

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TRIDENT	2002 Annual Groundwater Sampling and Monitoring Report Duke Energy Field Services - Lee Gas Plant
	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.

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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 22, 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.



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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.
November 6, 2000	TRW conducted O & M on Xitech, vapor extraction, and air sparge systems. Upon arrival it was determined that the electrical breaker at the main transformer had been thrown. Following the restoration of electrical power the submersible water pump in RW-3 would not operate. All of the other systems were operational.
December 13, 2000	TRW conducted O & M on Xitech, vapor extraction, and air sparge systems. All of the systems were operational except the water pump in RW-3.
January 23, 2001	TRW conducted O & M on Xitech, vapor extraction, and air sparge systems. All of the systems were operational except the water pumps in RW-3 and RW-4.
February 15, 2001	TRW conducted O & M on Xitech, vapor extraction, and air sparge systems, and performed semi-annual sampling activities. A water well contractor installed a new submersible pump in RW-3 and a new relay switch in the breaker box at RW- 4. All systems were operational upon completion of the site visit, however the flow meter in RW-4 was not working properly.
March 20, 2001	TRW conducted O & M on Xitech, vapor extraction, and air sparge systems. All of the systems were operational except for the flow meters at RW-2 and RW-3, and the submersible pump in RW-4. Field personnel serviced the flow meter, replaced the check valve in RW-3, and re-activated the power and replaced the flow meter at RW-4. All systems were operational upon the completion of the site visit; however the flow meters at RW-2 and RW-3 were not working properly.



May 1, 2001	Trident Environmental acquired the assets and staff of the Midland, Texas office of TRW Inc.
May 10, 2001	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems. The submersible pump in RW-3 and the flow meter at RW-4 were not operational.
May 23, 2001	Trident replaced an "Airgas-owned" nitrogen bottle with a Trident-owned bottle, replaced a digital "GPI" flow meter in RW-1 with an analog "Neptune" totalizer and installed a stainless steel strainer in line at RW-4 to protect the flow meter. The submersible pump in RW-3 was not operational.
June 18, 2001	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems. The submersible pumps in RW-2 and RW-3, and the flow meter at RW-4 were not operational upon arrival. Trident personnel serviced the flow meter and cleaned out the stainless steel strainer at RW-4
June 19, 2001	A water well servicing contractor (W-H-B) bailed 2 gallons of sand and installed a new ³ / ₄ hp Myers submersible pump in RW-3, and replaced a relay switch at the breaker for RW-2. Upon completion of the site visit all of the remedial systems were operation, however the flow meter in RW-3 was not working properly.
July 20, 2001	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems. The submersible pump in RW-2 and the flow meter at RW-3 were not operational upon arrival. Trident personnel replaced the digital GPI flow meter in RW-3 with an analog Neptune totalizer.
July 25, 2001	Trident personnel attempted to re-start RW-2 by replacing the relay and capacitor, but the submersible pump would not reactivate. The totalizer from RW-2 was moved to RW-3. All other systems were operational upon departure.
July 31, 2001	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems, and performed annual sampling activities. The totalizer in RW-3 (used unit) was replaced with a new totalizer.
September 11, 2001	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems. The submersible pump in RW-2, the flow meter at RW-3, and the VE unit (RW-1) were not operational upon arrival. Trident personnel restarted the VE unit and replaced the totalizer in RW-3 with a "GPI" meter.
October 10, 2001	A water well servicing contractor (W-H-B) removed old pump and installed a new ½ hp Myers submersible pump in RW-2.
October 11, 2001	Trident installed a sediment trap and digital GPI flowmeter at RW-2. All systems were operational upon departure.



January 10, 2002	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems. Xitech pump removed and sent to manufacturer for repairs and upgrade.
January 15, 2002	A new Coyote pump off control box was installed at RW-3.
January 23, 2002	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems. Installed repaired Xitech pump in MW-6 and secondary containment for PRT
February 11-12, 2002	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems, and performed semi-annual sampling activities. The flowmeter faceplate at RW-4 was replaced with working unit.
March 6, 2002	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems. Plugged discharge line at RW-2 was replaced with new HDPE line.
April 9, 2002	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems.
May 14, 2002	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems. The flowmeter faceplate and battery at RW-2 were replaced with working units.
July 12, 2002	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems. The flowmeter faceplate and battery at RW-3 were replaced with working units.
August 13-14, 2002	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems, and performed annual sampling activities. The flowmeter faceplate at RW-4 was replaced with working unit.
September 20, 2002	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems. New GPI flowmeters were installed at RW-2, RW-3, and RW-4.
October 18, 2002	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems. Sand buildup was bailed from RW-2, RW-3 and RW-4. Worn-out pumps were replaced with new Meyers ½ HP submersible pump in RW-3 and RW-4.
October 24, 2002	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems. Sections of total fluids discharge lines from RW-2 and RW-3 were upgraded with HDPE line and re-routed. Replaced battery for Xitech PRS at MW-6.
November 22, 2002	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems.
December 16, 2002	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems.



3.0 Procedures

Each monitoring well at the Lee Gas Plant was gauged for depth to groundwater on February 11, 2002 and August 13, 2002, using a Heron H.01L oil/water interface probe. The depth to groundwater in the recovery wells was not gauged due to access limitations caused by the presence of downhole pumping equipment.

Immediately prior to collecting groundwater samples, the monitoring wells were purged using a Grundfos submersible pump with the exception of MW-3, MW-21, and MW-22, which were purged using a decontaminated hand bailer. MW-3 was not sampled during the annual sampling event due to the lack of enough groundwater to obtain a groundwater sample (dry well conditions). Purging operations were completed after groundwater parameters (pH, conductivity, dissolved oxygen, turbidity, and temperature) stabilized with the exception of MW-3, which was bailed dry. Conductivity, pH, dissolved oxygen (DO), turbidity, and temperature readings were measured after every 5 gallons of purging using a Horiba Model U-10 and Hanna Model 9143 DO meter. A total of 654 gallons of well development water was purged from the monitoring wells during the 2002-sampling year.

Groundwater samples for BTEX analysis 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 hydrochloric acid (HCl) for analysis of BTEX using EPA Method 8021B. The annual sampling event conducted on August 13 and 14, 2002, included another set of water samples that were transferred into appropriately preserved containers for analysis of nitrate (NO₃), sulfate (SO₄), total iron, and manganese, to assess the efficacy of intrinsic bioremedial activity currently taking place. The iron and manganese samples were filtered in the field with a 45mm element. The iron and manganese samples were filtered in the field with a 45mm element. During the annual sampling event in August 2002, ferrous iron (Fe⁻²) was also measured in the field using a Hach DR2010 spectrophotometer (Method 8146). 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 2002 calendar year is presented in Table 1.

2002 Annual Sampling and Monitoring Report Duke Energy Field Services - Lee Gas Plant

			Table 1			
		Well Sampling	Well Sampling Frequency and Methods	ls		
Well No.	Well Type	Sampling Frequency	2002 Sample Date	Purge Method	Sampling Method	Purge Volume
I-WM	Monitoring	Not sampled due to dry well conditions	NS	SN	NS	0 gallons
MW-2	Monitoring	Not sampled due to dry well conditions	NS	NS	SN	0 gallons
C MM	Maritoria	Semi-annual event	02/12/02	Hand Bailer	Disposable bailer	2 gallons
C-M IN	INTOLUCION TO A	Not sampled due to dry well conditions	08/14/02	Not sampled due t	Not sampled due to dry well conditions	0 gallons
MW-4	Monitoring	Not sampled due to dry well conditions	NS	NS	NS	0 gallons
MW-5	Recovery	Not sampled due to presence of LNAPL	NS	NS	NS	0 galions
9-MM	Recovery	Not sampled due to presence of LNAPL	SN	NS	NS	0 gallons
7-WM	Monitoring	Annual event	08/14/02	Pump	Disposable bailer	3 gallons
MW-8	Recovery	Not sampled due to presence of LNAPL	SN	NS	NS	0 gallons
6-MW	Monitoring	Annual event	08/14/02	Pump	Disposable bailer	40 gallons
MW-10	Monitoring	Annual event	08/14/02	Pump	Disposable bailer	24 gallons
11/11/11	Maritan	Semi-annual event	02/11/02	Pump	Disposable bailer	40 gallons
11-MW	MODIFICITIES	Annual event	08/13/02	Pump	Disposable bailer	40 gallons
	N traiterie	Semi-annual event	02/11/02	Pump	Disposable bailer	40 gallons
71-M M	SULIOIILIOIAI	Annual event	08/13/02	Pump	Disposable bailer	40 gallons
		Semi-annual event	02/11/02	Pump	Disposable bailer	40 gallons
61-WW	INTOTITOTING	Annual event	08/13/02	Pump	Disposable bailer	40 gallons
MW-14	Monitoring	Annual event	08/14/02	Pump	Disposable bailer	40 gallons
MW-15	Recovery	Not sampled due to presence of LNAPL	NS	NS	SN	0 gallons
MW-16	Monitoring	Annual event	08/14/02	Pump	Disposable bailer	40 gallons
MW-17	Monitoring	Annual event	08/14/02	Pump	Disposable bailer	40 gallons
MW-18	Monitoring	Annual event	08/14/02	Pump	Disposable bailer	40 galions
	, in the second s	Semi-annual event	02/11/02	Pump	Disposable bailer	40 gallons
WIW-19	MONITOFING	Annual event	08/13/02	Pump	Disposable bailer	40 gallons
	Maritan	Semi-annual event	02/11/02	Pump	Disposable bailer	40 gallons
07-M M	INTOTILOFILIS	Annual event	08/13/02	Pump	Disposable bailer	40 gallons
10 /10/	N traitering	Semi-annual event	02/11/02	Hand Bailer	Disposable bailer	8 gallons
17-M M	INIOIIIOI III	Annual event	08/13/02	Hand Bailer	Disposable bailer	8 gallons
MW-22	Monitoring	Annual event	08/14/02	Hand Bailer	Disposable bailer	9 gallons
MW-23	Injection	Not sampled due to use as air sparge well.	NS	NS	NS	0 gallons
NS indicate	NS indicates well was not sampled					654 gallons total

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4.0 Groundwater Elevations, Hydraulic Gradient and Flow Direction

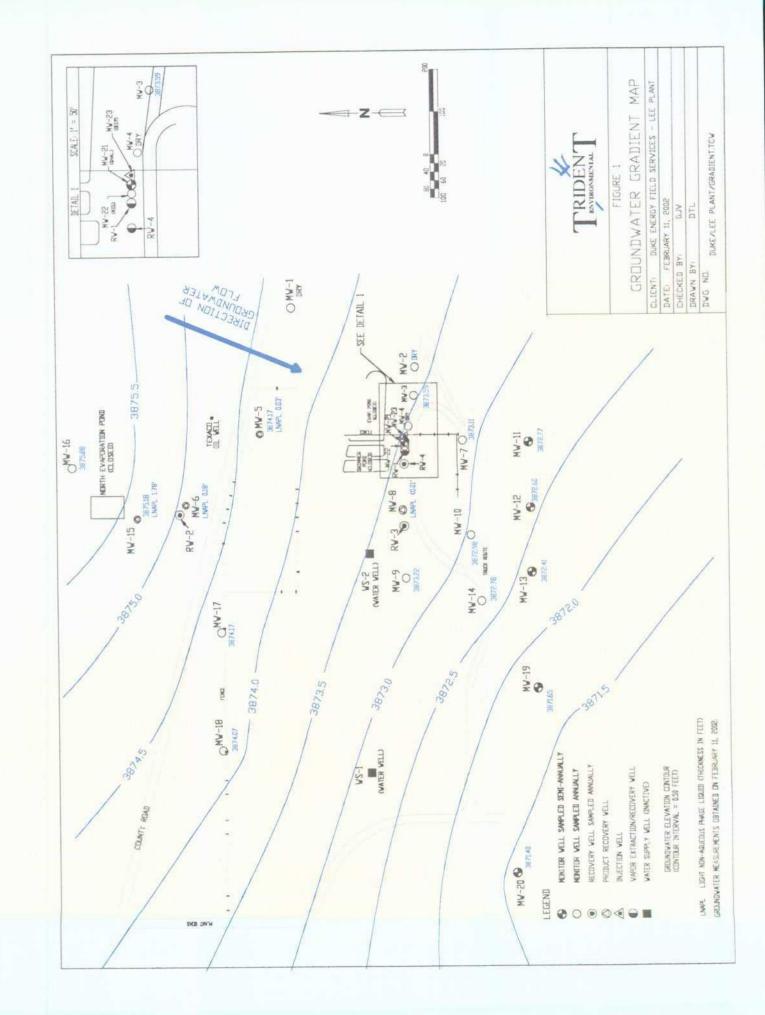
Based on the most recent gauging data collected by Trident on August 13, 2002, the groundwater conditions at the Lee Gas Plant are characterized below.

- The depth to the water table across the site varies from approximately 105 to 112 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 2002 sampling events are presented in Figure 1A (February 11, 2002) and Figure 1B (August 13, 2002). Groundwater elevations and depth to water measurements for the year 2002 are summarized in Table 2.

The direction of groundwater flow and hydraulic gradient has remained consistent for the past thirteen 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 of this report.

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



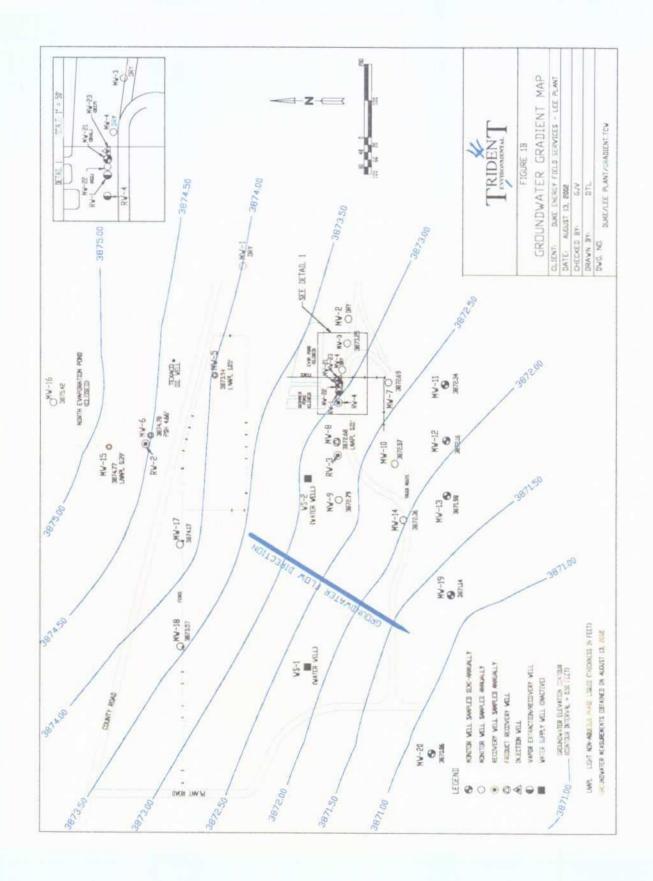
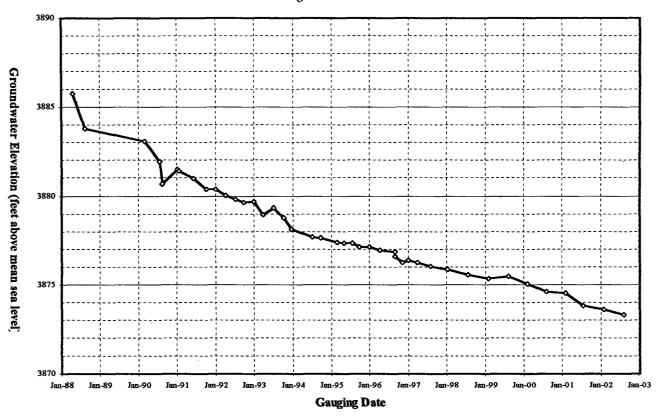


Table 2						
2002 Groundwater Elevations						
	Duke Energy Field Services - Lee Plant					
1		Relative	Depth to	Relative	Phase-Separate	
Monitoring	Date	Top of Casing	Groundwater	Groundwater	Hydrocarbon	
Well	Gauged	Elevation	Below Top of	Elevation	Thickness	
		(feet)*	Casing (feet)	(feet)**	(feet)	
MW-1	02/11/02	3979.25	Dry	Dry	0.00	
	08/13/02	3979.25	Dry	Dry	0.00	
MW-2	02/11/02	3980.50	Dry	Dry	0.00	
	08/13/02	3980.50	Dry	Dry	0.00	
MW-3	02/11/02	3980.27	106.68	3873.59	0.00	
	08/13/02	3980.27	107.02	3873.25	0.00	
MW-4	02/11/02	3980.16	Dry	Dry	0.00	
	08/13/02	3980.16	Dry	Dry	0.00	
MW-5	02/11/02	3979.82	105.67	3874.18	0.03	
	08/13/02	3979.82	106.79	3873.94	1.05	
MW-6	02/11/02	3981.79	108.39	3873.55	0.18	
	08/13/02	3981.79	110.83	3874.78	4.66	
MW-7	02/11/02	3978.45	105.34	3873.11	0.00	
	08/13/02	3978.45	105.76	3872.69	0.00	
MW-8	02/11/02	3979.96	107.46	3872.51	0.01	
	08/13/02	3979.96	107.29	3872.68	0.01	
MW-9	02/11/02	3980.17	106.95	3873.22	0.00	
	08/13/02	3980.17	107.38	3872.79	0.00	
MW-10	02/11/02	3979.66	106.68	3872.98	0.00	
	08/13/02	3979.66	107.09	3872.57	0.00	
MW-11	02/11/02	3978.50	105.73	3872.77	0.00	
	08/13/02	3978.50	106.16	3872.34	0.00	
MW-12	02/11/02	3978.82	106.22	3872.60	0.00	
	08/13/02	3978.82	106.66	3872.16	0.00	
MW-13	02/11/02	3980.52	108.11	3872.41	0.00	
	08/13/02	3980.52	108.54	3871.98	0.00	
MW-14	02/11/02	3982.23	109.45	3872.78	0.00	
-	08/13/02	3982.23	109.87	3872.36	0.00	
MW-15	02/11/02	3981.70	107.98	3875.27	1.78	
	08/13/02	3981.70	107.27	3874.77	0.39	
MW-16	02/11/02	3980.80	104.92	3875.88	0.00	
	08/13/02	3980.80	105.38	3875.42	0.00	
MW-17	02/11/02	3981.80	107.39	3874.41	0.00	
	08/13/02	3981.80	107.63	3874.17	0.00	
MW-18	02/11/02	3983.10	109.03	3874.07	0.00	
	08/13/02	3983.10	109.53	3873.57	0.00	
MW-19	02/11/02	3980.80	109.15	3871.65	0.00	
	08/13/02	3980.80	109.66	3871.14	0.00	
MW-20	02/11/02	3983.30	111.90	3871.40	0.00	
	08/13/02	3983.30	112.44	3870.86	0.00	



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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 is summarized in Table 3. The BTEX concentration map depicting the February 11, 2002 results are presented in Figure 3A and the BTEX concentration map depicting the August 13 through August 14, 2002 results are presented in Figure 3B. Hydrocarbon concentration and groundwater elevation versus time graphs are grouped 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 Trident on August 13 and 14, 2002, the distribution of hydrocarbons at the Lee Gas Plant is described below.

- BTEX concentrations in the groundwater from the crossgradient monitoring wells (MW-18, MW-21, and MW-22) are below the WQCC standards and laboratory detection limits. The BTEX concentrations in crossgradient monitoring well MW-3 was also below WQCC standards during the semi-annual sampling event, however no samples could be obtained during the annual event due to lack of enough groundwater to obtain a sample. 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 sparge 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, with the exception of MW-14, which has decreased to below the WQCC standard for the first time since August 1998. Toluene, ethylbenzene, and xylene concentrations in all of the wells have remained below the WQCC standards since at least August 1995. The benzene concentrations measured over the past six years in MW-7, MW-10, and MW-16 are generally stable to decreasing while those measured in MW-9 and MW-14, appear to be periodically interrupted by isolated spikes of elevated concentrations. The benzene concentration in MW-17 has increased since August of 1997.
- During the August 13, 2002 monitoring event, light non-aqueous phase liquid (LNAPL) was measured in monitoring wells MW-5 (1.05 feet), MW-6 (4.66 feet), MW-8 (0.01 feet), and MW-15 (0.39 feet).

	<u></u>	Tab	le 3				
BTEX Analytical Results In Groundwater							
Monitoring	Date	Benzene	Toluene	Ethylbenzene	Xylenes		
Well	Sampled	(mg/l)	(mg/l)	(mg/l)	(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		
	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		
MW-3	08/05/98	0.002	<0.001	0.007	<0.001		
	08/19/99	<0.001	<0.001	<0.001 <0.005	<0.001		
	08/16/00	<0.005	<0.005	<0.005	<0.005		
	02/16/01	<0.005	<0.005	<0.005	<0.005 <0.005		
	08/01/01 02/12/02	<0.005 <0.001	<0.005 <0.001	<0.005 <0.001	<0.003 ⊲0.001		
MW-4		o presence of phase-se					
 MW-5	03/27/90	<0.001	0.098		0.043		
141 44 -3	06/27/91	5.00	0.570	0.015	0.043		
	07/30/92	10.0	1.40	0.015	0.038		
	07/21/93	22.0	1.40 7.87	0.039	1.27		
	07/01/94	66.4	17.1	0.630	<1.5		
	04/03/90	<0.001	<0.001	<0.000	<0.001		
IVI W -0	02/13/91	~0.001 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	0.82		
	04/03/90	6.1	0.36	3.9	0.26		
TAT AA - 1	06/27/91	3.2	1.4	0.023	0.13		
	07/30/92	0.001	<0.001	< 0.025	<0.001		
	07/21/93	0.040	0.57	<0.001	<0.001 1.27		
	07/25/94	0.003	0.002	0.001	0.005		
	08/09/95	0.083	0.002	0.001	<0.003		
	08/27/96	1.14	<0.001	<0.002	<0.003		
	08/13/97	1.14	<0.010	<0.010	<0.010 <0.025		
	08/05/98	1.63	<0.023	<0.023	<0.023 <0.010		
	08/19/99	1.65	0.010	0.02	0.010		
	08/19/99	0.036	0.018	<0.02	0.010		
	08/01/01	0.006	<0.005	<0.01	< 0.01		
	08/13/02	0.006	<0.005	<0.003 <0.005	<0.003 <0.005		
MW-8	04/06/90	18	0.83	7.1	0.003		
TAT AA -0	06/27/91	21	1.3	0.012	0.29		
	07/30/92	13	0.38	0.012	0.42		
MW-9	07/30/92	0.006	0.38	0.001	0.002		
TAT AA -2	01/23/91	0.008	0.001	0.001	0.002		
	06/27/91	0.007	0.056	0.003	0.002		
	10/17/91	0.002	0.003	0.003	<0.004 <0.001		
	01/23/92	0.002 ⊲0.001	0.003	0.002	<0.001 <0.001		
	1 11/21/97			<0.003 <0.001	<0.001 <0.001		
		1 <0.001			- NUMUT		
	04/28/92	<0.001 0 31	0.001				
	04/28/92 07/30/92	0.31	0.004	0.010	0.003		
	04/28/92	I	1				

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Table 3 BTEX Analytical Results In Groundwater							
Well	Sampled	(mg/l)	(mg/l)	(mg/l)	(mg/l)		
MW-9	07/21/93	0.673	0.314	0.029	0.069		
1	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		
	08/01/01	4.88	⊲0.1	<0.1	<0.1		
	08/14/02	1.57	<0.005	0.013	<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	<0.073 <0.025		
	08/12/97	4.71	<0.050		<0.023		
	08/06/98	4.71		<0.050			
			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		
	08/01/01	3.43	<0.05	<0.05	<0.05		
	08/14/02	7.99	<0.05	<0.05	<0.05		
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		
ľ	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		
1	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		
ļ	10/12/94	<0.001	0.002	⊲0.001	⊲0.003		
l	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 <0.001	<0.003 <0.003		
	10/10/95	<0.001 <0.001	<0.001	<0.001 <0.001	<0.003 <0.001		
1	01/16/96	<0.001 <0.001	<0.001	<0.001 <0.001	<0.001 <0.001		
	04/25/96	<0.001 <0.001	<0.001 <0.001	<0.001 <0.001			
	04/23/96 08/27/96				<0.001		
Į		<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		
ļ	08/12/97	<0.001	<0.001	⊲0.001	⊲0.001		
[01/19/98	<0.001	⊲0.001	⊲0.001	<0.001		
1	08/05/98	<0.001	<0.001	<0.001	<0.001		
	02/15/99	<0.001	<0.001	<0.001	<0.001		
1	08/18/99	<0.001	<0.001	<0.001	<0.001		
ļ	02/16/00	0.001	<0.001	⊲0.001	<0.001		
1	08/16/00	<0.001	<0.001	<0.001	<0.001		
l l	02/16/01	<0.005	<0.005	⊲0.005	<0.005		
}	08/01/01	<0.001	⊲0.001	⊲0.001	<0.001		
	02/11/02	<0.001	<0.001	<0.001	<0.001		
1	08/13/02	⊲0.001	⊲0.001	<0.001	<0.001		

	BTE	X Analytical Res	le 3 sults In Ground	water	
Monitoring	Date	Benzene	Toluene	Ethylbenzene	Xylenes
Well	Sampled	(mg/l)	(mg/l)	(mg/l)	(mg/l)
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	<0.004	< 0.001
	10/17/91	0.002	0.002	<0.002 <0.001	<0.003 <0.001
ł	01/23/92	<0.004	<0.003	<0.001	<0.001 <0.001
1	01/23/92				<0.001 <0.001
1		<0.001	<0.001	<0.001	
1	07/30/92	0.018	0.004	0.001	0.001
1	10/21/92	0.064	0.130	0.024	0.056
1	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
1	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 <0.001
	11/20/96	<0.001	<0.001 <0.001	<0.001 <0.001	<0.001 <0.001
1				1 1	
	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
4	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
	02/15/01	<0.005	<0.005	<	<0.005
	07/31/01	<0.001	<0.001	<0.001	<0.001
	02/11/02	0.001	<0.001	<0.001	<0.001
1	08/13/02	⊲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 <0.001
				1 1	
	07/30/92	<0.001	<0.001 0.150	<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 ⊲0.001
	04/25/96	<0.001	<0.001 <0.001	<0.001	<0.001 <0.001
	08/27/96	<0.001 <0.001	1	<0.001	
	08/27/96		<0.001	1 1	<0.001
		<0.001	<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
1	08/12/97	<0.001	<0.001	⊲0.001	<0.001
	01/20/98	<0.001	<0.001	<0.001	<0.001

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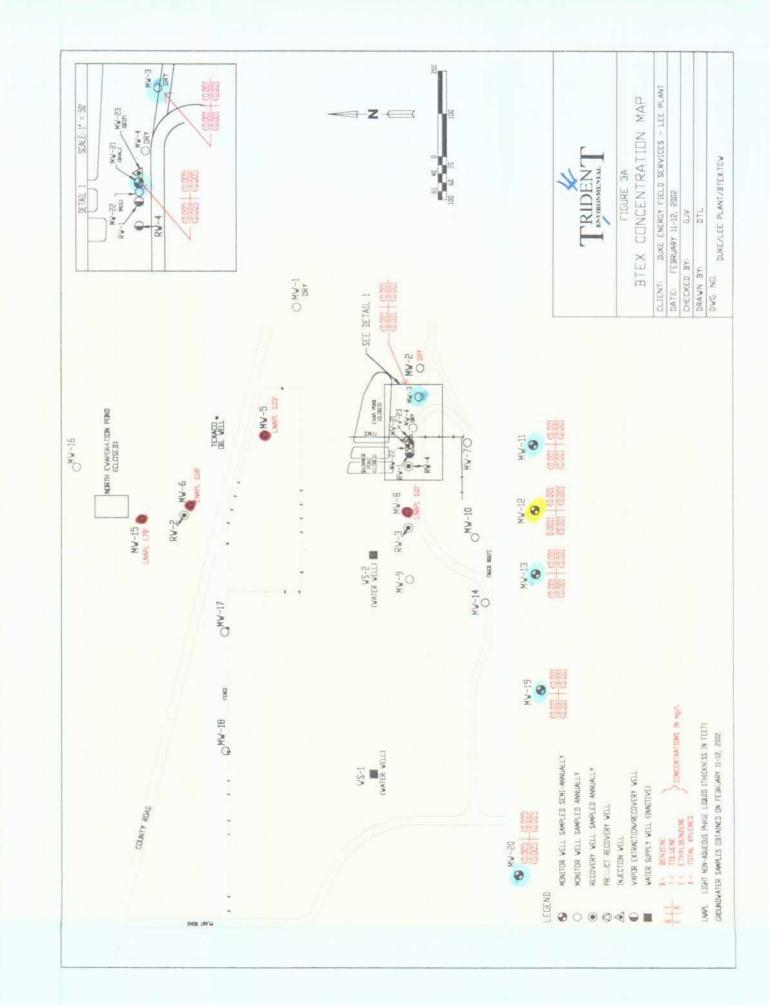
		Tab	le 3		
	вте	X Analytical Res	ults In Ground	water	
Monitoring	Date	Benzene	Toluene	Ethylbenzene	Xylenes
Well	Sampled	(mg/l)	(mg/l)	(mg/l)	(mg/l)
MW-13	08/05/98	<0.001	< 0.001	<0.001	<0.001
	02/15/99	<0.001	<0.001	<0.001	<0.001
	08/18/99	<0.001	<0.001	<0.001	<0.001
	02/16/00	<0.001	<0.001	<0.001	<0.001
	08/15/00	<0.001	<0.001	<0.001	<0.001
	02/15/01	<0.005	<0.005	<0.005	<0.005
	07/31/01	<0.001	<0.001	<0.001	<0.001
	02/11/02	<0.001	<0.001	<0.001	<0.001
	08/13/02	0.003	<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 08/13/97	3.79	<0.025	0.050	<0.025 <0.050
	08/06/98	3.42 0.002	<0.050 <0.001	<0.050 <0.001	<0.050 <0.001
	08/19/99	0.024	<0.001	<0.001	<0.001 <0.001
	08/17/00	0.284	<0.001	<0.001	<0.001
	08/01/01	1.94	<0.005	0.006	<0.005
	08/14/02	<0.001	<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 08/13/97	0.724 0.891	0.166 0.216	0.035 0.042	0.021 0.081
	08/06/98	1.950	0.304	0.042	0.081
	08/20/99	0.454	0.053	<0.005	0.034
	08/17/00	0.076	0.003	0.001	0.003
	08/01/01	0.018	<0.005	<0.005	< 0.005
	08/14/02	0.016	<0.001	<0.001	<0.001
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
1	08/13/97	0.002	<0.001	<0.001	<0.001
	08/06/98	<0.001	<0.001	<0.001	<0.001
ļ	08/19/99	0.028	0.002	<0.001	<0.001
	08/16/00	0.037	<0.005	<0.005	<0.005
	08/01/01 08/14/02	0.148	<0.005	<0.005 <0.001	<0.005 <0.001
MW-18	10/28/91	<u>0.015</u> <0.001	<0.001 0.001	<0.001 <0.001	<0.001
141 44 - 10	07/30/92	0.023	0.001	0.001	0.001
	07/20/93	0.011	0.029	<0.002 <0.002	0.012
	01/06/94	< 0.001	0.023	<0.002	<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
1	08/05/98	<0.001	<0.001	<0.001	<0.001
	08/19/99	<0.005	<0.005	<0.005	<0.005
Í	08/16/00	<0.005	<0.005	<0.005	<0.005 <0.005
	08/01/01	<0.005	<0.005	<0.005	<0.005

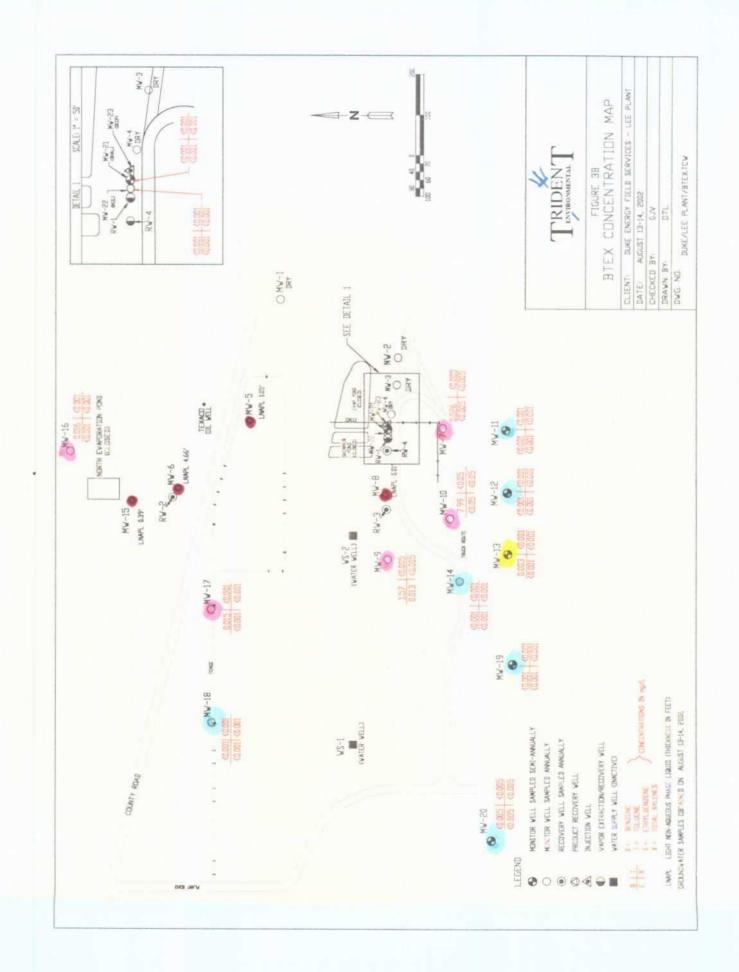
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Table 3							
BTEX Analytical Results In Groundwater							
Monitoring	Date	Benzene	Toluene	Ethylbenzene	Xylenes		
Well	Sampled	(mg/l)	(mg/l)	(mg/l)	(mg/i)		
MW-19	10/25/91	<0.001	0.001	<0.001	<0.001		
	07/30/92	0.014	0.004	0.002	0.001		
	07/20/93	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		
ĺ	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 08/27/96	<0.001 <0.001	<0.001 <0.001	<0.001 <0.001	<0.001 <0.001		
	11/20/96		<0.001		<0.001 <0.001		
	01/21/97	<0.001 <0.001	<0.001	<0.001 <0.001	<0.001 <0.001		
	01/21/97 04/17/97	<0.001 <0.001	<0.001 <0.001	<0.001 <0.001	<0.001 <0.001		
	08/12/97	<0.001 ⊲0.001	<0.001	<0.001 <0.001	<0.001 <0.001		
	01/20/98	<0.001 <0.001	<0.001	<0.001 <0.001	<0.001		
	08/05/98	<0.001	<0.001	<0.001	<0.001		
	02/15/99	<0.001 <0.005	< 0.001	<0.001	<0.001		
	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		
	02/15/01	<0.005	<0.005	<0.005	<0.005		
	07/31/01	<0.001	<0.001	<0.001	<0.001		
	02/11/02	<0.001	⊲0.001	<0.001	<0.001		
	08/13/02	<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 <0.003		
	03/16/95	0.001	0.001	<0.001	<0.003 0.006		
	06/24/95	<0.001	<0.008	<0.001 <0.001	0.008		
	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		
	02/15/01	<0.005	< 0.005	<0.005	<0.005		
	07/31/01	<0.001	<0.003 <0.001	0.002	0.002		
	02/11/02	<0.001	<0.001	< 0.002	<0.002		
	V = 1 1 / V &	-0.005	~~~~~	~~.~~	~0.005		

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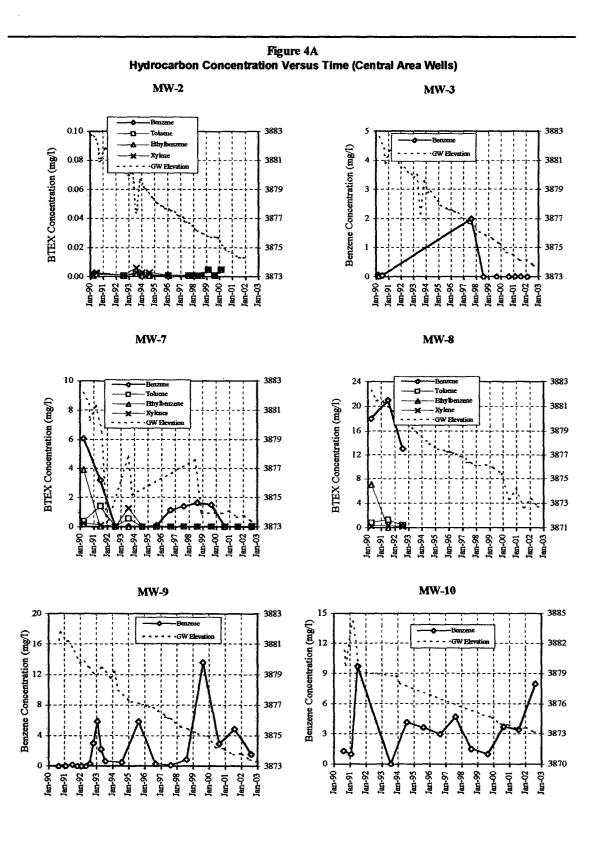
	RTE	Tab X Analytical Res		water	
Monitoring	Date	Benzene	Toluene	Ethylbenzene	Xylenes
Well	Sampled	(mg/l)	(mg/l)	(mg/l)	(mg/l)
MW-21	07/20/93	37	5		< <u>(iiig)1)</u>
1111 21	04/23/94	0.007	<0.001	<0.001	<0.003
	05/04/94	0.517	0.052	<0.001	<0.003
	07/26/94	0.078	0.052	<0.001	0.011
	03/16/95	0.042	<0.001	<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	<0.001
	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	<0.001	<0.005	< 0.005	<0.001
	08/16/00	<0.005	<0.005	< 0.005	<0.005
	02/16/01	< 0.005	< 0.005	<0.005	<0.005
	08/01/01	<0.005	<0.005	<0.005	<0.005
	02/11/02	< 0.005	< 0.005	<0.005	<0.005
	08/14/02	<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
	08/16/00	<0.005	<0.005	<0.005	<0.005
	07/31/01	<0.001	<0.001	<0.001	<0.001
	08/14/02	<0.001	<0.001	<0.001	<0.001
MW-23	07/20/93	0.190	0.130	0.010	0.046
	08/13/97	<0.001	<0.001	<0.001	<0.001
WS-1	Mar-90	0.015	0.004	0.002	0.004
	08/10/90	0.010	0.001	0.001	0.001
	06/27/91	0.007	<0.002	<0.002	<0.003
	01/23/92	0.110	0.020	0.020	0.010
	07/30/92	0.015	0.003	0.003	0.002
	04/15/93	0.007	0.003	0.002	0.002
	07/26/94	0.020	<0.001	0.002	<0.003
WS-2	Mar-90	0.007	<0.001	0.001	<0.001
	06/27/91	0.280	0.027	0.002	0.003
	01/23/92	0.010	<0.001	<0.001	<0.001
	07/30/92	0.46	0.011	0.005	0.002
	04/15/93	1.6	<0.001	0.019	0.014
RW-1	04/04/90	2.6	0.32	0.58	0.19
CC Standards	(mall)	0.010	0.75	0.75	0.62



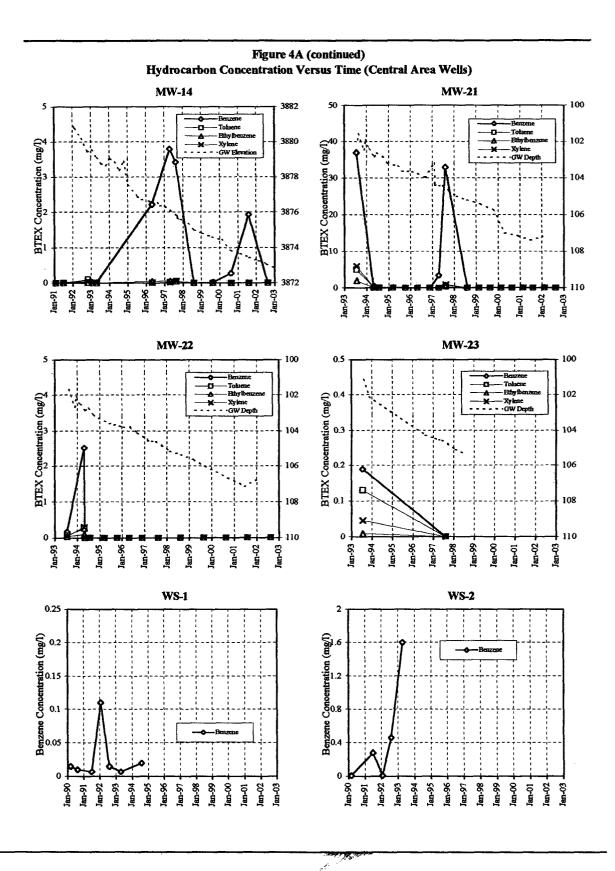




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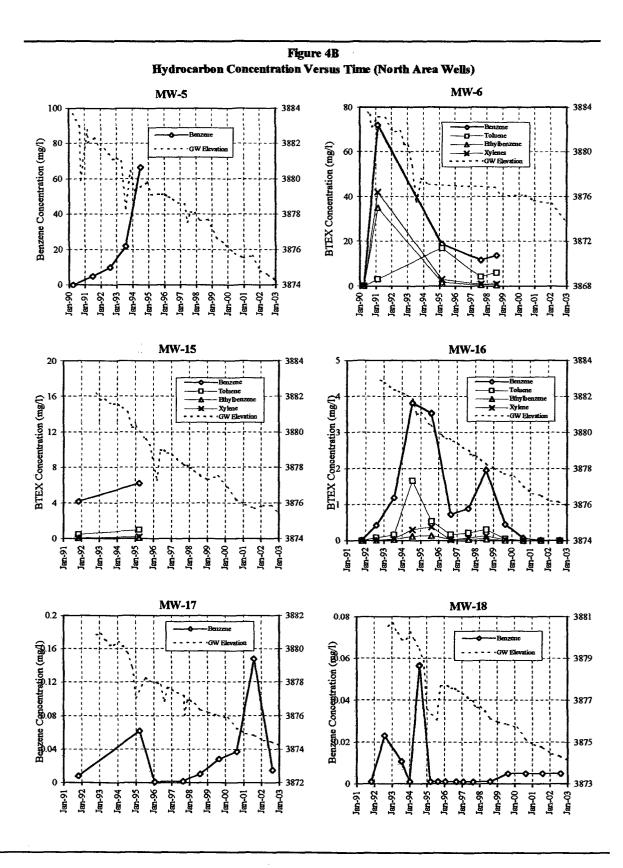


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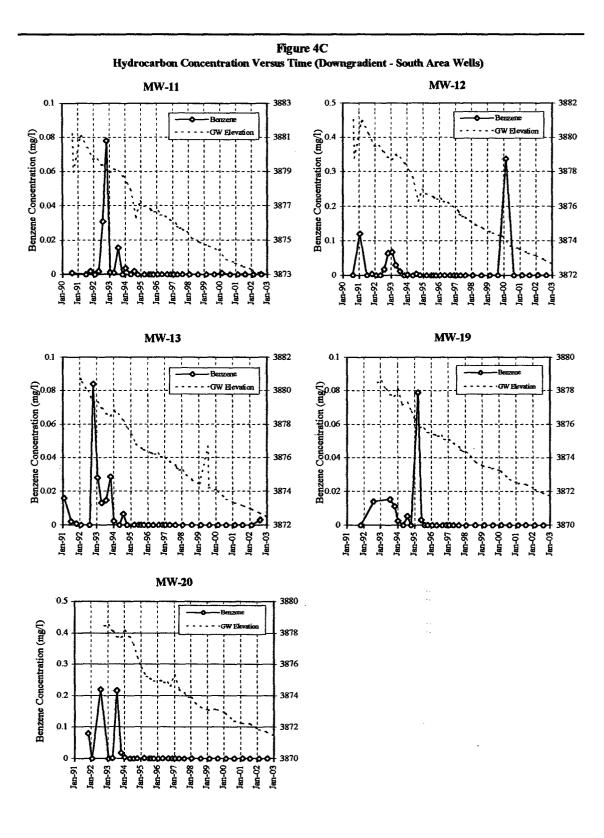


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6.0 Monitoring Natural Attenuation

During biodegradation, dissolved BTEX is ultimately transformed into carbon dioxide, methane, and water. Biodegradation of BTEX dissolved in groundwater results in a reduction of contaminant concentration (and mass) and slowing (retardation) of the contaminant relative to the average advective groundwater flow velocity. Indigenous hydrocarbon-degrading microorganisms transform available nutrients into forms useful for energy and cell reproduction by facilitating the transfer of electrons from donors to acceptors. This results in oxidation of the electron donor and reduction of the electron acceptor. Electron donors include natural organic material and petroleum hydrocarbons. Electron acceptors are elements or compounds that occur in relatively oxidized states. The more important electron acceptors in groundwater, in order of utilization, include dissolved oxygen, (DO), nitrate (NO₃), ferric iron (Fe³⁺), sulfate (SO₄), and carbon dioxide (CO₂).

Biodegradation causes measurable changes in groundwater geochemistry. During aerobic respiration, oxygen is reduced to water, and dissolved oxygen concentrations decrease. In anaerobic systems where nitrate is an electron acceptor, the nitrate is reduced (denitrification) to NO_2^- , N_2O , NO, NH^{4+} , or N_2 , and nitrate concentrations decrease. In anaerobic systems where ferric iron (Fe³⁺) is an electron acceptor, it is reduced (iron reduction) to ferrous iron (Fe²⁺), and Fe²⁺ concentrations increase. In anaerobic systems where sulfate is an electron acceptor, it is reduced to hydrogen sulfide (H₂S), and sulfate concentrations decrease (sulfate reduction). In anaerobic systems where CO₂ is used as an electron acceptor, methanogenic bacteria reduce it (methanogenosis) to methane (CH₄).

Using the stoichiometric derivations, the mass of benzene degraded per unit mass of electron acceptor utilized and metabolic byproduct produced was calculated to determine the biodegradation capacity of these constituents relative to the highest observed benzene concentration on site. A conservative approach was taken in this analysis in that microbial cell mass production was not taken into account for nitrate or sulfate and only average concentrations of electron acceptors and metabolic byproducts were used. The table below summarizes this comparison.

Electron Acceptor/ Byproduct	Terminal Electron Accepting Process (in order of preferred utilization)	Trend in Analyte Concentration During Biodegradation	Mass of benzene Degraded per unit mass of Electron Acceptor Utilized	Mass of benzene Degraded per unit mass of Metabolic Byproduct Produced	Average Concentrations of Electron Acceptors/ Byproducts (mg/L)	Biodegradation Capacity of Electron Acceptors/ Byproducts (mg/L)		
DO	Aerobic Respiration	Decreases	0.97		3.04	2.95		
NO3*	Denitrification	Decreases	0.21		1.65	0.35		
Fe ²⁺	Ferric Iron Reduction	Increases		0.046	1.68	0.08		
SO4*	Sulfate Reduction	Decreases	0.22		34.8	7.66		
				Total Biodegr	adation Capacity	11.03		
	Highest Benzene Concentration Observed on site (MW-7) During 2002 Annual Sampling Event 7.99							
Degradation of	* Concervative assumption (does not take into account microbial cell mass production) Degradation capacity based on values provided by "Technical Protocol for Implementing Intrinsic Remediation With Long-Term Monitoring of Natural Attenuation of Fuel-Contamination Dissolved in Groundwater"							

(Volume 1, 1995, Air Force Center for Environmental Excellence, Technology Transfer Division)

Our suite of biological parameters included dissolved oxygen, nitrate, sulfate, total dissolved iron, ferrous iron, and manganese. These electron acceptor results are summarized in Table 4.

TRIDENT

Monitoring Well	Dissolved Oxygen (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Total Iron (mg/L)	Ferrous Iron (mg/L)	Manganese (mg/L)
MW-7	2.86	<1.0	28.2	0.490	0.55	2.07
MW-9	1.68	3,60	11.0	7.06	9.70	1.68
MW-10	1.57	4.80	16.5	8.22	8.44	3.27
MW-11	1.90	2.27	30.3	< 0.050	0.03	0.906
MW-12	1.58	<1.0	22.4	0,086	0.07	0.494
MW-13	2.47	<1.0	8.75	0.143	0.10	2.32
MW-14	2.21	2.00	79.0	2.93	2.52	7.39
MW-16	2.53	2.10	59.2	<0.050	0.08	0.062
MW-17	1.72	0.60	48.0	0.590	0.68	0.362
MW-18	1.30	<1.0	61.4	< 0.050	0.08	0.387
MW-19	2.78	3.19	16.9	< 0.050	0.03	0.034
MW-20	5.56	1.67	44.9	< 0.050	0.16	< 0.025
MW-21	6.45	1.40	13.7	< 0.050	0.33	< 0.025
MW-22	7.91	1.50	46.3	0.453	0.72	0.063

 Table 4

 Summary of Biological Parameters

 Samples Collected on August 13-14, 2002

Dissolved Oxygen (DO) readings obtained with Horiba Model U-10 meter.

Monitoring wells not listed above were not analyzed for these constituents due to the presence of light non-aqueous phase liquids (LNAPL).

Generally, hydrocarbon-impacted wells are compared against upgradient and downgradient wells to observe whether or not significant differences are observed in electron acceptor concentrations that may be related to subsurface biodegradation. The relationships in the electron acceptor data are observed:

- Generally, dissolved oxygen levels are lower within the hydrocarbon-impacted plume area compared to the downgradient and upgradient wells indicating active aerobic biodegradation conditions.
- The presence of nitrate and sulfate as electron acceptors indicate their availability to microorganisms in the course of hydrocarbon degradation.
- Significantly higher concentrations of the metabolic byproducts iron and manganese in hydrocarbon-impacted wells indicates iron and manganese reduction conditions that are the result of anaerobic biodegradation processes.
- The biodegradation capacity of electron acceptors and metabolic byproducts (11.03 mg/L) exceeds the highest benzene concentration (7.99 mg/L) observed on site (MW-7) during the 2002 annual groundwater sampling event. This indicates that the biodegradation process will continue.



7.0 Remediation System Performance

The estimated total fluid extraction volumes from the remediation system recovery wells, for the first quarter of 2002 through the fourth quarter of 2002, are summarized in Table 4. A graphical representation of monthly groundwater recovery volumes for the period of record (January 1, 2002 through December 31, 2002) is depicted in Figure 5. A total of 5,259,575 gallons of groundwater was recovered by the three recovery wells (RW-2, RW-3, and RW-4) during the period of record.

The Xitech product recovery system remains operational at MW-6. LNAPL has also been observed in monitoring wells MW-5, MW-8, and MW-15, therefore passive bailers, absorbent socks, and hand bailing methods have 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 – 2 hp) at RW-1 has been in operation since August 1993. Air sparging is accomplished by means of a 1 HP Gast® Piston air compressor. Air sparging 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 2001 through December 2002 is provided in Table 5. A total of 347 gallons of measurable free product was recovered during the period of record.

The following repairs were performed on the remediation system at Lee Gas plant:

- 01-15-02 Installed new Coyote pump off control box at RW-3.
- 01-23-02 Installed repaired Xitech pump in MW-6 and secondary containment for PRT.
- 02-12-02 Replaced faceplate on flow meter at RW-4.
- 03-06-02 Repaired plugged discharge line at RW-2.
- 05-14-02 Replaced faceplate on flow meter at RW-2.
- 07-12-02 Replaced faceplate and battery on flow meter at RW-3.
- 08-14-02 Replaced faceplate on flow meter at RW-4.
- 09-20-02 Installed new GPI flowmeters at RW-2, RW-3, and RW-4. Installed new 2-inch diameter passive bailer in MW-15.
- 10-18-02 Bailed sand buildup from RW-2, RW-3 and RW-4. Replaced worn-out pumps with new Meyers ½ HP submersible pump in RW-3 and RW-4. Installed new 3-inch diameter passive bailer in MW-5.
- 10-24-02 Sections of total fluids discharge lines from RW-2 and RW-3 were upgraded with HDPE line and re-routed. Replaced battery for Xitech PRS at MW-6.

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Currently, the air sparging/vapor extraction system at MW-23 and the groundwater recovery system in wells RW-2, RW-3, and RW-4 are operating properly. The Xitech product recovery system in MW-6, the

	Duke Ener	gy Field Service	es - Lee Gas Plan	it		
Month - Year	Gallons of Groundwater Recovered					
Monui - Tear	RW-2	RW-3	RW-4	Monthly Totals		
Jan-02	34,486	145,651	212,414	392,551		
Feb-02	49,671	157,755	131,893	339,319		
Mar-02	187,929	151,347	125,599	464,875		
Apr-02	216,923	86,331	179,461	482,715		
May-02	175,637	136,512	169,018	481,167		
Jun-02	241,908	157,579	162,558	562,045		
Jul-02	110,661	46,570	199,978	357,209		
Aug-02	89,290	65,232	161,095	315,617		
Sep-02	79,440	46,570	136,338	262,348		
Oct-02	28,687	42,487	133,095	204,268		
Nov-02	53,296	274,762	342,953	671,011		
Dec-02	69,905	281,118	375,426	726,450		
Well Totals	1,337,833	1,591,913	2,329,828	5,259,575		

Table 5Total Fluids Extraction Volumes for 1/1/02-12/31/02Duke Energy Field Services - Lee Gas Plant

absorbent socks in MW-8, and the passive bailers in MW-5 and MW-15 are also operating properly.

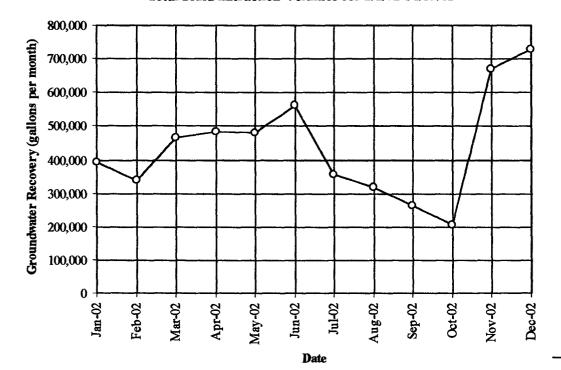


Figure 5 Total Fluid Extraction Volumes for 1/1/02-12/31/02



	Duke I	Energy Field Se	ervices - Lee Ga	s Plant					
Month - Year	Measurable Free Product Recovered (gallons)								
Monun - Tear	MW-5	MW-6*	MW-8	MW-15	Monthly Totals				
Oct-01	0.60	13.0	0.25	4.12	18.0				
Nov-01	0.67	56.0	0.10	0.92	57.7				
Dec-02	2.37	49.0	0.12	2.63	54.1				
Jan-02	1.05	3.0	0.05	1.49	5.6				
Feb-02	0.96	31.0	0.05	1.74	33.7				
Mar-02	0.35	0.0	0.12	1.24	1.7				
Apr-02	0.00	4.5	0.00	0.80	5.3				
May-02	0.83	24.0	0.00	0.70	25.5				
Jun-02	0.66	29.0	0.02	0.57	30.2				
Jul-02	0.29	21.0	0.00	0.53	21.8				
Aug-02	0.71	12.5	0.01	0.39	13.6				
Sep-02	0.82	7.0	0.12	0.39	8.3				
Oct-02	1.06	53.0	0.11	0.66	54.8				
Nov-02	0.92	9.0	0.03	0.39	10.3				
Dec-02	0.69	5.0	0.00	0.33	6.0				
Well Totals	12.0	317.0	1.0	16.9	347				

Table 6

Measurable Free Product Recovery Volumes for 10/01/01-12/16/02

* 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



8.0 Conclusions

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 crossgradient monitoring wells MW-18, MW-21, and MW-22 are below the WQCC standards and laboratory detection limits. The BTEX concentrations in crossgradient monitoring well MW-3 was also below WQCC standards during the semi-annual sampling event, however no samples could be obtained during the annual event due to lack of enough groundwater to obtain a sample. The hydrocarbon concentrations from these monitoring wells have remained below the WQCC standards since at least August 1998. Decreasing levels observed in MW-2, MW-3, MW-21, and MW-22 are due to the successful air sparge 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, with the exception of MW-14, which has decreased to below the WQCC standard for the first time since August 1998. Toluene, ethylbenzene, and xylene concentrations in all of the wells have remained below the WQCC standards since at least August 1995. The benzene concentrations measured over the past six years in MW-7, MW-10, and MW-16 are generally stable to decreasing while those measured in MW-9 and MW-14, appear to be periodically interrupted by isolated spikes of elevated concentrations. The benzene concentration in MW-17 has increased since August of 1997.
- During the August 13, 2002 monitoring event, light non-aqueous phase liquid (LNAPL) was measured in monitoring wells MW-5 (1.05 feet), MW-6 (4.66 feet), MW-8 (0.01 feet), and MW-15 (0.39 feet).
- A total of 5,259,575 gallons of groundwater was recovered by three recovery wells during the 1-year period of record (January 1, 2002 through December 31, 2002).
- The hydraulic gradient is approximately 0.0035 feet/foot and the direction of 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.



9.0 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 LNAPL recovery at MW-6 with the Xitech system.
- Continue free product recovery from MW-5, MW-8, and MW-15 using passive bailers and/or hydrophobic adsorbent socks, and hand bailing methods as appropriate.
- Continue the program of monitoring natural attenuation that includes the analysis of dissolved oxygen (DO), nitrate (NO₃), sulfate (SO₄), ferric iron (Fe³⁺), ferrous iron (Fe²⁺), and manganese (Mn) to assess the efficacy of intrinsic bioremediation processes occurring on site.
- Continue the sampling and monitoring program on a semi-annual basis. The next sampling event is scheduled during the first quarter of 2003.

Appendix A

Laboratory Analytical Reports

and

Chain-of-Custody Documentation

TraceAnalysis, Inc.

Gil Van Deventer Trident Environmental

P.O. Box 7624 Midland, Tx. 79708 Lubbock, TX 79424-1515

(806) 794-1296

Report Date: February 18, 2002 Order Number: A02021412CC # V-101Duke Energy Field Services

Page Number: 1 of 1 Lee Gas Plant

Summary Report

Report Date:

February 18, 2002

Order ID Number: A02021412

Project Number:CC # V-101Project Name:Duke Energy Field ServicesProject Location:Lee Gas Plant

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
190958	MW-20	Water	2/11/02	11:20	2/14/02
190959	MW-19	Water	2/11/02	12:45	2/14/02
190960	MW-13	Water	2/11/02	14:00	2/14/02
190961	MW-12	Water	2/11/02	15:30	2/14/02
190962	MW-11	Water	2/11/02	16:30	2/14/02
190963	MW-21	Water	2/11/02	17:45	2/14/02
190964	MW-3	Water	2/11/02	9:30	2/14/02
190965	Duplicate	Water	2/11/02	:	2/14/02
190966	Rinsate	Water	2/11/02	17:00	2/14/02

0 This report consists of a total of 1 page(s) and is intended only as a summary of results for the sample(s) listed above.

			BTEX		
	Benzene	Toluene	Ethylbenzene	M,P,O-Xylene	Total BTEX
Sample - Field Code	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
190958 - MW-20	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
190959 - MW-19	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
190960 - MW-13	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
190961 - MW-12	0.0011	< 0.001	< 0.001	< 0.001	0.0011
190962 - MW-11	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
190963 - MW-21	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
190964 - MW-3	< 0.001	< 0.001	< 0.001	<0.001	< 0.001
190965 - Duplicate	< 0.001	< 0.001	< 0.001	<0.001	< 0.001
190966 - Rinsate	< 0.001	< 0.001	< 0.001	<0.001	< 0.001

800 • 378 • 1296 806 • 794 • 1296 FAX 806 • 794 • 1298 6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 915 • 585 • 3443 FAX 915•585•4944 El Paso, Texas 79932 888 • 588 • 3443 155 McCutcheon, Suite H E-Mail: lab@traceanalysis.com Analytical and Quality Control Report Gil Van Deventer February 18, 2002 Report Date: **Trident Environmental** P.O. Box 7624 Midland, Tx. 79708 Order ID Number: A02021412 **Project Number:** CC # V-101 **Project Name: Duke Energy Field Services** Project Location: Lee Gas Plant Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc. Date Time Date Received Sample Description Matrix Taken Taken 190958 **MW-20** Water 2/11/02 11:20 2/14/02190959 **MW-19** Water 2/11/02 12:45 2/14/02190960 MW-13 Water 2/11/0214:002/14/02 190961 **MW-12** Water 2/11/02 15:302/14/02 190962 **MW-11** Water 2/11/02 16:302/14/02 190963 **MW-21** Water 2/11/02 17:45 2/14/02 190964 MW-3 Water 9:30 2/14/02 2/11/02 190965 Duplicate Water 2/11/02 2/14/02 : 190966 Rinsate Water 2/11/02 17:00 2/14/02

0

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. Note: the RDL is equal to MQL for all organic analytes including TPH.

This report consists of a total of 7 pages and shall not be reproduced except in its entirety including the chain of custody (COC), without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Analytical Report

Sample: 190958 - MW-20

Analysis: Analyst:	BTEX CG	Analytical Meth Preparation Me	nod: S 8021B thod: S 5030B	QC Batch: Prep Batch:	QC18147 PB17681	Date Analyzed: Date Prepared:	2/14/02 2/14/02	
rinaryst.	οu	I Toparation Me		Ttep Daten.	I DIVOI	Date i Teparea.	2/11/02	
Param Flag		Flag	Result	Units	Dilution		RDL	
Benzene			< 0.005	mg/L	5		0.001	
Toluene			< 0.005	mg/L		5	0.001	
Ethylbenze	ene		< 0.005	mg/L		5	0.001	
M,P,O-Xyl	ene	,	< 0.005	mg/L		5	0.001	
Total BTE	X		< 0.005	mg/L		5	0.001	

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.093	mg/L	5	0.10	93	70 - 130
4-BFB		0.097	mg/L	5	0.10	97	70 - 130

Sample: 190959 - MW-19

Analysis: Analyst:	BTEX CG	Analytical Method: Preparation Method		QC Batch: Prep Batch:	QC18147 PB17681	Date Analyzed: Date Prepared:	2/14/02 2/14/02
Param		Flag	Result	Units	Dil	ution	RDL
Benzene		······································	< 0.001	mg/L		1	0.001
Toluene			< 0.001	mg/L		1	0.001
Ethylbenze	ene		< 0.001	mg/L		1	0.001
M,P,O-Xyl	lene		< 0.001	mg/L		1	0.001
Total BTE	X		< 0.001	mg/L		1	0.001

					Spike	Percent	Recovery
Surrogate	Flag	Result	\mathbf{Units}	Dilution	Amount	Recovery	Limits
TFT		0.100	mg/L	1	0.10	100	70 - 130
4-BFB		0.102	mg/L	1 .	0.10	102	70 - 130

Sample: Analysis: Analyst:	19096 BTEX CG	0 - MW-13 Analytical Method: Preparation Method:	S 8021B S 5030B	QC Batch: Prep Batch:	QC18147 PB17681	Date Analyzed: Date Prepared:	2/14/02 2/14/02
Param		Flag	Result	\mathbf{Units}	Di	ution	RDL
Benzene		<	< 0.001	mg/L	······································	1	0.001
Toluene		<	< 0.001	mg/L		1	0.001
Ethylbenze	ene		<0.001	mg/L		1	0.001
M,P,O-Xyl	ene	<	< 0.001	mg/L		1	0.001
Total BTE		<	< 0.001	mg/L		1	0.001

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
TFT	· · · · · · · · · · · · · · · · · · ·	0.112	mg/L	1	0.10	112	70 - 130
4-BFB		0.111	mg/L	1	0.10	111	70 - 130

Sample: 190961 - MW-12

Analysis: Analyst:	BTEX CG	Analytical Method: Preparation Method:	S 8021B S 5030B	QC Batch: Prep Batch:	QC18147 PB17681	Date Analyzed: Date Prepared:	2/14/02 2/14/02
Param		Flag	Result	Units	Dil	ution	RDL
Benzene			0.0011	mg/L		1	0.001
Toluene			< 0.001	mg/L		1	0.001
Ethylbenzer	ne		< 0.001	mg/L		1	0.001
M,P,O-Xyle	ene		< 0.001	mg/L		1	0.001
Total BTE	X		0.0011	mg/L		1	0.001

					Spike	Percent	Recovery
Surrogate	Flag	\mathbf{Result}	Units	Dilution	Amount	Recovery	Limits
TFT		0.101	mg/L	1	0.10	101	70 - 130
4-BFB		0.106	mg/L	1	0.10	106	70 - 130

Sample: 190962 - MW-11

Analysis: Analyst:	BTEX CG	Analytical Metho Preparation Meth		QC Batch: Prep Batch:	QC18147 PB17681	Date Analyzed: Date Prepared:	2/14/02 2/14/02
Param	Flag Result Units Dilution		RDL				
Benzene			< 0.001	mg/L	1		0.001
Toluene			< 0.001	mg/L		1	0.001
Ethylbenze	ene		< 0.001	mg/L		1	0.001
M,P,O-Xyl	ene		< 0.001	mg/L		1	0.001
Total BTE	X		< 0.001	mg/L		1	0.001

					Spike	Percent	Recovery
Surrogate	Flag	\mathbf{Result}	Units	Dilution	Amount	Recovery	\mathbf{Limits}
TFT		0.0995	mg/L	1	0.10	100	70 - 130
4-BFB		0.103	mg/L	1	0.10	103	70 - 130

Sample: 19096	53 - MW-21					
Analysis: BTEX	Analytical Method:	S 8021B	QC Batch:	QC18147	Date Analyzed	: 2/14/02
Analyst: CG	Preparation Method:	S 5030B	Prep Batch:	PB17681	Date Prepared	: 2/14/02
Param	Flag	Result	Units	Dil	ution	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
						a 1

Report Date: February 18, 2002 CC # V-101 Order Number: A02021412 Duke Energy Field Services

$\dots Continued$	Sample: 190963	Analysis: BTEX			
Param	Flag	Result	Units	Dilution	RDL
M,P,O-Xylene		<0.005	mg/L	5	0.001
Total BTEX		< 0.005	m mg/L	5	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.09	mg/L	5	0.10	90	70 - 130
<u>4-BFB</u>	····	0.094	mg/L	5	0.10	94	70 - 130

Sample: 190964 - MW-3

Analysis: Analyst:	BTEX CG	Analytical Meth Preparation Me	nod: S 8021B hthod: S 5030B	QC Batch: Prep Batch:	QC18147 PB17681	Date Analyzed: Date Prepared:	2/14/02 2/14/02
Param		Flag	Result	Units	Dil	ution	RDL
Benzene			< 0.001	mg/L		1	0.001
Toluene			< 0.001	mg/L		1	0.001
Ethylbenze	ene		< 0.001	mg/L		1	0.001
M,P,O-Xyl	ene		< 0.001	mg/L		1	0.001
Total BTE	X		<0.001	mg/L	·	1	0.001

					Spike	Percent	Recovery
Surrogate	Flag	\mathbf{Result}	Units	Dilution	Amount	Recovery	Limits
TFT		0.0926	mg/L	1	0.10	93	70 - 130
4-BFB		0.0961	mg/L	1	0.10	96	70 - 130

Sample: Analysis: Analyst:	BTEX CG	- Duplicate Analytical Method: Preparation Method:	S 8021B S 5030B	QC Batch: Prep Batch:	QC18147 PB17681	Date Analyzed: Date Prepared:	2/14/02 $2/14/02$
Param		Flag	Result	Units	Dil	ution	RDL
Benzene			< 0.001	mg/L		1	0.001
Toluene			< 0.001	mg/L		1	0.001
Ethylbenze	ne		< 0.001	mg/L		1	0.001
M,P,O-Xyle	ene		< 0.001	mg/L		1	0.001
Total BTE	x		< 0.001	mg/L		1	0.001

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
TFT		0.097	mg/L	1	0.10	97	70 - 130
4-BFB		0.0997	mg/L	1	0.10	100	70 - 130

Sample:	19096	6 - Rinsate					
Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC18147	Date Analyzed:	2/14/02
Analyst:	\mathbf{CG}	Preparation Method:	S 5030B	Prep Batch:	PB17681	Date Prepared:	2/14/02
<u></u>				···		<u> </u>	ntinued

Report Date: February 18, 2002 CC # V-101

Order Number: A02021412 Duke Energy Field Services

Param	Flag	Result	Units	Dilution	RDL
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

					Spike	Percent	Recovery
Surrogate	\mathbf{Flag}	Result	Units	Dilution	Amount	Recovery	Limits
TFT		0.0984	mg/L	1	0.10	98	70 - 130
4-BFB		0.101	mg/L	1	0.10	101	70 - 130

Report Date: February 18, 2002 CC # V-101 Order Number: A02021412 Duke Energy Field Services

Quality Control Report Method Blank

QCBatch: QC18147

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	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.101	mg/L	1	0.10	101	70 - 130
4-BFB		0.107	mg/L	1	0.10	107	70 - 130

Quality Control Report Lab Control Spikes and Duplicate Spikes

Laboratory Control Spikes

QCBatch: QC18147

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
MTBE	0.0963	0.0971	mg/L	1	0.10	< 0.001	96	1	82 - 111	20
Benzene	0.0998	0.101	mg/L	1	0.10	< 0.001	100	1	86 - 106	20
Toluene	0.0995	0.101	mg/L	1	0.10	< 0.001	100	1	82 - 108	20
Ethylbenzene	0.0959	0.0979	mg/L	1	0.10	< 0.001	96	2	86 - 115	20
M,P,O-Xylene	0.273	0.278	mg/L	1	0.30	< 0.001	91	2	79 - 122	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	$\begin{array}{c} \mathbf{LCSD} \\ \mathbf{Result} \end{array}$	Units	Dilution	Spike Amount	LCS % Rec	LCSD % Rec	Recovery Limits
TFT	0.101	0.103	mg/L	1	0.10	101	103	70 - 130
4-BFB	0.126	0.126	mg/L	1	0.10	126	126	70 - 130

Quality Control Report Continuing Calibration Verification Standards

CCV (1)	QCBa	tch: QC18	8147				
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE	·····	mg/L	0.10	0.0978	98	85 - 115	2/14/02
Benzene		mg/L	0.10	0.101	101	85 - 115	2/14/02
							a .: 1

Report Date: February 18, 2002 CC # V-101 Order Number: A02021412 Duke Energy Field Services Page Number: 7 of 7 Lee Gas Plant

... Continued

Param	Flor	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Toluene	Flag	mg/L	0.10	0.100	100	<u>85 - 115</u>	2/14/02
Ethylbenzene		mg/L	0.10	0.0969	97	85 - 115	2/14/02 2/14/02
M,P,O-Xylene		mg/L	0.30	0.275	92	85 - 115	2/14/02

CCV (2) QCBatch: QC18147

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/L	0.10	0.098	98	85 - 115	2/14/02
Benzene		mg/L	0.10	0.1	100	85 - 115	2/14/02
Toluene		mg/L	0.10	0.099	99	85 - 115	2/14/02
Ethylbenzene		mg/L	0.10	0.096	96	85 - 115	2/14/02
M,P,O-Xylene		$\mathrm{mg/L}$	0.30	0.271	90	85 - 115	2/14/02

ICV (1) Q

QCBatch: QC18147

			CCVs	CCVs	\mathbf{CCVs}	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	\mathbf{Units}	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/L	0.10	0.097	97	85 - 115	2/14/02
Benzene		mg/L	0.10	0.100	100	85 - 115	2/14/02
Toluene		mg/L	0.10	0.100	100	85 - 115	2/14/02
Ethylbenzene		m mg/L	0.10	0.0958	96	85 - 115	2/14/02
M,P,O-Xylene		mg/L	0.30	0.273	91	85 - 115	2/14/02

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Gil Van Deventer **Trident Environmental**

P.O. Box 7624 Midland, Tx. 79708 Lubbock, TX 79424-1515

Report Date: August 23, 2002 Order Number: A02081620 CC # V-101 **Duke Energy Field Services** Page Number: 1 of 2 Lee Gas Plant

Summary Report

Report Date:

August 23, 2002

Order ID Number: A02081620

Project Number: CC # V-101 **Duke Energy Field Services Project Name:** Project Location: Lee Gas Plant

		2	Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
205425	MW-17	Water	8/14/02	9:12	8/16/02
205426	MW-16	Water	8/14/02	10:10	8/16/02
205427	MW-22	Water	8/14/02	10:50	8/16/02
205428	MW-14	Water	8/14/02	11:15	8/16/02
205429	MW-21	Water	8/14/02	12:00	8/16/02
205430	MW-9	Water	8/14/02	18:05	8/16/02
205431	MW-10	Water	8/14/02	19:10	8/16/02
205432	duplicate	Water	8/14/02	14:14	8/16/02
205433	Rinsate	Water	8/14/02	17:40	8/16/02
205434	Field Blank	Water	8/14/02	9:00	8/16/02

0 This report consists of a total of 2 page(s) and is intended only as a summary of results for the sample(s) listed above.

			BTEX	•	
	Benzene	Toluene	Ethylbenzene	M,P,O-Xylene	Total BTEX
Sample - Field Code	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
205425 - MW-17	0.015	< 0.001	< 0.001	< 0.001	0.015
205426 - MW-16	0.0159	< 0.001	< 0.001	<0.001	0.0159
205427 - MW-22	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
205428 - MW-14	<0.001	< 0.001	<0.001	< 0.001	< 0.001
205429 - MW-21	<0.001	< 0.001	<0.001	<0.001	< 0.001
205430 - MW-9	1.57	< 0.005	0.0126	<0.005	1.58
205431 - MW-10	7.99	< 0.050	<0.050	<0.050	7.99
205432 - duplicate	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
205433 - Rinsate	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
205434 - Field Blank	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

Sample: 205425 - MW-17

Flag	Result	Units
· · · · · · · · · · · · · · · · · · ·	0.590	mg/L
	0.362	mg/L
	Flag	0.590

Trace	Analysi	s, Inc.
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Report Date: August 23, 2002 Order Number: A02081620CC # V-101Duke Energy Field Services

Page Number: 2 of 2 Lee Gas Plant

Sample: 205426 - MW-	16		
Param	Flag	Result	Units
Total Iron		< 0.050	mg/L
Total Manganese		0.062	mg/L

Sample: 205427 - MW-	-22	•	
Param	Flag	Result	Units
Total Iron	······································	0.453	mg/L
Total Manganese		0.0627	mg/L

Sample: 205428 - MW-14

Param	Flag	Result	Units
Total Iron		2.93	mg/L
Total Manganese		7.39	mg/L

Sample: 205429 - MW-21

Param	Flag	Result	Units
Total Iron		<0.050	mg/L
Total Manganese	·	<0.025	mg/L

Sample: 205430 - MW-9

Param	Flag	Result	Units
Total Iron		7.06	mg/L
Total Manganese	· .	1.68	mg/L
· · · · · · · · · · · · · · · · · · ·			

Sample: 205431 - MW-	10	· · ·			. '
Param	Flag		Result		Units
Total Iron		····	8.22		mg/L
Total Manganese	•		3.27	· · · ·	mg/L

Mulul Mulul TraceAnalysis, Inc. Mulul Mulul Mulul

6701 Aberdeen Avenue, Suite 9 155 McCutcheon, Suite H Lubbock, Texas 79424 800 • 378 • 1296 El Paso, Texas 79932 888 • 588 • 3443 E-Mail: lab@traceanalysis.com 806•794•1296 915•585•3443

FAX 806•794•1298 FAX 915•585•4944

Analytical and Quality Control Report

Gil Van Deventer Trident Environmental P.O. Box 7624 Midland, Tx. 79708 Report Date:

August 23, 2002

Order ID Number: A02081620

Project Number:CC # V-101Project Name:Duke Energy Field ServicesProject Location:Lee Gas Plant

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

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
205425	MW-17	Water	8/14/02	9:12	8/16/02
205426	MW-16	Water	8/14/02	10:10	8/16/02
205427	MW-22	Water	8/14/02	10:50	8/16/02
205428	MW-14	Water	8/14/02	11:15	8/16/02
205429	MW-21	Water	8/14/02	12:00	8/16/02
205430	MW-9	Water	8/14/02	18:05	8/16/02
205431	MW-10	Water	8/14/02	19:10	8/16/02
205432	duplicate	Water	8/14/02	14:14	8/16/02
205433	Rinsate	Water	8/14/02	17:40	8/16/02
205434	Field Blank	Water	8/14/02	9:00	8/16/02

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. Note: the RDL is equal to MQL for all organic analytes including TPH.

The test results contained within this report meet all requirements of LAC 33:I unless otherwise noted.

This report consists of a total of 11 pages and shall not be reproduced except in its entirety including the chain of custody (COC), without written approval of TraceAnalysis, Inc.

Note: Samples will be disposed of 30 days from the report date unless the lab is contacted before the 30 days has past.

B

Dr. Blair Leftwich, Director

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Report Date: August 23, 2002 CC # V-101 Order Number: A02081620 Duke Energy Field Services

Analytical Report

Sample:	205425	N // XX7 1 177		,			
-			•			· · · · · ·	
Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC22851	Date Analyzed:	8/16/0
Analyst:	CG	Preparation Method	: S 5030B	Prep Batch:	PB21497	Date Prepared:	8/16/0
Param		Flag	Result	Units	Dilu	tion	RD
Benzene			0.015	mg/L	1	· · · · · · · · · · · · · · · · · · ·	0.00
Toluene			<0.001	mg/L	1		0.00
Ethylbenzen	e		< 0.001	mg/L	1		0.00
M,P,O-Xyler	ne		< 0.001	mg/L	1		0.00
Total BTEX			0.015	mg/L	1		0.00
	,						
					Spike	Percent	Recover
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
TFT		0.0908	mg/L	1	0.10	91	70 - 130
4-BFB			mg/L	11	0.10	86	70 - 130
						•	
а 1	005405	N #337 -1 P	· .				
Sample:		- MW-17	1 . 0.00		0,000,000		0.100.10
Analysis:	Total Meta	v		•	•	Date Analyzed:	8/22/0
Analyst:	RR	Preparation Me	thod: S 30	10A Prep Bate	ch: PB21488	Date Prepared:	8/19/0
Param		Flag	Result	Units	Dilutio	n	RD
Total Iron			0.590	mg/L	1		0.0
Total Manga	anese		0.362	mg/L	1		0.0
				•			
Sample:	205426	- MW-16	· · ·				
Sample:		- MW-16 Analytical Method:	S 8021B	OC Batch	OC22851	Date Analyzed	8/16/0
Analysis:	205426 BTEX CG	- MW-16 Analytical Method: Preparation Method	S 8021B : S 5030B	QC Batch: Prep Batch:	QC22851 PB21497	Date Analyzed: Date Prepared:	
Analysis: Analyst:	BTEX	Analytical Method: Preparation Method	: S 5030B	Prep Batch:	PB21497	Date Prepared:	8/16/0
Analysis: Analyst: Param	BTEX	Analytical Method:	: S 5030B Result	Prep Batch: Units		Date Prepared:	8/16/0 RD
Sample: Analysis: Analyst: Param Benzene Toluene	BTEX	Analytical Method: Preparation Method Flag	: S 5030B Result 0.0159	Prep Batch: Units mg/L	PB21497	Date Prepared:	8/16/0 RD 0.00
Analysis: Analyst: Param Benzene Toluene	BTEX CG	Analytical Method: Preparation Method Flag	: S 5030B Result 0.0159 <0.001	Prep Batch: Units mg/L mg/L	PB21497	Date Prepared:	8/16/0 RD 0.00 0.00
Analysis: Analyst: Param Benzene	BTEX CG	Analytical Method: Preparation Method Flag	: S 5030B Result 0.0159 <0.001 <0.001	Prep Batch: Units mg/L mg/L mg/L	PB21497	Date Prepared:	8/16/0 RD 0.00 0.00 0.00
Analysis: Analyst: Param Benzene Toluene Ethylbenzen M,P,O-Xyler	BTEX CG ne	Analytical Method: Preparation Method Flag	: S 5030B Result 0.0159 <0.001	Prep Batch: Units mg/L mg/L	PB21497	Date Prepared:	8/16/0 RD 0.00 0.00 0.00 0.00
Analysis: Analyst: Param Benzene Toluene Ethylbenzen	BTEX CG ne	Analytical Method: Preparation Method Flag	: S 5030B Result 0.0159 <0.001 <0.001 <0.001	Prep Batch: Units mg/L mg/L mg/L mg/L	PB21497	Date Prepared:	8/16/0 RD 0.00 0.00 0.00 0.00
Analysis: Analyst: Param Benzene Toluene Ethylbenzen M,P,O-Xyler	BTEX CG ne	Analytical Method: Preparation Method Flag	: S 5030B Result 0.0159 <0.001 <0.001 <0.001	Prep Batch: Units mg/L mg/L mg/L mg/L	PB21497 Dilu 1 1 1 1 1 1	Date Prepared: tion	8/16/0 8/16/0 RD 0.00 0.00 0.00 0.00 0.00 0.00
Analysis: Analyst: Param Benzene Toluene Ethylbenzen M,P,O-Xyler Total BTEX	BTEX CG ne	Analytical Method: Preparation Method Flag	: S 5030B Result 0.0159 <0.001 <0.001 <0.001 0.0159	Prep Batch: Units mg/L mg/L mg/L mg/L mg/L	PB21497 Dilu 1 1 1 1 1 1 1 1 1 1 5 5 5 1 8	Date Prepared: tion Percent	8/16/0 RD 0.00 0.00 0.00 0.00 0.00 Recover
Analysis: Analyst: Param Benzene Toluene Ethylbenzen M,P,O-Xyler Total BTEX Surrogate	BTEX CG ne	Analytical Method: Preparation Method Flag Result	: S 5030B <u>Result</u> 0.0159 <0.001 <0.001 0.0159 Units	Prep Batch: Units mg/L mg/L mg/L mg/L	PB21497 Dilu 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Date Prepared: tion Percent Recovery	8/16/0 RD 0.00 0.00 0.00 0.00 0.00 Recover Limits
Analysis: Analysis: Param Benzene Toluene Ethylbenzen M,P,O-Xyler Total BTEX Surrogate TFT	BTEX CG ne	Analytical Method: Preparation Method Flag Result 0.0916	: S 5030B Result 0.0159 <0.001 <0.001 <0.001 0.0159	Prep Batch: Units mg/L mg/L mg/L mg/L mg/L	PB21497 Dilu 1 1 1 1 1 1 1 1 1 1 5 5 5 1 8	Date Prepared: tion Percent	8/16/0 RD 0.00 0.00 0.00 0.00
Analysis: Analyst: Param Benzene Toluene Ethylbenzen M,P,O-Xyler	BTEX CG ne	Analytical Method: Preparation Method Flag Result 0.0916	: S 5030B Result 0.0159 <0.001 <0.001 0.0159 Units mg/L	Prep Batch: Units mg/L mg/L mg/L mg/L mg/L Dilution	PB21497 Dilu 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Date Prepared: tion Percent Recovery 92	8/16/0 RD 0.00 0.00 0.00 0.00 0.00 Recover Limits 70 - 130

Analysis:Total MetalsAnalytical Method:S 6010BQC Batch:QC23000Date Analyzed:8/22/02Analyst:RRPreparation Method:S 3010APrep Batch:PB21488Date Prepared:8/19/02

Report Dat CC # V-10		3, 2002		lumber: A02081 hergy Field Serv		Page Num Lee	e Gas Plan
Param		Flag	Result	Units	Dilutio	on	RDL
Total Iron			< 0.050	mg/L	1		0.05
Total Mang	ganese		0.062	mg/L	1		0.02
		· .					
Sample:		- MW-22	C 0001D	OC Batah	0000051	Data Analuna J	9/16/06
Analysis: Analyst:	BTEX CG	Analytical Method: Preparation Method	S 8021B : S 5030B	QC Batch: Prep Batch:	QC22851 PB21497	Date Analyzed: Date Prepared:	8/16/02 8/16/02
Analyst.	00	Treparation Method		Ttep Daten.	1 021431	Date I repared.	8/10/02
Param		Flag	Result	Units	Dilu	tion	RDI
Benzene			< 0.001	$\mathrm{mg/L}$	1		0.001
Toluene			< 0.001	mg/L	1		0.001
Ethylbenze			< 0.001	mg/L	1		0.001
M,P,O-Xyle			< 0.001	mg/L	1		0.001
Total BTE	<u>X</u>		<0.001	mg/L]	L	0.001
		·			Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
TFT	1	0.0589	mg/L	1	0.10	58	70 - 130
4 10 10 10	2	0.0500	mg/L	1	0.10	58	70 - 130
Sample:	205427	0.0588 - MW-22 als Analytical Met			: QC23000	Date Analyzed:	
Sample: Analysis:		- MW-22	hod: S 601	0B QC Batch	•	Date Analyzed: Date Prepared:	8/22/02
Sample: Analysis: Analyst: Param	205427 Total Meta	- MW-22 als Analytical Metl	hod: S 6010 sthod: S 3010 Result	0B QC Batch	•	Date Prepared:	8/22/02 8/19/02 RDL
Sample: Analysis: Analyst: Param Total Iron	205427 Total Meta RR	- MW-22 als Analytical Met Preparation Me	hod: S 6010 ethod: S 3010 <u>Result</u> 0.453	0B QC Batch 0A Prep Batc	h: PB21488	Date Prepared:	8/22/02 8/19/02 RDL 0.05
Sample: Analysis: Analyst: Param Total Iron	205427 Total Meta RR	- MW-22 als Analytical Met Preparation Me	hod: S 6010 sthod: S 3010 Result	0B QC Batch 0A Prep Batc Units	h: PB21488	Date Prepared:	8/22/02 8/19/02 RDL 0.05
Sample: Analysis: Analyst: Param Total Iron	205427 Total Meta RR	- MW-22 als Analytical Met Preparation Me	hod: S 6010 ethod: S 3010 <u>Result</u> 0.453	0B QC Batch 0A Prep Batc Units mg/L	h: PB21488 Dilutio	Date Prepared:	8/22/02 8/19/02 RDL 0.05
Sample: Analysis: Analyst: Param Total Iron Total Mang	205427 Total Meta RR ganese	- MW-22 als Analytical Meth Preparation Me Flag	hod: S 6010 ethod: S 3010 <u>Result</u> 0.453	0B QC Batch 0A Prep Batc Units mg/L	h: PB21488 Dilutio	Date Prepared:	8/22/02 8/19/02 RDL 0.05
Sample: Analysis: Analyst: Param Total Iron Total Mang Sample:	205427 Total Meta RR ganese 205428	- MW-22 als Analytical Meth Preparation Me Flag - MW-14	hod: S 6010 thod: S 3010 <u>Result</u> 0.453 0.0627	0B QC Batch 0A Prep Batc Units mg/L mg/L	h: PB21488 Dilutio 1 1	Date Prepared:	8/22/02 8/19/02 RDL 0.05 0.02
Sample: Analysis: Analyst: Param Total Iron Total Mang Sample: Analysis:	205427 Total Meta RR ganese 205428 BTEX	- MW-22 als Analytical Meth Preparation Me Flag - MW-14 Analytical Method:	hod: S 6010 ethod: S 3010 <u>Result</u> 0.453 0.0627 S 8021B	0B QC Batch 0A Prep Batc Units mg/L mg/L QC Batch:	h: PB21488 Dilutio 1 1 QC22851	Date Prepared: n Date Analyzed:	8/22/02 8/19/02 RDL 0.05 0.02 8/16/02
Sample: Analysis: Analyst: Param Total Iron Total Mang Sample: Analysis:	205427 Total Meta RR ganese 205428	- MW-22 als Analytical Meth Preparation Me Flag - MW-14	hod: S 6010 ethod: S 3010 <u>Result</u> 0.453 0.0627 S 8021B	0B QC Batch 0A Prep Batc Units mg/L mg/L	h: PB21488 Dilutio 1 1	Date Prepared:	8/22/02 8/19/02 RDL 0.05 0.02 8/16/02
Sample: Analysis: Analyst: Param Total Iron Total Mang Sample: Analysis: Analysis: Param	205427 Total Meta RR ganese 205428 BTEX	- MW-22 als Analytical Meth Preparation Me Flag - MW-14 Analytical Method:	hod: S 6010 thod: S 3010 <u>Result</u> 0.453 0.0627 S 8021B : S 5030B Result	0B QC Batch 0A Prep Batc Units mg/L mg/L QC Batch: Prep Batch: Units	h: PB21488 Dilutio 1 1 QC22851	Date Prepared: n Date Analyzed: Date Prepared:	8/22/02 8/19/02 RDL 0.05 0.02 8/16/02 8/16/02 RDL
Sample: Analysis: Analyst: Param Total Iron Total Mang Sample: Analysis: Analyst: Param Benzene	205427 Total Meta RR ganese 205428 BTEX	 MW-22 Analytical Meth Preparation Methods Flag MW-14 Analytical Method: Preparation Method 	hod: S 6010 thod: S 3010 Result 0.453 0.0627 S 8021B S 5030B Result <0.001	0B QC Batch 0A Prep Batc Units mg/L mg/L QC Batch: Prep Batch: Units mg/L	h: PB21488 Dilutio 1 1 2 2 2 2 2 2 8 5 1 PB21497	Date Prepared: n Date Analyzed: Date Prepared:	8/22/02 8/19/02 RDL 0.05 0.02 8/16/02 8/16/02 RDL 0.001
Sample: Analysis: Analyst: Param Total Iron Total Mang Sample: Analysis: Analyst: Param Benzene Toluene	205427 Total Meta RR ganese 205428 BTEX CG	 MW-22 Analytical Meth Preparation Methods Flag MW-14 Analytical Method: Preparation Method 	hod: S 6010 thod: S 3010 Result 0.453 0.0627 S 8021B S 8021B S 5030B Result <0.001 <0.001	0B QC Batch 0A Prep Batc Units mg/L mg/L QC Batch: Prep Batch: Prep Batch: Units mg/L mg/L	h: PB21488 Dilutio 1 1 2 2 2 2 2 2 8 5 1 PB21497	Date Prepared: n Date Analyzed: Date Prepared:	8/22/02 8/19/02 RDL 0.05 0.02 8/16/02 8/16/02 RDL 0.001 0.001
Sample: Analysis: Analyst: Param Total Iron Total Mang Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenzer	205427 Total Meta RR ganese 205428 BTEX CG	 MW-22 Analytical Meth Preparation Methods Flag MW-14 Analytical Method: Preparation Method 	hod: S 6010 thod: S 3010 Result 0.453 0.0627 S 8021B S 5030B Result <0.001 <0.001 <0.001	0B QC Batch 0A Prep Batc Units mg/L mg/L QC Batch: Prep Batch: Prep Batch: Units mg/L mg/L mg/L	h: PB21488 Dilutio 1 1 2 2 2 2 2 2 8 5 1 PB21497	Date Prepared: n Date Analyzed: Date Prepared:	8/22/02 8/19/02 RDL 0.05 0.02 8/16/02 8/16/02 RDL 0.001 0.001 0.001
Sample: Analysis: Analyst: Param Total Iron Total Mang Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenzer M,P,O-Xyle	205427 Total Meta RR ganese 205428 BTEX CG	 MW-22 Analytical Meth Preparation Methods Flag MW-14 Analytical Method: Preparation Method 	hod: S 6010 thod: S 3010 Result 0.453 0.0627 S 8021B : S 5030B Result <0.001 <0.001 <0.001 <0.001	0B QC Batch 0A Prep Batc Units mg/L mg/L QC Batch: Prep Batch: Prep Batch: Units mg/L mg/L mg/L mg/L	h: PB21488 Dilutio 1 1 2 2 2 2 2 2 8 5 1 PB21497	Date Prepared: n Date Analyzed: Date Prepared:	8/22/02 8/19/02 RDL 0.05 0.02 8/16/02 8/16/02 8/16/02 RDL 0.001 0.001 0.001 0.001
Sample: Analysis: Analyst: Param Total Iron Total Mang Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenzer M,P,O-Xyle	205427 Total Meta RR ganese 205428 BTEX CG	 MW-22 Analytical Meth Preparation Methods Flag MW-14 Analytical Method: Preparation Method 	hod: S 6010 thod: S 3010 Result 0.453 0.0627 S 8021B S 5030B Result <0.001 <0.001 <0.001	0B QC Batch 0A Prep Batc Units mg/L mg/L QC Batch: Prep Batch: Prep Batch: Units mg/L mg/L mg/L	h: PB21488 Dilutio 1 1 2 2 2 2 2 2 8 5 1 PB21497	Date Prepared: n Date Analyzed: Date Prepared: tion	8/22/02 8/19/02 RDL 0.05 0.02 8/16/02 8/16/02 8/16/02 RDL 0.001 0.001 0.001 0.001
Sample: Analysis: Analyst: Param Total Iron Total Mang Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenzer M,P,O-Xyle	205427 Total Meta RR ganese 205428 BTEX CG	 MW-22 Analytical Meth Preparation Methods Flag MW-14 Analytical Method: Preparation Method 	hod: S 6010 thod: S 3010 Result 0.453 0.0627 S 8021B : S 5030B Result <0.001 <0.001 <0.001 <0.001	0B QC Batch 0A Prep Batc Units mg/L mg/L QC Batch: Prep Batch: Prep Batch: Units mg/L mg/L mg/L mg/L	h: PB21488 Dilutio 1 1 QC22851 PB21497 Dilu 1 1 1 1 1 1	Date Prepared: n Date Analyzed: Date Prepared: tion	8/22/02 8/19/02 RDL 0.05 0.02 8/16/02 8/16/02 8/16/02 RDL 0.001 0.001 0.001 0.001
Sample: Analysis: Analyst: Param Total Iron Total Mang Sample: Analysis: Analysis: Analyst: Param Benzene Toluene Ethylbenzer M,P,O-Xyle Total BTE2	205427 Total Meta RR ganese 205428 BTEX CG	 MW-22 Analytical Meth Preparation Me Flag MW-14 Analytical Method: Preparation Method Flag 	hod: S 6010 thod: S 3010 Result 0.453 0.0627 S 8021B S 8021B S 5030B Result <0.001 <0.001 <0.001 <0.001 <0.001	0B QC Batch 0A Prep Batc Units mg/L mg/L QC Batch: Prep Batch: Prep Batch: Units mg/L mg/L mg/L mg/L mg/L	h: PB21488 Dilutio 1 1 1 QC22851 PB21497 Dilu 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Date Prepared: n Date Analyzed: Date Prepared: tion Percent	8/22/02 8/19/02 RDL 0.05 0.02 8/16/02 8/16/02 8/16/02 RDL 0.001 0.001 0.001 0.001 0.001
Sample: Analysis: Analyst: Param Total Iron Total Mang Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenzer M,P,O-Xyle Total BTE2	205427 Total Meta RR ganese 205428 BTEX CG	- MW-22 als Analytical Meth Preparation Me Flag - MW-14 Analytical Method: Preparation Method Flag Result	hod: S 6010 thod: S 3010 Result 0.453 0.0627 S 8021B S 5030B Result <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	0B QC Batch 0A Prep Batc Units mg/L mg/L QC Batch: Prep Batch: Prep Batch: Units mg/L mg/L mg/L mg/L	h: PB21488 Dilutio 1 1 1 QC22851 PB21497 Dilu 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Date Prepared: n Date Analyzed: Date Prepared: tion Percent Recovery	8/22/02 8/19/02 RDL 0.05 0.02 8/16/02 8/16/02 8/16/02 RDL 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001
4-BFB Sample: Analysis: Analysis: Analyst: Param Total Iron Total Mang Sample: Analysis: Analysis: Analyst: Param Benzene Toluene Ethylbenze: M,P,O-Xyle Total BTE2 Surrogate TFT 4-BFB	205427 Total Meta RR ganese 205428 BTEX CG	 MW-22 Analytical Meth Preparation Me Flag MW-14 Analytical Method: Preparation Method Flag 	hod: S 6010 thod: S 3010 Result 0.453 0.0627 S 8021B S 8021B S 5030B Result <0.001 <0.001 <0.001 <0.001 <0.001	0B QC Batch 0A Prep Batc Units mg/L mg/L QC Batch: Prep Batch: Prep Batch: Units mg/L mg/L mg/L mg/L mg/L	h: PB21488 Dilutio 1 1 1 QC22851 PB21497 Dilu 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Date Prepared: n Date Analyzed: Date Prepared: tion Percent	8/22/02 8/19/02 RDL 0.05 0.02 8/16/02 8/16/02 8/16/02 RDL 0.001 0.001 0.001 0.001 0.001

¹Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control. ²Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

CC # V-10	e: August 23	3, 2002		umber: A020816 ergy Field Servic		Page Num Lee	ber: 5 of 1 e Gas Plar
Sample:	205428	- MW-14				n	
Analysis:	Total Meta		nod: S 6010)B QC Batch:	QC23000	Date Analyzed:	8/22/0
Analyst:	RR	Preparation Me		•	-	Date Prepared:	8/19/0
Param	· · · · · · · · · · · · · · · · ·	Flag	Result	Units	Dilution	n	RDI
Total Iron			2.93	mg/L	1		0.0
Fotal Manga	anese		7.39	mg/L	1	<u> </u>	0.0
Sample:	205420	- MW-21					•
Analysis:	205425 BTEX	Analytical Method:	S 8021B	QC Batch:	QC22851	Date Analyzed:	8/16/02
Analyst:	CG	Preparation Method		•	PB21497	Date Prepared:	8/16/0
Param		Flag	Result	Units	Dilut		RDI
Benzene			<0.001	mg/L	. 1		0.00
Toluene Ethylbenzer	0		<0.001 <0.001	mg/L	1		0.001 0.001
M,P,O-Xyle			<0.001 <0.001	m mg/L m mg/L	1		0.001
Total BTEX			< 0.001	mg/L mg/L	1	• •	0.00
				0/			
-					Spike	Percent	Recover
Surrogate	\mathbf{Flag}	Result	Units	Dilution	Amount	Recovery	Limits
רדרו		0.00.40	/T	-	0.10	04	70 100
4-BFB	205420	0.0841	mg/L mg/L	1	0.10 0.10	84 84	70 - 130 70 - 130
4-BFB Sample: Analysis:	205429 Total Meta RR	0.0841 - MW-21	mg/L nod: S ⁶⁰¹⁰	1 DB QC Batch:	0.10 QC23000		70 - 130
4-BFB Sample: Analysis: Analyst: Param	Total Meta	0.0841 - MW-21 ls Analytical Meth	mg/L nod: S [*] 6010 thod: S 3010 Result	1 DB QC Batch: DA Prep Batch Units	0.10 QC23000	84 Date Analyzed: Date Prepared:	70 - 130 8/22/02 8/19/02 RDI
4-BFB Sample: Analysis: Analyst: Param Total Iron	Total Meta RR	0.0841 - MW-21 ls Analytical Meth Preparation Me	mg/L nod: S 6010 thod: S 3010	1 DB QC Batch: DA Prep Batch	0.10 QC23000 a: PB21488	84 Date Analyzed: Date Prepared:	70 - 130 8/22/0 8/19/0 RDI 0.0
4-BFB Sample: Analysis: Analyst: Param Total Iron	Total Meta RR	0.0841 - MW-21 ls Analytical Meth Preparation Me	mg/L nod: S 6010 thod: S 3010 Result <0.050	1 DB QC Batch: DA Prep Batch Units mg/L	0.10 QC23000 a: PB21488 Dilutio 1	84 Date Analyzed: Date Prepared:	70 - 130 8/22/0 8/19/0 RDI 0.0
4-BFB Sample: Analysis: Analyst: Param Total Iron Total Mang:	Total Meta RR anese	0.0841 - MW-21 ls Analytical Meth Preparation Me Flag	mg/L nod: S 6010 thod: S 3010 Result <0.050	1 DB QC Batch: DA Prep Batch Units mg/L	0.10 QC23000 a: PB21488 Dilutio 1	84 Date Analyzed: Date Prepared:	70 - 130 8/22/03 8/19/02 RDI 0.03
4-BFB Sample: Analysis: Analyst: Param Total Iron Total Mang: Sample:	Total Meta RR anese 205430	0.0841 - MW-21 ls Analytical Meth Preparation Me Flag - MW-9	mg/L nod: S ⁻ 6010 thod: S 3010 Result <0.050 <0.025	1 DB QC Batch: DA Prep Batch Units mg/L mg/L	0.10 QC23000 n: PB21488 Dilutio 1 1	84 Date Analyzed: Date Prepared: n	70 - 130 8/22/0 8/19/0 RDI 0.0 0.0
1-BFB Sample: Analysis: Analyst: Param Total Iron Total Mang: Sample: Analysis:	Total Meta RR anese	0.0841 - MW-21 ls Analytical Meth Preparation Me Flag	mg/L nod: S 6010 thod: S 3010 Result <0.050 <0.025 S 8021B	1 DB QC Batch: DA Prep Batch Units mg/L mg/L QC Batch:	0.10 QC23000 a: PB21488 Dilutio 1	84 Date Analyzed: Date Prepared:	70 - 130 8/22/03 8/19/03 RDI 0.03 0.03 8/16/03
4-BFB Sample: Analysis: Analyst: Param Total Iron Total Mang: Sample: Analysis: Analyst: Param	Total Meta RR anese 205430 BTEX	0.0841 - MW-21 ls Analytical Meth Preparation Me Flag - MW-9 Analytical Method:	mg/L nod: S 6010 thod: S 3010 Result <0.050 <0.025 S 8021B : S 5030B Result	1 DB QC Batch: DA Prep Batch Units mg/L mg/L QC Batch: Prep Batch: Units	0.10 QC23000 n: PB21488 Dilutio 1 1 1 QC22851 PB21497 Dilut	84 Date Analyzed: Date Prepared: n Date Analyzed: Date Prepared: ion	70 - 130 8/22/02 8/19/02 RDI 0.02 0.02 8/16/02 8/16/02 RDI
4-BFB Sample: Analysis: Analyst: Param Total Iron Total Mang: Sample: Analysis: Analysis: Analyst: Param Benzene	Total Meta RR anese 205430 BTEX	0.0841 - MW-21 ls Analytical Meth Preparation Me Flag - MW-9 Analytical Method: Preparation Method Flag	mg/L nod: S 6010 thod: S 3010 Result <0.050 <0.025 S 8021B : S 5030B Result 1.57	1 DB QC Batch: DA Prep Batch Units mg/L mg/L QC Batch: Prep Batch: Prep Batch: Units mg/L	0.10 QC23000 n: PB21488 Dilutio 1 1 1 QC22851 PB21497 Dilut 5	84 Date Analyzed: Date Prepared: n Date Analyzed: Date Prepared: tion	70 - 130 8/22/03 8/19/03 RDI 0.03 0.03 0.03 8/16/03 8/16/03 RDI 0.00
4-BFB Sample: Analysis: Analyst: Param Total Iron Total Mang: Sample: Analysis: Analysis: Analyst: Param Benzene Foluene	Total Meta RR anese 205430 BTEX CG	0.0841 - MW-21 ls Analytical Meth Preparation Me Flag - MW-9 Analytical Method: Preparation Method Flag	mg/L nod: S 6010 thod: S 3010 Result <0.050 <0.025 S 8021B : S 5030B Result 1.57 <0.005	1 DB QC Batch: DA Prep Batch Units mg/L MC Batch: Prep Batch: Prep Batch: Units mg/L mg/L	0.10 QC23000 h: PB21488 Dilutio 1 1 1 QC22851 PB21497 Dilut 5 5	84 Date Analyzed: Date Prepared: n Date Analyzed: Date Prepared: tion	70 - 130 8/22/03 8/19/03 RDI 0.03 0.03 8/16/03 8/16/03 RDI 0.000 0.000
4-BFB Sample: Analysis: Analyst: Param Total Iron Total Mang: Sample: Analysis: Analysis: Analyst: Param Benzene Toluene Ethylbenzen	Total Meta RR anese 205430 BTEX CG	0.0841 - MW-21 ls Analytical Meth Preparation Me Flag - MW-9 Analytical Method: Preparation Method Flag	mg/L nod: S 6010 thod: S 3010 Result <0.050 <0.025 S 8021B : S 5030B Result 1.57 <0.005 0.0126	1 DB QC Batch: DA Prep Batch Units mg/L Mg/L QC Batch: Prep Batch: Prep Batch: Units mg/L mg/L mg/L	0.10 QC23000 1: PB21488 Dilutio 1 1 1 QC22851 PB21497 Dilut 5 5 5	84 Date Analyzed: Date Prepared: n Date Analyzed: Date Prepared: tion	70 - 130 8/22/03 8/19/02 RDI 0.03 0.03 8/16/03 8/16/03 RDI 0.00 0.000 0.000
4-BFB Sample: Analysis: Analyst: Param Total Iron Total Mang: Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenzen M,P,O-Xyler	Total Meta RR anese 205430 BTEX CG	0.0841 - MW-21 ls Analytical Meth Preparation Me Flag - MW-9 Analytical Method: Preparation Method Flag	mg/L nod: S 6010 thod: S 3010 Result <0.050 <0.025 S 8021B : S 5030B Result 1.57 <0.005	1 DB QC Batch: Prep Batch Units mg/L QC Batch: Prep Batch: Prep Batch: Units mg/L mg/L mg/L mg/L mg/L	0.10 QC23000 h: PB21488 Dilutio 1 1 1 QC22851 PB21497 Dilut 5 5	84 Date Analyzed: Date Prepared: n Date Analyzed: Date Prepared: tion	70 - 130 8/22/0 8/19/0 RDI 0.0 0.0 8/16/0 8/16/0 8/16/0 0.00 0.00 0.00 0.00
4-BFB Sample: Analysis: Analyst: Param Total Iron Total Mang: Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenzen M,P,O-Xyler	Total Meta RR anese 205430 BTEX CG	0.0841 - MW-21 ls Analytical Meth Preparation Me Flag - MW-9 Analytical Method: Preparation Method Flag	mg/L nod: S 6010 thod: S 3010 Result <0.050 <0.025 S 8021B : S 5030B Result 1.57 <0.005 0.0126 <0.005	1 DB QC Batch: DA Prep Batch Units mg/L Mg/L QC Batch: Prep Batch: Prep Batch: Units mg/L mg/L mg/L	0.10 QC23000 n: PB21488 Dilutio 1 1 1 QC22851 PB21497 Dilut 5 5 5 5 5	84 Date Analyzed: Date Prepared: n Date Analyzed: Date Prepared: tion	70 - 130 8/22/0 8/19/0 RDI 0.0 0.0 8/16/0 8/16/0 8/16/0 0.00 0.00 0.00 0.00
4-BFB Sample: Analysis: Analyst: Param Total Iron Total Mang: Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenzen M,P,O-Xyler	Total Meta RR anese 205430 BTEX CG	0.0841 - MW-21 ls Analytical Meth Preparation Me Flag - MW-9 Analytical Method: Preparation Method Flag	mg/L nod: S 6010 thod: S 3010 Result <0.050 <0.025 S 8021B : S 5030B Result 1.57 <0.005 0.0126 <0.005	1 DB QC Batch: Prep Batch Units mg/L QC Batch: Prep Batch: Prep Batch: Units mg/L mg/L mg/L mg/L mg/L	0.10 QC23000 PB21488 Dilutio 1 1 QC22851 PB21497 Dilut 5 5 5 5 5 5 5	84 Date Analyzed: Date Prepared: n Date Analyzed: Date Prepared: tion	70 - 130 8/22/03 8/19/03 RDI 0.03 0.03 8/16/03 8/16/03 RDI 0.00 0.000 0.001 0.001 0.001
TFT 4-BFB Sample: Analysis: Analyst: Param Total Iron Total Iron Total Mangs Sample: Analysis: Analysis: Analysis: Analyst: Param Benzene Toluene Ethylbenzen M,P,O-Xyle: Total BTEX	Total Meta RR anese 205430 BTEX CG	0.0841 - MW-21 ls Analytical Meth Preparation Me Flag - MW-9 Analytical Method: Preparation Method Flag	mg/L nod: S 6010 thod: S 3010 Result <0.050 <0.025 S 8021B : S 5030B Result 1.57 <0.005 0.0126 <0.005 1.58	1 DB QC Batch: Prep Batch Units mg/L QC Batch: Prep Batch: Prep Batch: Units mg/L mg/L mg/L mg/L mg/L	0.10 QC23000 n: PB21488 Dilutio 1 1 1 QC22851 PB21497 Dilut 5 5 5 5 5	84 Date Analyzed: Date Prepared: n Date Analyzed: Date Prepared: tion	70 - 130 8/22/03 8/19/03 RDI 0.03 0.03 8/16/03 8/16/03 8/16/03 RDI 0.000 0.000 0.000
4-BFB Sample: Analysis: Analyst: Param Total Iron Total Mang: Sample: Analysis: Analysis: Analyst: Param Benzene Foluene Ethylbenzen M,P,O-Xyle: Total BTEX	Total Meta RR anese 205430 BTEX CG	0.0841 - MW-21 ls Analytical Meth Preparation Me Flag - MW-9 Analytical Method: Preparation Method Flag Result	mg/L nod: S 6010 thod: S 3010 Result <0.050 <0.025 S 8021B : S 5030B Result 1.57 <0.005 0.0126 <0.005 1.58	1 DB QC Batch: DA Prep Batch Units mg/L mg/L QC Batch: Prep Batch: Units mg/L mg/L mg/L mg/L mg/L mg/L mg/L	0.10 QC23000 PB21488 Dilutio 1 1 QC22851 PB21497 Dilut 5 5 5 5 5 5 5 5 5 5 5 5 5	84 Date Analyzed: Date Prepared: n Date Analyzed: Date Prepared: tion	70 - 130 8/22/03 8/19/03 RDI 0.03 0.03 8/16/03 8/16/03 8/16/03 RDI 0.00 0.00 0.00 0.00 0.00 0.00 0.00

CC # V-10	e: August 2 1	3, 2002		umber: A020816 ergy Field Servic		Page Num Lee	ber: 6 of 1 Gas Plan
Sample: Analysis:	205430 Total Meta	- MW-9 als Analytical Meth	nod: S 6010	B QC Batch:	QC23000	Date Analyzed:	8/22/0
Analyst:	RR	Preparation Me		•	•	Date Prepared:	8/19/02
Param		Flag	Result	Units	Dilution	n	RDI
Total Iron		. •	7.06	mg/L	. 1		0.0
Total Mang	anese		1.68	mg/L	1		0.0
Sample:	205431	- MW-10		•			
Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC22882	Date Analyzed:	8/19/03
Analyst:	CG	Preparation Method	: S 5030B	•	PB21525	Date Prepared:	8/19/0
Param		Flag	Result	Units	Dilut		RDI
Benzene			7.99	mg/L	50		0.00
Foluene Ethylbenzer	no		<0.050 <0.050	m mg/L m mg/L	50		0.001 0.001
M,P,O-Xyle			<0.050	mg/L	50		0.00
Total BTE			7.99	mg/L	50		0.00
		· · ·				· ·	
Jurrogata	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recover: Limits
Surrogate FFT	r lag		mg/L	50	0.10	<u>93</u>	$\frac{1111113}{70 - 130}$
		0.0907	mg/L	50	0.10	90	
1-BFB Sample: Analysis:	205431 Total Meta RR	0.0907 - MW-10	mg/L nod: S 6010	50 B QC Batch:	0.10 QC23000		70 - 130 8/22/02
4-BFB Sample: Analysis: Analyst:	Total Meta	0.0907 - MW-10 als Analytical Meth	mg/L nod: S 6010	50 9B QC Batch:	0.10 QC23000	90 Date Analyzed: Date Prepared:	70 - 130 8/22/02 8/19/02
4-BFB Sample: Analysis: Analyst: Param Total Iron	Total Meta RR	0.0907 - MW-10 als Analytical Meth Preparation Me	mg/L nod: S 6010 thod: S 3010 <u>Result</u> 8.22	50 DB QC Batch: DA Prep Batch Units mg/L	0.10 QC23000 h: PB21488 Dilution 1	90 Date Analyzed: Date Prepared:	70 - 130 8/22/0 8/19/0 RDI 0.0
1-BFB Sample: Analysis: Analyst: Param Fotal Iron	Total Meta RR	0.0907 - MW-10 als Analytical Meth Preparation Me	mg/L nod: S 6010 thod: S 3010 Result	50 DB QC Batch: DA Prep Batch Units	0.10 QC23000 h: PB21488 Dilution	90 Date Analyzed: Date Prepared:	70 - 130 8/22/0 8/19/0 RDI 0.0
1-BFB Sample: Analysis: Analyst: Param Fotal Iron	Total Meta RR	0.0907 - MW-10 als Analytical Meth Preparation Me	mg/L nod: S 6010 thod: S 3010 <u>Result</u> 8.22	50 DB QC Batch: DA Prep Batch Units mg/L	0.10 QC23000 h: PB21488 Dilution 1	90 Date Analyzed: Date Prepared:	70 - 130 8/22/0 8/19/0 RDI 0.0
1-BFB Sample: Analysis: Analyst: Param Total Iron Total Mang	Total Meta RR anese	0.0907 - MW-10 als Analytical Meth Preparation Me Flag	mg/L nod: S 6010 thod: S 3010 <u>Result</u> 8.22	50 DB QC Batch: DA Prep Batch Units mg/L	0.10 QC23000 h: PB21488 Dilution 1	90 Date Analyzed: Date Prepared:	70 - 130 8/22/0 8/19/0 RDI 0.0
1-BFB Sample: Analysis: Analyst: Param Fotal Iron Fotal Mang Sample:	Total Meta RR anese	0.0907 - MW-10 als Analytical Meth Preparation Me	mg/L nod: S 6010 thod: S 3010 <u>Result</u> 8.22	50 DB QC Batch: DA Prep Batch Units mg/L mg/L	0.10 QC23000 h: PB21488 Dilution 1	90 Date Analyzed: Date Prepared:	70 - 130 8/22/0 8/19/0 RDI 0.0 0.0
1-BFB Sample: Analysis: Analyst: Param Fotal Iron Fotal Iron Fotal Mang Sample: Analysis:	Total Meta RR anese 205432	0.0907 - MW-10 als Analytical Meth Preparation Me Flag - duplicate	mg/L nod: S 6010 thod: S 3010 Result 8.22 3.27 S 8021B	50 DB QC Batch: DA Prep Batch Units mg/L mg/L QC Batch:	0.10 QC23000 n: PB21488 Dilution 1 1	90 Date Analyzed: Date Prepared:	70 - 130 8/22/0 8/19/0 RDJ 0.0 0.0 8/19/0
1-BFB Sample: Analysis: Analyst: Param Total Iron Total Iron Total Mang Sample: Analysis: Analysis:	Total Meta RR anese 205432 BTEX	0.0907 - MW-10 als Analytical Meth Preparation Me Flag - duplicate Analytical Method:	mg/L nod: S 6010 thod: S 3010 Result 8.22 3.27 S 8021B	50 DB QC Batch: DA Prep Batch Units mg/L mg/L QC Batch:	0.10 QC23000 h: PB21488 Dilution 1 1 QC22882	90 Date Analyzed: Date Prepared: Date Analyzed: Date Prepared:	8/22/03 8/19/03 RDI 0.03 0.03 8/19/03
1-BFB Sample: Analysis: Analyst: Param Total Iron Total Mang Sample: Analysis: Analysis: Analyst: Param Benzene	Total Meta RR anese 205432 BTEX	0.0907 - MW-10 als Analytical Meth Preparation Me Flag - duplicate Analytical Method: Preparation Method	mg/L nod: S 6010 thod: S 3010 Result 8.22 3.27 S 8021B : S 5030B Result <0.005	50 DB QC Batch: DA Prep Batch Units mg/L Mg/L QC Batch: Prep Batch: Prep Batch: Units mg/L	0.10 QC23000 h: PB21488 Dilution 1 1 1 QC22882 PB21525 Dilut 5	90 Date Analyzed: Date Prepared: n Date Analyzed: Date Prepared: tion	70 - 130 8/22/0 8/19/0 RDI 0.0 0.0 0.0 8/19/0 8/19/0 8/19/0 RDI 0.00
4-BFB Sample: Analysis: Analyst: Param Total Iron Total Mang Sample: Analysis: Analysis: Analyst: Param Benzene Toluene	Total Meta RR anese 205432 BTEX CG	0.0907 - MW-10 als Analytical Meth Preparation Me Flag - duplicate Analytical Method: Preparation Method	mg/L nod: S 6010 thod: S 3010 Result 8.22 3.27 S 8021B : S 5030B Result <0.005 <0.005	50 DB QC Batch: DA Prep Batch Units mg/L QC Batch: Prep Batch: Prep Batch: Units mg/L mg/L	0.10 QC23000 h: PB21488 Dilution 1 1 QC22882 PB21525 Dilutt 5 5	90 Date Analyzed: Date Prepared: n Date Analyzed: Date Prepared: ion	70 - 130 8/22/02 8/19/02 RDI 0.02 8/19/02 8/19/02 RDI 0.00 0.00
4-BFB Sample: Analysis: Analyst: Param Total Iron Total Iron Total Mang Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenzer	Total Meta RR anese 205432 BTEX CG	0.0907 - MW-10 als Analytical Meth Preparation Me Flag - duplicate Analytical Method: Preparation Method	mg/L nod: S 6010 thod: S 3010 Result 8.22 3.27 S 8021B : S 5030B Result <0.005 <0.005 <0.005	50 DB QC Batch: DA Prep Batch Units mg/L mg/L QC Batch: Prep Batch: Prep Batch: Units mg/L mg/L mg/L	0.10 QC23000 h: PB21488 Dilution 1 1 1 QC22882 PB21525 Dilutt 5 5 5 5	90 Date Analyzed: Date Prepared: n Date Analyzed: Date Prepared: tion	70 - 130 8/22/02 8/19/02 RDI 0.02 8/19/02 8/19/02 RDI 0.001 0.001 0.001
4-BFB Sample: Analysis: Analyst: Param Total Iron Total Iron Total Mang Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenzer M,P,O-Xyle	Total Meta RR anese 205432 BTEX CG	0.0907 - MW-10 als Analytical Meth Preparation Me Flag - duplicate Analytical Method: Preparation Method	mg/L nod: S 6010 thod: S 3010 Result 8.22 3.27 S 8021B : S 5030B Result <0.005 <0.005 <0.005 <0.005	50 DB QC Batch: DA Prep Batch Units mg/L mg/L QC Batch: Prep Batch: Prep Batch: Units mg/L mg/L mg/L mg/L	0.10 QC23000 h: PB21488 Dilution 1 1 1 QC22882 PB21525 Dilutt 5 5 5 5 5 5	90 Date Analyzed: Date Prepared: n Date Analyzed: Date Prepared: iion	70 - 130 8/22/03 8/19/03 RDI 0.03 0.03 8/19/03 8/19/03 8/19/03 RDI 0.003 0.003 0.003 0.003
4-BFB Sample: Analysis: Analyst: Param Total Iron Total Iron Total Mang Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenzer M,P,O-Xyle	Total Meta RR anese 205432 BTEX CG	0.0907 - MW-10 als Analytical Meth Preparation Me Flag - duplicate Analytical Method: Preparation Method	mg/L nod: S 6010 thod: S 3010 Result 8.22 3.27 S 8021B : S 5030B Result <0.005 <0.005 <0.005	50 DB QC Batch: DA Prep Batch Units mg/L mg/L QC Batch: Prep Batch: Prep Batch: Units mg/L mg/L mg/L	0.10 QC23000 h: PB21488 Dilution 1 1 1 QC22882 PB21525 Dilutt 5 5 5 5	90 Date Analyzed: Date Prepared: n Date Analyzed: Date Prepared: iion	70 - 130 8/22/03 8/19/03 RDI 0.03 0.03 8/19/03 8/19/03 8/19/03 RDI 0.003 0.003 0.003 0.003
4-BFB Sample: Analysis: Analyst: Param Total Iron Total Iron Total Mang Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenzer M,P,O-Xyle	Total Meta RR anese 205432 BTEX CG	0.0907 - MW-10 als Analytical Meth Preparation Me Flag - duplicate Analytical Method: Preparation Method	mg/L nod: S 6010 thod: S 3010 Result 8.22 3.27 S 8021B : S 5030B Result <0.005 <0.005 <0.005 <0.005	50 DB QC Batch: DA Prep Batch Units mg/L mg/L QC Batch: Prep Batch: Prep Batch: Units mg/L mg/L mg/L mg/L	0.10 A: QC23000 A: PB21488 Dilution 1 1 QC22882 PB21525 Dilutt 5 5 5 5 5 5 5 5	90 Date Analyzed: Date Prepared: n Date Analyzed: Date Prepared: tion	70 - 130 8/22/02 8/19/02 RDI 0.03 0.02 8/19/02 8/19/02 RDI 0.001 0.001 0.001 0.001
4-BFB Sample: Analysis: Analyst: Param Total Iron Total Iron Total Mang Sample: Analysis: Analysis: Analyst: Param Benzene Toluene Ethylbenzer M,P,O-Xyle Total BTEX	Total Meta RR anese 205432 BTEX CG	0.0907 - MW-10 als Analytical Meth Preparation Me Flag - duplicate Analytical Method: Preparation Method Flag	mg/L nod: S 6010 thod: S 3010 Result 8.22 3.27 S 8021B : S 5030B Result <0.005 <0.005 <0.005 <0.005 <0.005	50 B QC Batch: Prep Batch Units mg/L mg/L QC Batch: Prep Batch: Units mg/L mg/L mg/L mg/L mg/L	0.10 ACC23000 ACC23000 ACC23000 1 1 1 1 1 QC22882 PB21525 Dilute 5 5 5 5 5 5 5 5 5 5 5 5	90 Date Analyzed: Date Prepared: n Date Analyzed: Date Prepared: tion	70 - 130 8/22/02 8/19/02 RDI 0.02 8/19/02 8/19/02 RDI 0.001 0.001 0.001 0.001 0.001
4-BFB Sample: Analysis: Analyst: Param Total Iron Total Iron Total Mang Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenzer M,P,O-Xyle Total BTEX Surrogate	Total Meta RR anese 205432 BTEX CG	0.0907 - MW-10 als Analytical Meth Preparation Me Flag - duplicate Analytical Method: Preparation Method Flag Result	mg/L nod: S 6010 thod: S 3010 Result 8.22 3.27 S 8021B : S 5030B Result <0.005 <0.005 <0.005 <0.005 <0.005	50 DB QC Batch: DA Prep Batch Units mg/L mg/L QC Batch: Prep Batch: Prep Batch: Units mg/L mg/L mg/L mg/L	0.10 A: QC23000 A: PB21488 Dilution 1 1 QC22882 PB21525 Dilutt 5 5 5 5 5 5 5 5	90 Date Analyzed: Date Prepared: n Date Analyzed: Date Prepared: tion	70 - 130 8/22/02 8/19/02 RDI 0.03 0.02 8/19/02 8/19/02 RDI 0.001 0.001 0.001 0.001

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CC # V-10		3, 2002		Number: A020810 nergy Field Serv	Page Number: 7 of 11 Lee Gas Plant		
Sample: Analysis:	205433 BTEX	- Rinsate Analytical Method:	S 8021B	QC Batch:	QC22851	Date Analyzed:	8/16/02
Analysis: Analyst:	CG	Preparation Method:	S 5030B	Prep Batch:	QC22851 PB21497	Date Prepared:	8/16/02
Param		Flag	Result	Units	Di	lution	RDL
Benzene		<	< 0.001	mg/L		1	0.001
Toluene	•		< 0.001	mg/L		1	0.001
Ethylbenzen			< 0.001	mg/L		1	0.001
M,P,O-Xyle:		<	<0.001	mg/L		1	0.001
Total BTEX	ζ	· <	<0.001	mg/L		1	0.001
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
TFT			ng/L	1	0.10	82	70 - 130
4-BFB	•		ng/L	1	0.10	84	70 - 130
Sample	·// 16/2/	- Field Blank					
Sample: Analysis: Analyst:	BTEX CG	Analytical Method: Preparation Method:	S 8021B S 5030B	QC Batch: Prep Batch:	QC22851 PB21497	Date Analyzed: Date Prepared:	
Analysis:	BTEX	Analytical Method: Preparation Method:		•	PB21497		
Analysis: Analyst:	BTEX	Analytical Method: Preparation Method: Flag	S 5030B	Prep Batch:	PB21497	Date Prepared:	8/16/02 RDL
Analysis: Analyst: Param Benzene Toluene	BTEX CG	Analytical Method: Preparation Method: Flag	S 5030B Result	Prep Batch: Units	PB21497	Date Prepared:	8/16/02 RDL 0.001
Analysis: Analyst: Param Benzene Toluene Ethylbenzen	BTEX CG	Analytical Method: Preparation Method: Flag < <	S 5030B Result <0.001 <0.001 <0.001	Prep Batch: Units mg/L mg/L mg/L	PB21497	Date Prepared: lution 1	8/16/02 RDL 0.001 0.001 0.001
Analysis: Analyst: Param Benzene Toluene Ethylbenzen M,P,O-Xylei	BTEX CG ne	Analytical Method: Preparation Method: Flag 1 < < <	S 5030B Result <0.001 <0.001 <0.001 <0.001	Prep Batch: Units mg/L mg/L mg/L mg/L	PB21497	Date Prepared: lution 1 1 1 1	8/16/02 RDL 0.001 0.001
Analysis: Analyst: Param Benzene Toluene Ethylbenzen	BTEX CG ne	Analytical Method: Preparation Method: Flag 1 < < <	S 5030B Result <0.001 <0.001 <0.001	Prep Batch: Units mg/L mg/L mg/L	PB21497	Date Prepared: lution 1 1 1	8/16/02 RDL 0.001 0.001 0.001 0.001
Analysis: Analyst: Param Benzene Toluene Ethylbenzen M,P,O-Xylei	BTEX CG ne	Analytical Method: Preparation Method: Flag 1 < < <	S 5030B Result <0.001 <0.001 <0.001 <0.001	Prep Batch: Units mg/L mg/L mg/L mg/L	PB21497	Date Prepared: lution 1 1 1 1	8/16/02 RDL 0.001 0.001 0.001 0.001
Analysis: Analyst: Param Benzene Toluene Ethylbenzen M,P,O-Xylei	BTEX CG ne	Analytical Method: Preparation Method: Flag 1 < < <	S 5030B Result <0.001 <0.001 <0.001 <0.001	Prep Batch: Units mg/L mg/L mg/L mg/L	PB21497 Dil	Date Prepared: lution 1 1 1 1	8/16/02 RDL 0.001 0.001 0.001 0.001 0.001
Analysis: Analyst: Param Benzene Toluene Ethylbenzen M,P,O-Xylei Total BTEX	BTEX CG ne	Analytical Method: Preparation Method: Flag < < < < <	S 5030B Result <0.001 <0.001 <0.001 <0.001	Prep Batch: Units mg/L mg/L mg/L mg/L	PB21497	Date Prepared: lution 1 1 1 1 1 1 1	8/16/02 RDL 0.001 0.001 0.001 0.001 0.001
Analysis: Analyst: Param Benzene Toluene Ethylbenzen M,P,O-Xylei	BTEX CG ne C	Analytical Method: Preparation Method: Flag 1 < < < < < < < <	S 5030B Result <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	Prep Batch: Units mg/L mg/L mg/L mg/L mg/L	PB21497 Dil	Date Prepared: lution 1 1 1 1 1 Percent	8/16/02 RDL 0.001 0.001 0.001 0.001 Recovery
Analysis: Analyst: Param Benzene Toluene Ethylbenzen M,P,O-Xyle: Total BTEX	BTEX CG ne C	Analytical Method: Preparation Method: Flag <td>S 5030B Result <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 Units</td> <td>Prep Batch: Units mg/L mg/L mg/L mg/L mg/L</td> <td>PB21497 Di</td> <td>Date Prepared: lution 1 1 1 1 1 1 1 Percent Recovery</td> <td>0.001 0.001 0.001 0.001 0.001 Recovery Limits</td>	S 5030B Result <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 Units	Prep Batch: Units mg/L mg/L mg/L mg/L mg/L	PB21497 Di	Date Prepared: lution 1 1 1 1 1 1 1 Percent Recovery	0.001 0.001 0.001 0.001 0.001 Recovery Limits
Analysis: Analyst: Param Benzene Toluene Ethylbenzen M,P,O-Xyle: Total BTEX Surrogate TFT	BTEX CG ne C	Analytical Method: Preparation Method: Flag <td>S 5030B Result <0.001 <0.001 <0.001 <0.001 <0.001 Units ng/L</td> <td>Prep Batch: Units mg/L mg/L mg/L mg/L Dilution</td> <td>PB21497 Di Spike Amount 0.10</td> <td>Date Prepared: lution 1 1 1 1 1 Percent Recovery 82</td> <td>8/16/02 RDL 0.001 0.001 0.001 0.001 0.001 Recovery Limits 70 - 130</td>	S 5030B Result <0.001 <0.001 <0.001 <0.001 <0.001 Units ng/L	Prep Batch: Units mg/L mg/L mg/L mg/L Dilution	PB21497 Di Spike Amount 0.10	Date Prepared: lution 1 1 1 1 1 Percent Recovery 82	8/16/02 RDL 0.001 0.001 0.001 0.001 0.001 Recovery Limits 70 - 130
Analysis: Analyst: Param Benzene Toluene Ethylbenzen M,P,O-Xyle: Total BTEX Surrogate TFT	BTEX CG ne C	Analytical Method: Preparation Method: Flag <td>S 5030B Result <0.001 <0.001 <0.001 <0.001 <0.001 Units ng/L</td> <td>Prep Batch: Units mg/L mg/L mg/L mg/L Dilution</td> <td>PB21497 Di Spike Amount 0.10</td> <td>Date Prepared: lution 1 1 1 1 1 Percent Recovery 82</td> <td>8/16/02 RDL 0.001 0.001 0.001 0.001 0.001 Recovery Limits 70 - 130</td>	S 5030B Result <0.001 <0.001 <0.001 <0.001 <0.001 Units ng/L	Prep Batch: Units mg/L mg/L mg/L mg/L Dilution	PB21497 Di Spike Amount 0.10	Date Prepared: lution 1 1 1 1 1 Percent Recovery 82	8/16/02 RDL 0.001 0.001 0.001 0.001 0.001 Recovery Limits 70 - 130

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Report Date: August 23, 2002 CC # V-101 Order Number: A02081620 Duke Energy Field Services

Quality Control Report Method Blank

Method B	lank	QCBatch:	QC22851				
				· .			Reporting
Param		Flag		Results	Units		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
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
TFT	·····	0.0817	mg/L	1	0.10	82	70 - 130
4-BFB		0.0811	mg/L	1	0.10	81	70 - 130
Method B	lank	QCBatch:	QC22882				
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	1	0.001
Total BTEX				< 0.001	mg/L		0.001
				· ·			
		· · ·			0.1	Devenue	D
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	1 105	0.090	mg/L	1	0.10	90	70 - 130
4-BFB		0.0882	mg/L	1	0.10	88	70 - 130
			6/	·	· · ·		· · · · · · · · · · · · · · · · · · ·
Method B	lank	QCBatch:	QC23000	· · · · ·			
- 	· .			· ·		. * ***	Reporting
Param		Flag	· · ·	Results	Units	•	Limit
Total Iron				< 0.050	mg/I	······	0.05
Total Mangane	se	•	· · ·	< 0.025	mg/I		0.02
		······································	·····	· ·	· · · · ·	· · ·	

Quality Control Report Lab Control Spikes and Duplicate Spikes

Laboratory Control Spikes

Report Date: August 23, 2002 CC # V-101

Order Number: A02081620 **Duke Energy Field Services** Page Number: 9 of 11 Lee Gas Plant

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
MTBE	0.0862	0.0877	mg/L	1	0.10	< 0.001	86	2	70 - 130	20
Benzene	0.0899	0.0904	mg/L	1	0.10	< 0.001	90	0	70 - 130	20
Toluene	0.0878	0.0884	mg/L	1	0.10	< 0.001	. 88	1	70 - 130	20
Ethylbenzene	0.0904	0.0919	mg/L	1	0.10	< 0.001	. 90	2	70 - 130	20
M,P,O-Xylene	0.273	0.278	mg/L	1	0.30	< 0.001	91	2	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dilution	Spike Amount	LCS % Rec	LCSD % Rec	Recovery Limits
TFT	0.0864	0.0831	mg/L	1	0.10	86	83	70 - 130
4-BFB	0.091	0.0876	mg/L	1	0.10	91	88	70 - 130

Laboratory Control Spikes

QCBatch:

QC22882

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
MTBE	0.0928	0.0947	mg/L	1	0.10	<0.001	93	2	70 - 130	20
Benzene	0.093	0.094	mg/L	1	0.10	< 0.001	93	1	70 - 130	20
Toluene	0.0912	0.0927	mg/L	1	0.10	<0.001	91	2	70 - 130	20
Ethylbenzene	0.0906	0.0922	mg/L	1	0.10	< 0.001	91	2	70 - 130	20
M,P,O-Xylene	0.262	0.266	mg/L	1	0.30	< 0.001	87	2	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dilution	Spike Amount	LCS % Rec	LCSD % Rec	Recovery Limits
TFT	0.0913	0.0897	mg/L	1	0.10	91	90	70 - 130
4-BFB	0.0894	0.0892	mg/L	1	0.10	89	89	70 - 130

Laboratory Control Spikes

QCBatch: QC23000

· · ·			•		Spike				,	· .
	LCS	LCSD			Amount	Matrix			% Rec	RPD
Param	Result	Result	Units	Dil.	Added	Result	% Rec	RPD	Limit	Limit
Total Iron	0.522	0.502	mg/L	1	0.50	< 0.050	104	4	75 - 125	20
Total Manganese	0.250	0.252	mg/L	1 ·	0.25	< 0.025	100	1	75 - 125	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Quality Control Report Matrix Spikes and Duplicate Spikes

Matrix Spikes

QCBatch: QC23000

Report Date: August 23, 2002 CC # V-101				Order Number: A02081620 Duke Energy Field Services					Page Number: 10 of 11 Lee Gas Plant			
Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit		
Total Iron Total Manganese	1.11 0.608	1.10 0.625	mg/L mg/L	1	0.50 0.25	0.590 0.362	103 98	1 6	75 - 125 75 - 125	20 20		

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Quality Control Report Continuing Calibration Verification Standards

CCV (1)

QCBatch: QC22851

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	\mathbf{Units}	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/L	0.10	0.0923	92	85 - 115	8/16/02
Benzene		mg/L	0.10	0.0923	92	85 - 115	8/16/02
Toluene		mg/L	0.10	0.0912	91	85 - 115	8/16/02
Ethylbenzene		mg/L	0.10	0.0952	95	85 - 115	8/16/02
M,P,O-Xylene		mg/L	0.30	0.284	95	85 - 115	8/16/02

CCV (2)

QCBatch: QC22851

			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/L	0.10	0.0854	85	85 - 115	8/16/02
Benzene		mg/L	0.10	0.0906	90	85 - 115	8/16/02
Toluene		mg/L	0.10	0.0879	87	85 - 115	8/16/02
Ethylbenzene		mg/L	0.10	0.0913	91	85 - 115	8/16/02
M,P,O-Xylene		mg/L	0.30	0.274	91	85 - 115	8/16/02

ICV (1) Q0	CBatch: QC228	51			÷ . • • • .	1. J.
		CCVs	CCVs	CCVs	Percent	
		True	Found	Percent	Recovery	Date
Param Fla	g Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE	mg/L	0.10	0.0874	87	85 - 115	8/16/02
Benzene	m mg/L	0.10	0.0909	91	85 - 115	8/16/02
Toluene	mg/L	0.10	0.0892	89	85 - 115	8/16/02
Ethylbenzene	mg/L	0.10	0.0934	93	85 - 115	8/16/02
M,P,O-Xylene	mg/L	0.30	0.281	94	85 - 115	8/16/02

CCV (1)

QCBatch: QC22882

Report Date: Aug CC # V-101	ust 23, 2002			ımber: A0208 ergy Field Se		Page Number: 11 of 11 Lee Gas Plant		
			CCVs	CCVs	CCVs	Percent		
			True	Found	Percent	Recovery	Date	
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed	
MTBE		mg/L	0.10	0.0977	98	85 - 115	8/19/02	
Benzene		mg/L	0.10	0.0959	96	85 - 115	8/19/02	
Toluene		mg/L	0.10	0.0943	94	85 - 115	8/19/02	
Ethylbenzene		mg/L	0.10	0.0937	94	85 - 115	8/19/02	
M,P,O-Xylene		mg/L	0.30	0.270	90	85 - 115	8/19/02	
CCV (2)	QCBatch	: QC2288	2		• _			
			CCVs	CCVs	CCVs	Percent		
· .			True	Found	Percent	Recovery	Date	
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed	
MTBE	· · · · · · · · · · · · · · · · · · ·	mg/L	0.10	0.0979	97	85 - 115	8/19/02	
Benzene		mg/L	0.10	0.095	95	85 - 115	8/19/02	
Toluene		mg/L	0.10	0.0931	93	85 - 115	8/19/02	
Ethylbenzene		mg/L	0.10	0.093	93	85 - 115	8/19/02	
M,P,O-Xylene		mg/L	0.30	0.268	89	85 - 115	8/19/02	
ICV (1)	QCBatch:	QC22882						
	. •		CCVs	CCVs	CCVs	Percent		
			True	Found	Percent	Recovery	Date	
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed	
MTBE		mg/L	0.10	0.0958	96	85 - 115	8/19/02	
Benzene		mg/L	0.10	0.0949	95	85 - 115	8/19/02	
Foluene		mg/L	0.10	0.0932	93	85 - 115	8/19/02	
Ethylbenzene		mg/L	0.10	0.0925	92	85 - 115	8/19/02	
M,P,O-Xylene	· .	mg/L	0.30	0.268	89	85 - 115	8/19/02	

CCV (1) QCBatch:

Batch: QC23000

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Iron	<u></u>	mg/L	1	0.977	- 98	90 - 110	8/22/02
Total Manganese		mg/L	0.50	0.487	97	90 - 110	8/22/02

ICV (1) QCBatch:

ch: QC23000

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		CCVs	CCVs	CCVs	Percent	
		True	Found	Percent	Recovery	Date
Param	Flag Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Iron	mg/L	1	0.990	99	95 - 105	8/22/02
Total Manganese	mg/L	0.50	0.500	100	95 - 105	8/22/02
		······································				· · · · · · · · · · · · · · · · · · ·

Chain of Custody	Number of Containers	3	3	3	3	8	3	3	2.	2	2	Relinquished By: (3) (Company)		(Printed Name)	(ure)	(Date) (Time)	Repeived By:	1 / 16 KA CUMPLEY	Trinicad Name) + Hors Held	(Date) R-1/1 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -	Copy signed original form for Trident Environmental records
Cha Bate 8-15-01	Analysis (0001-XT) H9T (001-XT) H9T (001-XT) H9T (001-XT)				>	>	>	>				Relinquished By: (2) (Company)	TRACE ANALYSIS	HELEN SHELTON	aleller shelter	(Date) 1, 5 / U. 2. (Time) 30	Received By: (2) (Company)		(Primed Name) (Simature)	(Date) (Time)	Copy signed origi
	ВТЕХ (ЕРА 80218) MTBE (ЕРА 80218) SVOC (ЕРА 80218) VOC (ЕРА 8270) VOC (ЕРА 8270) TPH (ЕРА 418.1) TPH (ЕРА 418.1) TPH (ЕРА 418.1)		>	<u>></u>	<i>``</i>		<u> </u>	· ·	· · ·				Trident Environmental	Gilbert Van Perenter	WH ULLA	02 h (amil) 20-		THE ALLISIS	HELEN SHELTON	NOVENCHARLEDDAN (Date) 5-02 (Time) 42-0	paped shreyhown
ironmental 524 xas 79708 808 727 (Fax)	G - Grab, C- Composite	3-14-02 20-11-8	8-14-02 1010	8-14-02 10 50	8-14-02 1115	0021 20-61-8	3-14-02 1805	0161 20-11-8	3-14-02 1414	0/21 20-21-8	8-13-02 0900	Sample Receipt	Total Containers:	COC Seals:	Rec'd Good Cond/Cold:	Conforms to Records:	Lab No.:		Please send invoice direct to client:	DOX 0490' DOI 140' CO 007 1	- Aba
ENTIAL Total (915) 682-0727 (Fax)	e: TraceAnalysis Inc. s: 6701 Aberdeen, Ste. 9 Lubbock, Texas 79424 e: 800-378-1296 RES) RES) Af U Matrix antification Matrix	26425 Mile Water	<i>36</i> Water	37 Water	28 Water	AG Water	3 <i>D</i> Water	<u>3</u> <i>j</i> Water	Water	<i>33</i> Water	huk 34 Water	Project Information	Services	Lee Gas Plant	Gil Van Deventer	V-101			Comments: Please send	Juke Energy Fred 3463, Auril: Steve Weakiers, F.O. Dux 3433, Deriver, C.O. Su	
TRIDEN	Lab Name: Trace Address; 6701 Lubb Telephone: 800-3 Samplers (SIGNATURES) Sampler (SIGNATURES) Sample Identification	MW-17	MW-16	MW-22	MW-14	MW-21	MW-9	MW-10	Duplicate	Rinsate	Field Bla	ā	Project Name:	Project Location:	Project Manager:	Project No.:	Shipping ID No.:	Bill to (see below):	Special instructions/Comments:	Duke Energy Freid .	

TraceAnalysis, Inc.

CC # V-101

Report Date: August 20, 2002 Order Number: A02081421 **Duke Energy Field Services** Page Number: 1 of 3 Lee Gas Plant

Summary Report

Gil Van Deventer **Trident Environmental** P.O. Box 7624 Midland, Tx. 79708

Report Date:

August 20, 2002

Order ID Number: A02081421

CC # V-101 Project Number: Project Name: **Duke Energy Field Services** Project Location: Lee Gas Plant

		· · ·	Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
204970	MW20	Water	8/13/02	10:30	8/14/02
204971	MW-19	Water	8/13/02	11:43	8/14/02
204972	MW-13	Water	8/13/02	12:50	8/14/02
204973	MW-12	Water	8/13/02	15:35	8/14/02
204974	MW-11	Water	8/13/02	16:40	8/14/02
204975	MW-18	Water	8/13/02	17:50	8/14/02
204976	MW-7	Water	8/13/02	18:50	8/14/02

0 This report consists of a total of 3 page(s) and is intended only as a summary of results for the sample(s) listed above.

			BTEX		
	Benzene	Toluene	Ethylbenzene	M,P,O-Xylene	Total BTEX
Sample - Field Code	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
204970 - MW20	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
204971 - MW-19	< 0.001	<0.001	<0.001	< 0.001	< 0.001
204972 - MW-13	0.0031	< 0.001	< 0.001	< 0.001	0.0031
204973 - MW-12	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
204974 - MW-11	< 0.001	< 0.001	< 0.001	< 0.001	<0.001
204975 - MW-18	< 0.001	<0.001	< 0.001	< 0.001	< 0.001
204976 - MW-7	0.0261	< 0.005	< 0.005	< 0.005	0.0261

Sample: 204970 - MW20 Param	Flag		Result		Units
Nitrate-N	 1 1005	· · · · · · · · · · · · · · · · · · ·	1.67		mg/L
Sulfate		· · ·	44.9		mg/L
Total Iron			< 0.050	· · · ·	mg/L
Total Manganese		· . ·	< 0.025		mg/L

0.0337

mg/L

Sample: 204972 - MW-13

Total Manganese

Param	Flag	Result	Units
Nitrate-N		<1.0	mg/L
Sulfate		8.75	mg/L
Total Iron		0.143	mg/L
Total Manganese		2.32	mg/L

Sample: 204973 - MW-12

Param	Flag	Result	Units
Nitrate-N		<1.0	mg/L
Sulfate	· · ·	22.4	mg/L
Total Iron		0.086	$\mathrm{mg/L}$
Total Manganese		0.494	mg/L

Sample: 204974 - MW-11

Param	\mathbf{Flag}	\mathbf{Result}	Units
Nitrate-N		2.27	mg/L
Sulfate		30.3	mg/L
Total Iron		<0.050	mg/L
Total Manganese		0.906	mg/L

Sample: 204975 - MW-18

Param	Flag	Result	Units
Nitrate-N		<1.0	mg/L
Sulfate		61.4	mg/L
Total Iron		<0.050	mg/L
Total Manganese		0.387	mg/L

Sample: 204976 - MW-7

Param		Flag	Result	t Units
Nitrate-N	· ·	·····	<1.() mg/L
Sulfate	· · · · · · ·		28.2	
		**************************************	· · · · · · · · · · · · · · · · · · ·	Carting I and and a

Continued on next page ...

Report Date: August 20, 2002 Order Number: A02081421 CC # V-101 Duke Energy Field Services Page Number: 3 of 3 Lee Gas Plant

Sample 204976 continued ...

Param	Flag	Result	Units
Total Iron		0.490	mg/L
Total Manganese		2.07	mg/L



Analytical and Quality Control Report

Gil Van Deventer Trident Environmental P.O. Box 7624 Midland, Tx. 79708 Report Date:

August 20, 2002

Order ID Number: A02081421

Project Number:CC # V-101Project Name:Duke Energy Field ServicesProject Location:Lee Gas Plant

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

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
204970	MW20	Water	8/13/02	10:30	8/14/02
204971	MW-19	Water	8/13/02	11:43	8/14/02
204972	MW-13	Water	8/13/02	12:50	8/14/02
204973	MW-12	Water	8/13/02	15:35	8/14/02
204974	MW-11	Water	8/13/02	16:40	8/14/02
204975	MW-18	Water	8/13/02	17:50	8/14/02
204976	MW-7	Water	8/13/02	18:50	8/14/02

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. Note: the RDL is equal to MQL for all organic analytes including TPH.

The test results contained within this report meet all requirements of LAC 33:I unless otherwise noted.

This report consists of a total of 12 pages and shall not be reproduced except in its entirety including the chain of custody (COC), without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Report Date: August 20, 2002 CC # V-101 Order Number: A02081421 Duke Energy Field Services

Analytical Report

Sample:	204970	- MW20					
Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC22779	Date Analyzed:	8/14/0
Analyst:	CG	Preparation Method	: S 5030B	Prep Batch:	PB21443	Date Prepared:	8/14/0
Param		Flag	Result	Units	Di	lution	. RD
Benzene	·····		< 0.005	mg/L		5	0.00
Toluene			< 0.005	mg/L		5	0.00
Ethylbenzen	e		< 0.005	mg/L		5	0.00
M,P,O-Xyler	ne		<0.005	mg/L		5	0.00
Total BTEX		·	<0.005	mg/L		5	0.00
						· · · ·	
					Spike	Percent	Recover
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
TFT		0.0884	mg/L	5	0.10	88	70 - 130
4-BFB			mg/L	5	0.10	74	70 - 130
	· .						
Sample	204970	- MW20				•	
Sample:							J. 0 /1E /0
		atography (IC) Analy	tical Method	: E 300.0 QC	Batch: Q	C22778 Date Analyze	a: 9/19/0
Analysis:			tical Method ration Metho			C22778 Date Analyze B21442 Date Prepare	
Analysis: Analyst:	Ion Chrom	Prepa				· · ·	d: 8/15/0 RD
Analysis: Analyst: Param Nitrate-N	Ion Chrom JSW	Prepa	ration Metho	od: Pre		· · ·	d: 8/15/0 RD
•	Ion Chrom JSW	Prepa Result	ration Metho Units	d: Pre Dilution		· · ·	
Analysis: Analyst: Param Nitrate-N	Ion Chrom JSW	Prepa Result 1.67	ration Metho Units mg/L	od: Pre Dilution 5		· · ·	ed: 8/15/0 RD 0.2
Analysis: Analyst: Param Nitrate-N	Ion Chrom JSW Flag	Prepa <u>Result</u> 1.67 44.9	ration Metho Units mg/L	od: Pre Dilution 5		· · ·	ed: 8/15/0 RD 0.2
Analysis: Analyst: Param Nitrate-N	Ion Chrom JSW Flag	Prepa Result 1.67	ration Metho Units mg/L	od: Pre Dilution 5		· · ·	ed: 8/15/0 RD 0.2
Analysis: Analyst: Param Nitrate-N Sulfate	Ion Chrom JSW Flag	Prepa <u>Result</u> 1.67 44.9 - MW20	ration Metho Units mg/L mg/L	od: Pre	p Batch: P	B21442 Date Prepare	ed: 8/15/0 RD 0.2
Analysis: Analyst: Param Nitrate-N Sulfate Sample: Analysis:	Ion Chrom JSW Flag 204970	Prepa <u>Result</u> 1.67 44.9 - MW20	ration Metho Units mg/L mg/L nod: S 601	od: Pre Dilution 5 5 0B QC Batch	p Batch: P	B21442 Date Prepare	ed: 8/15/0 RD 0.2 8/16/0
Analysis: Analyst: Param Nitrate-N Sulfate Sample: Analysis: Analyst:	Ion Chrom JSW Flag 204970 Total Meta	Prepa Result 1.67 44.9 - MW20 Ils Analytical Meth Preparation Me	ration Metho Units mg/L mg/L nod: S 601	od: Pre Dilution 5 5 0B QC Batch	p Batch: P	B21442 Date Prepare 6 Date Analyzed: 0 Date Prepared:	ed: 8/15/0 RD 0.2 8/16/0 8/15/0
Analysis: Analyst: Param Nitrate-N Sulfate Sample: Analysis: Analyst: Param	Ion Chrom JSW Flag 204970 Total Meta	Prepa Result 1.67 44.9 - MW20 als Analytical Meth	ration Metho Units mg/L mg/L nod: S 601 thod: S 301	od: Pre Dilution 5 5 0B QC Batch 0A Prep Batc	p Batch: P n: QC2281 ch: PB2144	B21442 Date Prepare 6 Date Analyzed: 0 Date Prepared: tion	ed: 8/15/0 RD 0.2 8/16/0 8/15/0 RD
Analysis: Analyst: Param Nitrate-N Sulfate Sample: Analysis: Analyst: Param Total Iron	Ion Chrom JSW Flag 204970 Total Meta RR	Prepa Result 1.67 44.9 - MW20 Ils Analytical Meth Preparation Me	ration Metho Units mg/L mg/L nod: S 601 thod: S 301 Result	od: Pre Dilution 5 5 0B QC Batch 0A Prep Batc Units	p Batch: P n: QC2281 ch: PB2144 Dilu	B21442 Date Prepare 6 Date Analyzed: 0 Date Prepared: tion	ed: 8/15/0 RD 0.2 8/16/0 8/15/0 RD 0.0
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Analysis: Analyst: Param Nitrate-N Sulfate Sample: Analysis: Analyst: Param Total Iron Total Manga	Ion Chrom JSW Flag 204970 Total Meta RR anese	Prepa Result 1.67 44.9 - MW20 Is Analytical Meth Preparation Me Flag	ration Metho Units mg/L mg/L hod: S 601 thod: S 301 Result <0.050	od: Pre Dilution 5 5 0B QC Batch 0A Prep Batc Units mg/L	p Batch: P n: QC2281 ch: PB2144 Dilu	B21442 Date Prepare 6 Date Analyzed: 0 Date Prepared: tion	ed: 8/15/0 RD 0.2 8/16/0 8/15/0 RD 0.0
Analysis: Analysis: Analyst: Param Nitrate-N Sulfate Sample: Analysis: Analyst: Param Total Iron Total Manga Sample:	Ion Chrom JSW Flag 204970 Total Meta RR anese 204971	Prepa Result 1.67 44.9 - MW20 Analytical Meth Preparation Me Flag - MW-19	ration Metho Units mg/L mg/L nod: S 601 thod: S 301 Result <0.050 <0.025	od: Pre Dilution 5 5 0B QC Batch 0A Prep Batc Units mg/L mg/L	p Batch: P	B21442 Date Prepare 6 Date Analyzed: 0 Date Prepared: tion	ed: 8/15/0 RD) 0.2 8/16/0 8/15/0 RD) 0.0 0.0
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)1	2002		Number: A0208 Snergy Field Se		Page Num Lee	e Gas Plant
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
FFT		0.0918	mg/L	1	0.10	92	70 - 130
4-BFB		0.0803	mg/L	1	0.10	80	70 - 130
	<u></u>						
Sample:	204971 - I		alatical Mathe	d: E 300.0 Q	C Bataha	Coorre Data Analam	J. 9 /1E /09
Analysis: Analyst:	JSW	ography (IC) An Pro	eparation Meth	-	•	C22778 Date Analyze B21442 Date Prepare	
Param Nitrate-N	Flag	Result 3.19	Units	Dilution			RDL 0.20
Sulfate	· · · · · · · · · · · · · · · · · · ·	16.9	mg/L mg/L	5 5			0.20
						· · ·	
Sample:	204971 - I	MW-19			•		
Analysis: Analyst:	Total Metals RR	Analytical M Preparation 1		•		•	8/16/02 8/15/02
Param	· · · · · · · · · · · · · · · · · · ·	Flag	Result	Units	Dilu		RDL
fotal Iron fotal Mang			<0.050 0.0337	mg/L mg/L	1		0.05
ample:	204972 - 1	MW-13		•			
Analysis:	BTEX Ar	MW-13 nalytical Metho reparation Meth		QC Batch: Prep Batch	QC22779 a: PB21443	Date Analyzed: Date Prepared:	
Analysis: Analyst: Param	BTEX Ar CG Pr	nalytical Metho	od: S 5030B Result	Prep Batch Units	n: PB21443	Date Prepared:	8/14/02 RDL
Analysis: Analyst: Param Benzene	BTEX Ar CG Pr	nalytical Metho eparation Meth	od: S 5030B Result 0.0031	Prep Batch Units mg/L	n: PB21443	Date Prepared:	8/14/02 RDL 0.001
Analysis: Analyst: Param Benzene Foluene	BTEX Ar CG Pr	nalytical Metho eparation Meth	od: S 5030B <u>Result</u> 0.0031 <0.001	Prep Batch Units mg/L mg/L	n: PB21443	Date Prepared:	8/14/02 RDL 0.001 0.001
Analysis: Analyst: Param Benzene Coluene Cthylbenzer	BTEX Ar CG Pr	nalytical Metho eparation Meth	result 0.0031 <0.001 <0.001	Prep Batch Units mg/L mg/L mg/L	n: PB21443	Date Prepared: lution 1 1 1	8/14/02 RDL 0.001 0.001 0.001
Analysis: Analyst: Param Benzene Coluene Cthylbenzer A,P,O-Xyle	BTEX Ar CG Pr	nalytical Metho eparation Meth	Result 0.0031 <0.001	Prep Batch Units mg/L mg/L mg/L mg/L	n: PB21443	Date Prepared: lution 1 1 1 1	8/14/02 RDL 0.001 0.001 0.001 0.001
Analysis: Analyst: Param Benzene Coluene Cthylbenzer A,P,O-Xyle	BTEX Ar CG Pr	nalytical Metho eparation Meth	result 0.0031 <0.001 <0.001	Prep Batch Units mg/L mg/L mg/L	n: PB21443	Date Prepared: lution 1 1 1	8/14/02 RDL 0.001 0.001 0.001 0.001
Analysis: Analyst: Param Benzene Foluene Ethylbenzer A,P,O-Xyle	BTEX Ar CG Pr	nalytical Metho eparation Meth	Result 0.0031 <0.001	Prep Batch Units mg/L mg/L mg/L mg/L	n: PB21443 Dil	Date Prepared: lution 1 1 1 1 1 1 1	8/14/02 RDL 0.001 0.001 0.001 0.001 0.001
Analysis: Analyst: Param Benzene Coluene Coluene Chylbenzer 4,P,O-Xyle Cotal BTEX	BTEX Ar CG Pr	nalytical Metho reparation Meth Flag	Result 0.0031 <0.001	Prep Batch Units mg/L mg/L mg/L mg/L mg/L	n: PB21443 Dil	Date Prepared: lution 1 1 1 1 1 Percent	8/14/02 RDL 0.001 0.001 0.001 0.001 0.001 Recovery
Analysis: Analyst: Param Benzene Coluene Cthylbenzer I,P,O-Xyle Cotal BTEX	BTEX Ar CG Pr	nalytical Metho eparation Meth	od: S 5030B Result 0.0031 <0.001 <0.001 <0.001 0.0031 Units	Prep Batch Units mg/L mg/L mg/L mg/L	n: PB21443 Dil	Date Prepared: lution 1 1 1 1 1 1 1	8/14/02 RDL 0.001 0.001 0.001 0.001 0.001 Recovery Limits
Analysis: Analyst: Param Benzene Foluene Cthylbenzer A,P,O-Xyle Fotal BTEX Fotal BTEX	BTEX Ar CG Pr	nalytical Metho reparation Meth Flag Result	Result 0.0031 <0.001	Prep Batch Units mg/L mg/L mg/L mg/L mg/L	n: PB21443 Dil Spike Amount	Date Prepared: lution 1 1 1 1 1 Percent Recovery	8/14/02 RDL 0.001 0.001 0.001 0.001 0.001 Recovery
Analysis: Analyst: Param Benzene Foluene Ethylbenzer M,P,O-Xyle Fotal BTEX Surrogate FFT	BTEX Ar CG Pr	nalytical Metho reparation Meth Flag Result 0.0939	Result 0.0031 <0.001	Prep Batch Units mg/L mg/L mg/L mg/L mg/L	n: PB21443 Dil Spike <u>Amount</u> 0.10	Date Prepared: lution 1 1 1 1 1 Percent Recovery 94	8/14/02 RDL 0.001 0.001 0.001 0.001 0.001 Recovery Limits 70 - 130
Analysis: Analysis: Param Benzene Foluene Coluene Chylbenzer A,P,O-Xyle Cotal BTEX Cotal BTEX Surrogate FFT -BFB	BTEX Ar CG Pr ne (Flag 204972 - 1	Result 0.0939 0.0814	Result 0.0031 <0.001	Prep Batch Units mg/L mg/L mg/L mg/L Dilution 1 1	n: PB21443 Dil Spike <u>Amount</u> 0.10 0.10	Date Prepared: lution 1 1 1 1 1 1 1 Percent Recovery 94 81	8/14/02 RDL 0.001 0.001 0.001 0.001 0.001 Recovery Limits 70 - 130 70 - 130
Analysis: Analysis: Param Benzene Coluene Cthylbenzer A,P,O-Xyle Cotal BTEX Lurrogate TFT -BFB Sample: Analysis:	BTEX Ar CG Pr ne (Flag 204972 - 1	Result 0.0939 0.0814 MW-13 graphy (IC) An	Result 0.0031 <0.001	Prep Batch Units mg/L mg/L mg/L mg/L Dilution 1 1 1	n: PB21443 Dil Spike Amount 0.10 0.10 0.10	Date Prepared: lution 1 1 1 1 1 Percent Recovery 94	8/14/02 RDL 0.001 0.001 0.001 0.001 0.001 Recovery Limits 70 - 130 70 - 130 70 - 130
Analysis: Analysis: Param Benzene Coluene Cthylbenzer A,P,O-Xyle Cotal BTEX Surrogate TFT -BFB Sample: Analysis: Analysis: Analysis: Param	BTEX Ar CG Pr ne K Flag 204972 - 1 Ion Chromato	Result 0.0939 0.0814 MW-13 graphy (IC) An Pre Result	od: S 5030B Result 0.0031 <0.001 <0.001 <0.001 0.0031 Units mg/L mg/L alytical Method eparation Method	Prep Batch Units mg/L mg/L mg/L mg/L mg/L d: E 300.0 Q od: P Dilution	n: PB21443 Dil Spike Amount 0.10 0.10 0.10	Date Prepared: lution 1 1 1 1 1 1 1 Percent Recovery 94 81 C222778 Date Analyze	8/14/02 RDL 0.001 0.001 0.001 0.001 0.001 Recovery Limits 70 - 130 70 - 130 70 - 130 20 - 130
Sample: Analysis: Analyst: Param Benzene Coluene Chylbenzer M,P,O-Xyle Cotal BTEX Courrogate CFT -BFB Sample: Analysis: Analysis: Analyst: Param	BTEX Ar CG Pr ne K Flag 204972 - I Ion Chromato JSW	Result 0.0939 0.0814 MW-13 graphy (IC) An Pre Result <1.0	od: S 5030B Result 0.0031 <0.001 <0.001 <0.001 0.0031 Units mg/L mg/L alytical Method eparation Method Units mg/L	Prep Batch Units mg/L mg/L mg/L mg/L mg/L d: E 300.0 Q od: P Dilution 5	n: PB21443 Dil Spike Amount 0.10 0.10 0.10	Date Prepared: lution 1 1 1 1 1 1 1 Percent Recovery 94 81 C222778 Date Analyze	70 - 130 70 - 130 ed: 8/15/02
Analysis: Analysis: Param Benzene Coluene Cthylbenzer A,P,O-Xyle Cotal BTEX Unrogate TFT -BFB Sample: Analysis: Analysis: Analysis: Analysis: Analysis: Analysis:	BTEX Ar CG Pr ne K Flag 204972 - I Ion Chromato JSW	Result 0.0939 0.0814 MW-13 graphy (IC) An Pre Result	od: S 5030B Result 0.0031 <0.001 <0.001 <0.001 0.0031 Units mg/L mg/L alytical Method eparation Method	Prep Batch Units mg/L mg/L mg/L mg/L mg/L d: E 300.0 Q od: P Dilution	n: PB21443 Dil Spike Amount 0.10 0.10 0.10	Date Prepared: lution 1 1 1 1 1 1 1 Percent Recovery 94 81 C222778 Date Analyze	8/14/02 RDL 0.001 0.001 0.001 0.001 0.001 Recovery Limits 70 - 130 70 - 130 70 - 130 cd: 8/15/02 d: 8/15/02 RDL
Analysis: Analysis: Param Benzene Coluene Cthylbenzer A,P,O-Xyle Cotal BTEX Unrogate TFT -BFB Sample: Analysis: Anal	BTEX Ar CG Pr ne K Flag 204972 - I Ion Chromato JSW	Result 0.0939 0.0814 MW-13 graphy (IC) An Pre Result <1.0	od: S 5030B Result 0.0031 <0.001 <0.001 <0.001 0.0031 Units mg/L mg/L alytical Method eparation Method Units mg/L	Prep Batch Units mg/L mg/L mg/L mg/L mg/L d: E 300.0 Q od: P Dilution 5	n: PB21443 Dil Spike Amount 0.10 0.10 0.10	Date Prepared: lution 1 1 1 1 1 1 1 Percent Recovery 94 81 C222778 Date Analyze	8/14/02 RDL 0.001 0.001 0.001 0.001 0.001 Recovery Limits 70 - 130 70 - 130 70 - 130 cd: 8/15/02 d: 8/15/02 RDL

			Duke Ene	rgy Field Serv	ices	Lee	
Sample:	204972	- MW-13		<u> </u>			
Analysis:	Total Meta		fethod: S 6010F	B QC Batch	: QC22816	Date Analyzed:	8/16/0
Analyst:	RR	Preparation		•	-	Date Prepared:	8/15/0
Param		Flag	Result	Units	Dilutio	n	RD
Total Iron			0.143	mg/L	1		0.0
Total Mang	anese		2.32	mg/L	. 1		0.0
Sample:	204973	- MW-12	·				
Analysis:	BTEX	Analytical Metho	od: S 8021B	QC Batch:	QC22779	Date Analyzed:	8/14/0
Analyst:	CG	Preparation Met		Prep Batch:	PB21443	Date Prepared:	8/14/0
Param		Flag	Result	Units	Dilu		RD
Benzene			<0.001	mg/L	1	•	0.00
Toluene			< 0.001	mg/L	1		0.00
Ethylbenzer			<0.001	mg/L	1		0.00
M,P,O-Xyle			<0.001	mg/L	1		0.00
Total BTEX	<u>^</u>	· ·	<0.001	mg/L	1	·	0.00
. *				· · ·	Q	Democrat	D
Surrogate	Flag	Result	Units I	Dilution	Spike Amount	Percent Recovery	Recover Limits
TFT	I 1005	0.0902	mg/L	1	0.10	90	70 - 13
4-BFB		0.0784	mg/L	1	0.10	78	
a 1	00.4070	MW 10				10	70 - 13
Analysis:		- MW-12 atography (IC) Ar Pr	· .	E 300.0 QC	Batch: QC	22778 Date Analyze 21442 Date Prepare	d: 8/15/(
Analysis: Analyst:	Ion Chroma JSW	atography (IC) Ar Pr	alytical Method: eparation Method	E 300.0 QC : Pre	Batch: QC	22778 Date Analyze	d: 8/15/0
Sample: Analysis: Analyst: Param Nitrate-N	Ion Chroma	atography (IC) Ar	nalytical Method: eparation Method Units	E 300.0 QC	Batch: QC	22778 Date Analyze	d: 8/15/(d: 8/15/(RD
Analysis: Analyst: Param Nitrate-N	Ion Chroma JSW	atography (IC) Ar Pr Result	alytical Method: eparation Method	E 300.0 QC : Pre Dilution	Batch: QC	22778 Date Analyze	d: 8/15/(d: 8/15/(RD
Analysis: Analyst: Param Nitrate-N	Ion Chroma JSW	atography (IC) Ar Pr <u>Result</u> <1.0	nalytical Method: eparation Method: Units mg/L	E 300.0 QC : Pre Dilution 5	Batch: QC	22778 Date Analyze	d: 8/15/(d: 8/15/(RD
Analysis: Analyst: Param Nitrate-N Sulfate	Ion Chroma JSW Flag	atography (IC) Ar Pr Result <1.0 22.4	nalytical Method: eparation Method: Units mg/L	E 300.0 QC : Pre Dilution 5	Batch: QC	22778 Date Analyze	d: 8/15/(
Analysis: Analyst: Param Nitrate-N Sulfate Sample:	Ion Chroma JSW Flag 204973	atography (IC) Ar Pr <u>Result</u> <1.0 22.4 - MW-12	nalytical Method: eparation Method: Units mg/L mg/L	E 300.0 QC Pre Dilution 5 5	Batch: QC p Batch: PB2	22778 Date Analyze 21442 Date Prepare	d: 8/15/(d: 8/15/(RD 0.2
Analysis: Analyst: Param Nitrate-N Sulfate Sample: Analysis:	Ion Chroma JSW Flag	atography (IC) Ar Pr Result <1.0 22.4 - MW-12	halytical Method: eparation Method: Units mg/L mg/L fethod: S 6010E	E 300.0 QC Pre Dilution 5 5 3 QC Batch	Batch: QC p Batch: PB2	22778 Date Analyze	d: 8/15/(d: 8/15/(RD 0.2 8/16/(
Analysis: Analyst: Param Nitrate-N Sulfate Sample: Analysis: Analysis: Param	Ion Chroma JSW Flag 204973 Total Meta	atography (IC) Ar Pr Result <1.0 22.4 - MW-12 Is Analytical M	alytical Method: eparation Method: Units mg/L mg/L fethod: S 6010F Method: S 3010F Result	E 300.0 QC Pre- Dilution 5 5 3 QC Batch A Prep Batc Units	Batch: QC p Batch: PB2	22778 Date Analyze 21442 Date Prepare Date Analyzed: Date Prepared:	d: 8/15/(d: 8/15/(RD 0.2 8/16/(8/15/(RD
Analysis: Analyst: Param Nitrate-N Sulfate Sample: Analysis: Analyst: Param Total Iron	Ion Chroma JSW Flag 204973 Total Meta RR	atography (IC) Ar Pr Result <1.0 22.4 - MW-12 Is Analytical M Preparation	halytical Method: eparation Method: Units mg/L mg/L fethod: S 6010F Method: S 3010A Result 0.086	E 300.0 QC Pre Dilution 5 5 3 4 9 4 9 4 9 5 5 3 5 4 5 5 4 5 5 5 5 5 5 5 5 5 5 5 5	Batch: QC2 p Batch: PB2	22778 Date Analyze 21442 Date Prepare Date Analyzed: Date Prepared:	d: 8/15/0 d: 8/15/0 RD 0.2 8/16/0 8/15/0 RD 0.0
Analysis: Analyst: Param Nitrate-N Sulfate Sample: Analysis: Analyst: Param Total Iron	Ion Chroma JSW Flag 204973 Total Meta RR	atography (IC) Ar Pr Result <1.0 22.4 - MW-12 Is Analytical M Preparation	alytical Method: eparation Method: Units mg/L mg/L fethod: S 6010F Method: S 3010F Result	E 300.0 QC Pre- Dilution 5 5 3 QC Batch A Prep Batc Units	Batch: QC p Batch: PB2 : QC22816 ch: PB21440 Dilutio	22778 Date Analyze 21442 Date Prepare Date Analyzed: Date Prepared:	d: 8/15/(d: 8/15/(RD 0.2 8/16/(8/15/(RD
Analysis: Analysis: Param Nitrate-N Sulfate Sample: Analysis: Analysis: Param Total Iron Total Mang	Ion Chroma JSW Flag 204973 Total Meta RR anese	atography (IC) Ar Pr Result <1.0 22.4 - MW-12 ls Analytical M Preparation Flag	halytical Method: eparation Method: Units mg/L mg/L fethod: S 6010F Method: S 3010A Result 0.086	E 300.0 QC Pre Dilution 5 5 3 4 9 4 9 4 9 5 5 3 5 4 5 5 4 5 5 5 5 5 5 5 5 5 5 5 5	Batch: QC p Batch: PB2 : QC22816 ch: PB21440 Dilutio	22778 Date Analyze 21442 Date Prepare Date Analyzed: Date Prepared:	d: 8/15/0 d: 8/15/0 RD 0.2 8/16/0 8/15/0 RD 0.0
Analysis: Analyst: Param Nitrate-N Sulfate Sample: Analysis: Analysis: Param Total Iron Total Mang Sample:	Ion Chroma JSW Flag 204973 Total Meta RR anese 204974	atography (IC) Ar Pr Result <1.0 22.4 - MW-12 ls Analytical M Preparation Flag - MW-11	alytical Method: eparation Method: Units mg/L mg/L fethod: S 6010F Method: S 3010A Result 0.086 0.494	E 300.0 QC Pre Dilution 5 5 3 4 9 4 9 5 5 3 3 4 9 7 5 5 3 4 9 7 5 3 5 5 3 5 5 3 4 7 7 7 5 5 3 5 3 5 3 5 3 4 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Batch: QC2 p Batch: PB2 : QC22816 ch: PB21440 Dilutio 1 1	22778 Date Analyze 21442 Date Prepare Date Analyzed: Date Prepared: n	d: 8/15/0 d: 8/15/0 0.2 8/16/0 8/15/0 RD 0.0 0.0
Analysis: Analysis: Param Nitrate-N Sulfate Sample: Analysis: Analysis: Param Total Iron Total Mang	Ion Chroma JSW Flag 204973 Total Meta RR anese 204974 BTEX	atography (IC) Ar Pr Result <1.0 22.4 - MW-12 ls Analytical M Preparation Flag	alytical Method: eparation Method: Units mg/L mg/L fethod: S 6010F Method: S 3010F Result 0.086 0.494 od: S 8021B	E 300.0 QC Pre Dilution 5 5 3 4 9 4 9 4 9 5 5 3 5 4 5 5 4 5 5 5 5 5 5 5 5 5 5 5 5	Batch: QC p Batch: PB2 : QC22816 ch: PB21440 Dilutio	22778 Date Analyze 21442 Date Prepare Date Analyzed: Date Prepared:	d: 8/15/0 d: 8/15/0 RD 0.2 8/16/0 8/15/0 RD 0.0
Analysis: Analyst: Param Nitrate-N Sulfate Sample: Analysis: Analyst: Param Total Iron Total Mang Sample: Analysis:	Ion Chroma JSW Flag 204973 Total Meta RR anese 204974 BTEX	atography (IC) Ar Pr Result <1.0 22.4 - MW-12 ls Analytical M Preparation Flag - MW-11 Analytical Metho	alytical Method: eparation Method: Units mg/L mg/L fethod: S 6010F Method: S 3010F Result 0.086 0.494 od: S 8021B	E 300.0 QC Pre Dilution 5 5 8 QC Batch A Prep Batc Units mg/L mg/L QC Batch:	Batch: QC2 p Batch: PB2 c: QC22816 ch: PB21440 Dilutio 1 1 1	22778 Date Analyze 21442 Date Prepare Date Analyzed: Date Prepared: n Date Analyzed: Date Prepared:	d: 8/15/0 d: 8/15/0 RD 0.2 8/16/0 8/15/0 RD 0.0 0.0 8/14/0

Report Dat CC # V-10	te: August 20	0, 2002		Number: A02081 nergy Field Serv		6	ber: 5 of 1 e Gas Plar
Continu	ed Sample:		s: BTEX				
Param		Flag	Result	Units	Dilı	ution	RDI
Toluene			< 0.001	mg/L		1	0.00
Ethylbenzei	ne		< 0.001	mg/L		1	0.00
M,P,O-Xyle			< 0.001	mg/L	· .	1	0.00
Total BTE	X		<0.001	mg/L	· · · · · · · · · · · · · · · · · · ·	1	0.00
					Spike	Percent	Recover
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
TFT		0.092	mg/L	1	0.10	92	70 - 130
4-BFB		0.0792	mg/L	1	0.10	79	70 - 130
Analysis: Analyst: Param	Ion Chrom JSW Flag		alytical Method eparation Metho Units		•	C22778 Date Analyz C21442 Date Prepar	
Nitrate-N	8	2.27	mg/L	5	······································		0.2
			<i>+,</i>				
Sulfate Sample:		- MW-11	mg/L	0B OC Batch	n: OC22816	Date Analyzed	8/16/0
Sample: Analysis: Analyst:	204974 Total Meta RR	- MW-11 Ils Analytical M Preparation	lethod: S 601 Method: S 301	0B QC Batch 0A Prep Batc	ch: PB21440	Date Prepared:	8/16/0 8/15/0
Sample: Analysis: Analyst: Param	Total Meta	- MW-11 Ils Analytical M	lethod: S 601 Method: S 301 Result	0B QC Batch 0A Prep Batc Units	ch: PB21440 Diluti	Date Prepared:	8/16/0 8/15/0 RDI
Sample: Analysis: Analyst: Param Total Iron	Total Meta RR	- MW-11 Ils Analytical M Preparation	lethod: S 601 Method: S 301 Result <0.050	0B QC Batch 0A Prep Batc Units mg/L	ch: PB21440 	Date Prepared:	8/16/0 8/15/0 RDI 0.0
Sample: Analysis: Analyst: Param Total Iron	Total Meta RR	- MW-11 Ils Analytical M Preparation	lethod: S 601 Method: S 301 Result	0B QC Batch 0A Prep Batc Units	ch: PB21440 Diluti	Date Prepared:	8/16/0 8/15/0 RDI 0.0
Sample: Analysis: Analyst: Param Total Iron	Total Meta RR	- MW-11 Ils Analytical M Preparation	lethod: S 601 Method: S 301 Result <0.050	0B QC Batch 0A Prep Batc Units mg/L	ch: PB21440 	Date Prepared:	8/16/0 8/15/0 RDI
Sample: Analysis: Analyst: Param Total Iron Total Mang	Total Meta RR	- MW-11 Ils Analytical M Preparation	lethod: S 601 Method: S 301 Result <0.050	0B QC Batch 0A Prep Batc Units mg/L	ch: PB21440 	Date Prepared:	8/16/0 8/15/0 RDI 0.0
Sample: Analysis: Analyst: Param Total Iron Total Mang Sample:	Total Meta RR	- MW-11 Ils Analytical M Preparation Flag	lethod: S 601 Method: S 301 <u>Result</u> <0.050 0.906	0B QC Batch 0A Prep Batc Units mg/L	ch: PB21440 	Date Prepared:	8/16/0 8/15/0 RDI 0.0 0.0
Sample: Analysis: Analyst: Param Total Iron Total Mang Sample: Analysis:	Total Meta RR anese 204975	- MW-11 Ils Analytical M Preparation Flag - MW-18	lethod: S 601 Method: S 301 Result <0.050 0.906 d: S 8021B	.0B QC Batch .0A Prep Batc Units mg/L mg/L	ch: PB21440 Diluti 1 1	Date Prepared:	8/16/0 8/15/0 RDI 0.0 0.0 8/14/0
Sample: Analysis: Analyst: Param Total Iron Total Mang Sample: Analysis: Analysis:	Total Meta RR ganese 204975 BTEX	 MW-11 Analytical M Preparation Flag MW-18 Analytical Metho Preparation Meth 	Iethod: S 601 Method: S 301 Result <0.050	0B QC Batch 0A Prep Batc Units mg/L mg/L QC Batch: Prep Batch:	ch: PB21440 Diluti 1 1 QC22779 PB21443	Date Prepared: ion Date Analyzed: Date Prepared:	8/16/0 8/15/0 RDI 0.0 0.0 8/14/0 8/14/0
Sample: Analysis: Analyst: Param Total Iron Total Mang Sample: Analysis: Analysis: Param	Total Meta RR ganese 204975 BTEX	- MW-11 Ils Analytical M Preparation Flag - MW-18 Analytical Metho	Iethod: S 601 Method: S 301 Result <0.050	0B QC Batch 0A Prep Bato Units mg/L mg/L QC Batch: Prep Batch: Units	ch: PB21440 Diluti 1 1 QC22779 PB21443	Date Prepared:	8/16/0 8/15/0 RDI 0.0 0.0 8/14/0 8/14/0 RDI
Sample: Analysis: Analyst: Param Total Iron Total Mang Sample: Analysis: Analyst: Param Benzene	Total Meta RR ganese 204975 BTEX	 MW-11 Analytical M Preparation Flag MW-18 Analytical Metho Preparation Meth 	lethod: S 601 Method: S 301 <u>Result</u> <0.050 0.906 d: S 8021B hod: S 5030B <u>Result</u> <0.001	0B QC Batch 0A Prep Batc Units mg/L mg/L QC Batch: Prep Batch: Units mg/L	ch: PB21440 Diluti 1 1 QC22779 PB21443	Date Prepared: ion Date Analyzed: Date Prepared:	8/16/0 8/15/0 RDI 0.0 0.0 8/14/0 8/14/0 RDI 0.00
Sample: Analysis: Analyst: Param Total Iron Total Mang Sample: Analysis: Analyst: Param Benzene Toluene	Total Meta RR anese 204975 BTEX CG	 MW-11 Analytical M Preparation Flag MW-18 Analytical Metho Preparation Meth 	Iethod: S 601 Method: S 301 Result <0.050	0B QC Batch 0A Prep Batc Units mg/L mg/L QC Batch: Prep Batch: Units mg/L mg/L	ch: PB21440 Diluti 1 1 QC22779 PB21443	Date Prepared: ion Date Analyzed: Date Prepared:	8/16/0 8/15/0 RDI 0.0 0.0 8/14/0 8/14/0 8/14/0 RDI 0.00 0.00
Sample: Analysis: Analyst: Param Total Iron Total Mang Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenzer	Total Meta RR ganese 204975 BTEX CG	 MW-11 Analytical M Preparation Flag MW-18 Analytical Metho Preparation Meth 	Iethod: S 601 Method: S 301 Result <0.050	0B QC Batch 0A Prep Batc Units mg/L mg/L QC Batch: Prep Batch: Prep Batch: units mg/L mg/L mg/L	ch: PB21440 Diluti 1 1 2 QC22779 PB21443 Dilu	Date Prepared: ion Date Analyzed: Date Prepared:	8/16/0 8/15/0 RDI 0.0 0.0 8/14/0 8/14/0 8/14/0 RDI 0.00 0.00 0.00
Sample: Analysis: Analyst: Param Total Iron Total Mang Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenze: M,P,O-Xyle	Total Meta RR ganese 204975 BTEX CG	 MW-11 Analytical M Preparation Flag MW-18 Analytical Metho Preparation Meth 	Iethod: S 601 Method: S 301 Result <0.050	0B QC Batch 0A Prep Batc Units mg/L mg/L QC Batch: Prep Batch: Prep Batch: units mg/L mg/L mg/L mg/L	ch: PB21440 Diluti 1 1 QC22779 PB21443 Dilu	Date Prepared: ion Date Analyzed: Date Prepared: ution 1 1 1	8/16/0 8/15/0 RDI 0.0 0.0 8/14/0 8/14/0 8/14/0 RDI 0.00 0.00 0.00 0.00
Sample: Analysis: Analyst: Param	Total Meta RR ganese 204975 BTEX CG	 MW-11 Analytical M Preparation Flag MW-18 Analytical Metho Preparation Meth 	Iethod: S 601 Method: S 301 Result <0.050	0B QC Batch 0A Prep Batc Units mg/L mg/L QC Batch: Prep Batch: Prep Batch: units mg/L mg/L mg/L	ch: PB21440 Diluti 1 1 QC22779 PB21443 Dilu	Date Prepared: ion Date Analyzed: Date Prepared: ution 1 1 1 1	8/16/0 8/15/0 RDI 0.0 0.0 8/14/0 8/14/0 8/14/0 RDI 0.00 0.00 0.00 0.00
Sample: Analysis: Analyst: Param Total Iron Total Mang Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenze: M,P,O-Xyle	Total Meta RR ganese 204975 BTEX CG	 MW-11 Analytical M Preparation Flag MW-18 Analytical Metho Preparation Meth 	Iethod: S 601 Method: S 301 Result <0.050	0B QC Batch 0A Prep Batc Units mg/L mg/L QC Batch: Prep Batch: Prep Batch: units mg/L mg/L mg/L mg/L	ch: PB21440 Diluti 1 1 2 QC22779 PB21443 Dilu	Date Prepared: ion Date Analyzed: Date Prepared: ution 1 1 1 1	8/16/0 8/15/0 RDI 0.0 0.0 8/14/0 8/14/0 RDI 0.00 0.00 0.00 0.00 0.00
Sample: Analysis: Analyst: Param Total Iron Total Mang Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenze: M,P,O-Xyle	Total Meta RR anese 204975 BTEX CG	 MW-11 Analytical M Preparation Flag MW-18 Analytical Metho Preparation Meth 	Iethod: S 601 Method: S 301 Result <0.050	0B QC Batch 0A Prep Batc Units mg/L mg/L QC Batch: Prep Batch: Prep Batch: units mg/L mg/L mg/L mg/L	ch: PB21440 Diluti 1 1 QC22779 PB21443 Dilu	Date Prepared: ion Date Analyzed: Date Prepared: ution 1 1 1 1 1 1	
Sample: Analysis: Analyst: Param Total Iron Total Mang Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenze: M,P,O-Xyle Total BTE2	Total Meta RR ganese 204975 BTEX CG	- MW-11 Ils Analytical M Preparation Flag - MW-18 Analytical Metho Preparation Meth Flag	Iethod: S 601 Method: S 301 Result < 0.050 0.906 0.906 od: S 8021B nod: S 5030B Result < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001	0B QC Batch 0A Prep Batc Units mg/L mg/L QC Batch: Prep Batch: Units mg/L mg/L mg/L mg/L mg/L	ch: PB21440 Diluti 1 1 QC22779 PB21443 Dilu Spike	Date Prepared: ion Date Analyzed: Date Prepared: ution 1 1 1 1 1 1 1 Percent	8/16/0 8/15/0 RDI 0.0 0.0 8/14/0 8/14/0 RDI 0.00 0.00 0.00 0.00 0.00 0.00

Report Date: August 20, 2002 CC # V-101 Order Number: A02081421 Duke Energy Field Services

Sample: 204975 - MW-18 QC22915 Date Analyzed: 8/15/02 Analysis: Ion Chromatography (IC) Analytical Method: E 300.0 QC Batch: Analyst: PB21555 Date Prepared: 8/15/02 **Preparation Method:** Prep Batch: JSW Param Flag Result Units Dilution RDL Nitrate-N 0.20 <1.0 mg/L 5 Sulfate 5 61.4 mg/L 1 Sample: 204975 - MW-18 Analysis: QC Batch: QC22816 **Total Metals** Analytical Method: S 6010B Date Analyzed: 8/16/02 Analyst: RR. Preparation Method: S 3010A Prep Batch: PB21440 Date Prepared: 8/15/02 Dilution RDL Result Units Param Flag Total Iron 0.05 < 0.050 mg/L 1 **Total Manganese** 1 0.02 0.387 mg/L 204976 - MW-7 Sample: Analysis: BTEX **Analytical Method:** S 8021B QC Batch: QC22779 Date Analyzed: 8/14/02 Analyst: Prep Batch: Date Prepared: CG Preparation Method: S 5030B PB21443 8/14/02 Param Result Units Dilution RDL Flag Benzene 0.0261 mg/L 5 0.001 Toluene 5 0.001 < 0.005 mg/L5 Ethylbenzene < 0.005 mg/L 0.001 M,P,O-Xylene 5 < 0.005 mg/L0.001 Total BTEX 0.0261 mg/L 5. 0.001 Recoverv Spike Percent Dilution Amount Recovery Limits Surrogate Flag Units Result 0.10 86 70 - 130 TFT 0.0864 mg/L 5 4-BFB 0.10 0.0738 5 73 70 - 130 mg/L Sample: 204976 - MW-7 Analysis: E 300.0 QC Batch: QC22915 Date Analyzed: 8/15/02 Ion Chromatography (IC) Analytical Method: Analyst: Prep Batch: PB21555 Date Prepared: 8/15/02 JSW Preparation Method: Dilution Param Result Units RDL Flag Nitrate-N <1.0 5 0.20 mg/L Sulfate 28.2 mg/L 5 1 Sample: 204976 - MW-7 Analysis: QC22816 **Total Metals** Analytical Method: S 6010B QC Batch: Date Analyzed: 8/16/02 Analyst: Prep Batch: PB21440 RR Preparation Method: S 3010A Date Prepared: 8/15/02 Flag Dilution RDL Param Result Units Total Iron 0.490 mg/L 0.05 1

Report Date: August 20, 2002 CC # V-101

Order Number: A02081421 Duke Energy Field Services Page Number: 7 of 12 Lee Gas Plant

Param	le: 204976 Analysis Flag	Result	Units	Dilution	\mathbf{RDL}
Fotal Manganese		2.07	mg/L	1	0.02
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Report Date: August 20, 2002 CC # V-101 Order Number: A02081421 Duke Energy Field Services

Quality Control Report Method Blank

Method Blank	QCBatch:	QC22778				
•						Reporting
Param	Flag	F	lesults	Units		Limit
Nitrate-N		-	<0.2	mg/L		0.20
Sulfate	······		<1.0	mg/L	<u> </u>	1
Method Blank	QCBatch:	QC22779		• •		
				•		Reporting
Param	Flag		Results	Units		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
				· .		
	· · ·			A H		· _ ·
a b				Spike	Percent	Recovery
Surrogate Flag	Result	Units	Dilution		Recovery	Limits
TFT	0.097	mg/L	. 1	0.10	97	70 - 130
4-BFB	0.082	mg/L	1	0.10	82	70 - 130
	•	•				
	· ·		•		· .	
Method Blank	QCBatch:	QC22816			· ·	
· · · · · ·						D
D	1.11	· .	D 1/	TT •/		Reporting
Param Total Iron	Flag		Results	Units		Limit
Total Manganese			<0.050	mg/L		0.05
Total Manganese	· · · · · · · · · · · · · · · · · · ·		< 0.025	mg/L		0.02
· · ·					· ·	•
•						
Method Blank	QCBatch:	QC22915		· · · · · · · · · · · · · · · · · · ·	:	
		·				
· · · ·	· · · ·					Reporting
Param	Flag	R	lesults	Units	· · · ·	Limit
Nitrate-N	· · · · · · · · · · · · · · · · · · ·		< 0.2	mg/L		0.20
Sulfate			<1.0	mg/L	1	1

Quality Control Report Lab Control Spikes and Duplicate Spikes

Laboratory Control Spikes QCBatch: QC22778

Page Number: 9 of 12 Report Date: August 20, 2002 Order Number: A02081421 **Duke Energy Field Services** Lee Gas Plant CC # V-101 Spike RPD LCS LCSD % Rec Amount Matrix Param Result Result Units Dil. Added Result % Rec RPD Limit Limit Chloride 11.55 11.58 mg/L 1 12.50 <1.0 92 0 90 - 110 20 96 0 90 - 110 20 Fluoride 2.402.41 mg/L 1 2.50< 0.2 0 90 - 110 20 Nitrate-N 2.37 2.38mg/L 1 2.50< 0.2 94 95 0 90 - 110 20 Sulfate 11.90 11.84 mg/L 1 12.50<1.0

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spikes

QCBatch: QC22779

					Spike			•		
	LCS	LCSD			\mathbf{Amount}	Matrix			% Rec	RPD
Param	Result	Result	Units	Dil.	Added	Result	% Rec	RPD	Limit	Limit
MTBE	0.0984	0.0966	mg/L	1	0.10	< 0.001	98	2	70 - 130	20
Benzene	0.0945	0.0934	mg/L	1	0.10	< 0.001	94	1	70 - 130	20
Toluene	0.0893	0.0889	mg/L	1	0.10	< 0.001	89	0	70 - 130	20
Ethylbenzene	0.0867	0.0859	mg/L	1 ·	0.10	< 0.001	87	1 .	70 - 130	20
M,P,O-Xylene	0.270	0.265	mg/L	1	0.30	< 0.001	90	2	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dilution	Spike Amount	LCS % Rec	LCSD % Rec	Recovery Limits
TFT	0.0965	0.0943	mg/L	1	0.10	96	94	70 - 130
4-BFB	0.0977	0.0949	mg/L	1	0.10	98	95	70 - 130

Laboratory Control Spikes

QCBatch: QC22816

					Spike					· .
	LCS	LCSD			Amount	Matrix			% Rec	RPD
Param	Result	Result	Units	Dil.	Added	Result	% Rec	RPD	Limit	Limit
Total Iron	0.549	0.579	mg/L	1	0.50	< 0.050	110	5	75 - 125	20
Total Manganese	0.258	0.272	mg/L	1	0.25	< 0.025	103	5	75 - 125	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spikes

QCBatch: QC22915

			1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	· .	Spike					
	LCS	LCSD			Amount	Matrix	<i>.</i>		% Rec	RPD
Param	Result	Result	Units	Dil.	Added	Result	% Rec	RPD	Limit	Limit
Chloride	11.58	11.6	mg/L	1	12.50	<1.0	92	0	90 - 110	20
Nitrate-N	2.39	2.38	mg/L	1	2.50	<0.2	95	0	90 - 110	20
Sulfate	11.93	12.03	mg/L	1	12.50	<1.0	95	0	90 - 110	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Quality Control Report Matrix Spikes and Duplicate Spikes

CC # V-10	CC # V-101 Matrix Spikes QCBatch:					e Energy Fiel	Page Number: 10 of 12 Lee Gas Plan				
Matrix S	pikes	Q	CBatch:	QC2	2778						
Param	MS Result	MSI Resul	lt Un		Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Nitrate-N	252	248	0		1	250	2.03	99	1	87 - 100	20
Sulfate	3620	3640) mg	/L	1	1250	2430	95	1	59 - 121	20
Percent reco Matrix S	-		he spike r CBatch:		PD is 1	based on the	spike and s	pike duplio	cate result	t.	
	pikes	પ	ODatch.	QU2	2010						
Param	х. Х.	MS Result	MSD Result	Units	Dil	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limi
Total Iron		0.560	0.550	mg/L	1	0.50	< 0.050	112	2	75 - 125	20
Total Mang	anese	0.263	0.266	mg/L	1	0.25	< 0.025	105	1	75 - 125	20
			he spike r CBatch:		PD is 1 2915	based on the Spike	spike and s	pike duplid	cate result	t.	. *
Matrix S	pikes MS	Q MSI	CBatch:	QC2	2915	Spike Amount	Matrix			% Rec	
Matrix S Param	pikes MS Result	Q MSI	CBatch:) lt Un	QC2 its I	2915 Dil.	Spike Amount Added	Matrix Result	% Rec	cate result	% Rec Limit	
Matrix S	pikes MS	Q MSI	CBatch:	QC2 its I /L	2915	Spike Amount	Matrix			% Rec	
Matrix S Param Nitrate-N Sulfate	pikes MS Result 2510 13530	Q MSI Resul ased on th	CBatch:) lt Un mg mg he spike r	QC2 its I /L /L esult. R Qua	2915 Dil. 1 PD is 1	Spike Amount Added 2500	Matrix Result 0 1510 spike and s Report	% Rec 100 96 pike duplic	RPD cate result	% Rec Limit 87 - 100 59 - 121	RPD Limit
Matrix S Param Nitrate-N Sulfate	pikes MS Result 2510 13530	Q MSI Resul ased on th	CBatch:) lt Un mg mg he spike r	QC2 its I /L /L esult. R Qua	2915 Dil. 1 PD is 1	Spike Amount Added 2500 12500 based on the Control	Matrix Result 0 1510 spike and s Report	% Rec 100 96 pike duplic	RPD cate result	% Rec Limit 87 - 100 59 - 121	
Matrix S Param Nitrate-N Sulfate	MS Result 2510 13530	Q MSI Resul ased on th	CBatch: D It Un mg mg he spike r inuing	QC2 its I /L /L esult. R Qua	2915 Dil. 1 PD is 1	Spike Amount Added 2500 12500 based on the Control	Matrix Result 0 1510 spike and s Report	% Rec 100 96 pike duplic	RPD cate result	% Rec Limit 87 - 100 59 - 121	
Matrix S Param Nitrate-N Sulfate Percent reco	MS Result 2510 13530	Q MSI Resul ased on th Cont	CBatch: D It Un mg mg he spike r inuing	QC2 its I /L /L esult. R Qua g Cali	2915 Dil. 1 PD is 1	Spike Amount Added 2500 12500 based on the Control	Matrix Result 0 1510 spike and s Report ification	% Rec 100 96 pike duplic	RPD cate result	% Rec Limit 87 - 100 59 - 121 t.	
Matrix S Param Nitrate-N Sulfate Percent reco	MS Result 2510 13530	Q MSI Resul ased on th Cont	CBatch: D It Un mg mg he spike r inuing	QC2 its I /L /L esult. R Qua g Cali 2022778 CC2	2915 Dil. 1 PD is 1 lity (Spike Amount Added 2500 12500 based on the Control	Matrix Result 0 1510 spike and s Report ification	% Rec 100 96 pike duplic	RPD cate result	% Rec Limit 87 - 100 59 - 121 t.	
Matrix S Param Nitrate-N Sulfate Percent recc CCV (1) Param	MS Result 2510 13530	Q MSI Resul ased on th Cont QCBat	CBatch: D It Un mg mg he spike r inuing	QC2 its I /L /L esult. R Qua 5 Cali 2C22778 CC Th Cc	2915 Dil. 1 PD is 1 lity (brat	Spike Amount Added 2500 12500 based on the Control cion Ver CCVs Found Conc.	Matrix Result 0 1510 spike and s Report ification	% Rec 100 96 pike duplic n Stand CVs cent	RPD cate result dards Percer Recove Limit	% Rec Limit 87 - 100 59 - 121 t. t.	Limit
Matrix S Param Nitrate-N Sulfate Percent reco CCV (1) Param Chloride	pikes MS Result 2510 13530 overy is b	Q MSI Resul ased on th Cont QCBat	CBatch:) It Un mg mg he spike r inuing 	QC2 its I /L /L esult. R Qua 5 Cali 2C22778 CC Th Cc	2915 Dil. 1 PD is 1 lity (brat	Spike Amount Added 2500 12500 based on the Control tion Ver CCVs Found Conc. 11.38	Matrix Result 0 1510 spike and s Report ification	% Rec 100 96 pike duplid n Stand	RPD cate result dards Percer Recove Limit 90 - 11	% Rec Limit 87 - 100 59 - 121 t. t. ery s A 10 8	Limit Date Analyzec 8/15/02
Matrix S Param Nitrate-N Sulfate Percent recc CCV (1) Param Chloride Fluoride	pikes MS Result 2510 13530 overy is b	Q MSI Resul ased on th Cont QCBat	CBatch: D It Un mg mg he spike r inuing cch: Q Units mg/L mg/L	QC2 its I /L /L esult. R Qua 5 Cali 2C22778 CC Th Cc 12 2.	2915 Dil. 1 PD is 1 lity (brat UVs ue nc. .50 50	Spike Amount Added 2500 12500 based on the Control tion Ver CCVs Found Conc. 11.38 2.34	Matrix Result 0 1510 spike and s Report ification CC Per Reco	% Rec 100 96 pike duplic n Stanc Vs cent overy 1 3	RPD cate result dards Percer Recove Limit 90 - 11 90 - 11	% Rec Limit 87 - 100 59 - 121 t. t. t. s A 10 59 50 50 50 50 50 50 50 50 50 50 50 50 50	Limit Date Analyzed 8/15/02 8/15/02
Matrix S Param Nitrate-N Sulfate Percent reco CCV (1) Param Chloride	pikes MS Result 2510 13530 overy is b	Q MSI Resul ased on th Cont QCBat	CBatch: D It Un mg mg he spike r inuing 	QC2 its I /L /L esult. R Qua g Cali 9C22778 CC Th Cc 12 2. 2.	2915 Dil. 1 PD is 1 lity (brat Vs ue nc. .50	Spike Amount Added 2500 12500 based on the Control tion Ver CCVs Found Conc. 11.38	Matrix Result 0 1510 spike and s Report ification CC Per Recc 9 9 9	% Rec 100 96 pike duplid n Stand	RPD cate result dards Percer Recove Limit 90 - 11	% Rec Limit 87 - 100 59 - 121 t. t. t. s. <i>A</i> 10 - 4 10 - 4 10 - 4	Limit Date Analyzec 8/15/02

ICV (1)

QCBatch: QC22778

Report Date CC # V-101	Report Date: August 20, 2002 CC # V-101			r Number: A02 Energy Field S	Page Number: 11 o Lee Gas P		
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/L	12.50	11.34	90	90 - 110	8/15/02
Fluoride		mg/L	2.50	2.39	95	90 - 110	8/15/02
Nitrate-N		mg/L	2.50	2.35	94	90 - 110	8/15/02
Sulfate		mg/L	12.50	11.81	94	90 - 110	8/15/02

CCV (1)

QCBatch: QC22779

			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE	1 105	mg/L	0.10	0.0914	91	85 - 115	8/14/02
Benzene		mg/L	0.10	0.0886	89	85 - 115	8/14/02
Toluene		mg/L	0.10	0.0839	84	85 - 115	8/14/02
Ethylbenzene		8/ mg/L	0.10	0.0824	82	85 - 115	8/14/02
M,P,O-Xylene		mg/L	0.30	0.252	84	85 - 115	8/14/02

CCV (2) QCBatch:

atch: QC22779

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.0954	95	85 - 115	8/14/02
Benzene		mg/L	0.10	0.091	91	85 - 115	8/14/02
Toluene		mg/L	0.10	0.0852	85	85 - 115	8/14/02
Ethylbenzene		mg/L	0.10	0.0842	84	85 - 115	8/14/02
M,P,O-Xylene		mg/L	0.30	0.255	85	85 - 115	8/14/02

ICV (1) QCBatch:

Batch: QC22779

			CCVs	CCVs	CCVs	Percent	
	. *.		True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/L	0.10	0.0984	98	85 - 115	8/14/02
Benzene		mg/L	0.10	0.0959	96	85 - 115	8/14/02
Toluene		mg/L	0.10	0.0896	90	85 - 115	8/14/02
Ethylbenzene		mg/L	0.10	0.0865	86	85 - 115	8/14/02
M,P,O-Xylene		mg/L	0.30	0.276	92	85 - 115	8/14/02

CCV (1)

QCBatch: QC22816

Continued ...

Report Date: August 20, 2002 CC # V-101 Continued				Number: A0208 nergy Field Se		. •	ber: 12 of 13 ee Gas Plan
Continued	·						
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
			·····				
			\mathbf{CCVs}	\mathbf{CCVs}	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
fotal Iron		mg/L	- 1	1.02	102	90 - 110	8/16/02
Total Manganese		mg/L	0.50	0.507	101	90 - 110	8/16/02
ICV (1)	QCBatch	: QC228	316			1	
	· ·		CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Fotal Iron	1 lag	mg/L	1	0.992	<u> </u>	95 - 105	8/16/02
Fotal Manganese		mg/L mg/L	0.50	0.499	99	95 - 105 95 - 105	8/16/02
CCV (1)	QCBate	h: QC22		• •		_	
			CCVs	CCVs	CCVs	Percent	
							_
			True	Found	Percent	Recovery	Date
		Units	True Conc.	Conc.	Percent Recovery	Recovery Limits	Analyzed
Chloride	I	ng/L	True Conc. 12.50	Conc. 11.61	Percent Recovery 92	Recovery Limits 90 - 110	Analyzed 8/15/02
Chloride Nitrate-N	I	ng/L ng/L	True Conc. 12.50 2.50	Conc. 11.61 2.39	Percent Recovery 92 95	Recovery Limits 90 - 110 90 - 110	Analyzed 8/15/02 8/15/02
Chloride	I	ng/L	True Conc. 12.50	Conc. 11.61	Percent Recovery 92	Recovery Limits 90 - 110	Analyzed 8/15/02
Chloride Nitrate-N	I	ng/L ng/L	True Conc. 12.50 2.50	Conc. 11.61 2.39	Percent Recovery 92 95	Recovery Limits 90 - 110 90 - 110	Analyzed 8/15/02 8/15/02
Chloride Nitrate-N	I	ng/L ng/L ng/L	True Conc. 12.50 2.50 12.50	Conc. 11.61 2.39	Percent Recovery 92 95	Recovery Limits 90 - 110 90 - 110	Analyzed 8/15/02 8/15/02
Chloride Nitrate-N Sulfate	I I I	ng/L ng/L ng/L	True Conc. 12.50 2.50 12.50	Conc. 11.61 2.39 12.03	Percent Recovery 92 95 96	Recovery Limits 90 - 110 90 - 110 90 - 110	Analyzed 8/15/02 8/15/02
Chloride Nitrate-N Sulfate	I I I	ng/L ng/L ng/L	True Conc. 12.50 2.50 12.50)15 CCVs	Conc. 11.61 2.39 12.03 CCVs	Percent Recovery 92 95 96 CCVs	Recovery Limits 90 - 110 90 - 110 90 - 110 90 - 110	Analyzed 8/15/02 8/15/02 8/15/02
Chloride Nitrate-N Sulfate ICV (1)	I I QCBatch	ng/L ng/L ng/L :: QC22!	True Conc. 12.50 2.50 12.50)15 CCVs True	Conc. 11.61 2.39 12.03 CCVs Found	Percent Recovery 92 95 96 CCVs Percent	Recovery Limits 90 - 110 90 - 110 90 - 110 90 - 110 Percent Recovery	Analyzed 8/15/02 8/15/02 8/15/02 Date
Chloride Nitrate-N Sulfate ICV (1) Param	QCBatch	ng/L ng/L ng/L x: QC229 Units	True Conc. 12.50 2.50 12.50 250 12.50 2.50 12.50	Conc. 11.61 2.39 12.03 CCVs Found Conc.	Percent Recovery 92 95 96 CCVs Percent Recovery	Recovery Limits 90 - 110 90 - 110 90 - 110 90 - 110 Percent Recovery Limits	Analyzed 8/15/02 8/15/02 8/15/02 Date Analyzed
Chloride Nitrate-N Sulfate ICV (1) Param Chloride	I QCBatch Flag	ng/L ng/L ng/L :: QC229 Units ng/L	True Conc. 12.50 2.50 12.50 12.50 015 CCVs True Conc. 12.50	Conc. 11.61 2.39 12.03 CCVs Found Conc. 11.38	Percent Recovery 92 95 96 CCVs Percent Recovery 91	Recovery Limits 90 - 110 90 - 110 90 - 110 Percent Recovery Limits 90 - 110	Analyzed 8/15/02 8/15/02 8/15/02 Date Analyzed 8/15/02
Chloride Nitrate-N Sulfate ICV (1) Param Chloride Nitrate-N	I QCBatch Flag I I	ng/L ng/L ng/L :: QC22! Units ng/L ng/L	True Conc. 12.50 2.50 12.50)15 CCVs True Conc. 12.50 2.50	Conc. 11.61 2.39 12.03 CCVs Found Conc. 11.38 2.38	Percent Recovery 92 95 96 CCVs Percent Recovery 91 95	Recovery Limits 90 - 110 90 - 110 90 - 110 Percent Recovery Limits 90 - 110 90 - 110	Analyzed 8/15/02 8/15/02 8/15/02 Date Analyzed 8/15/02 8/15/02
Chloride Nitrate-N Sulfate ICV (1) Param Chloride	I QCBatch Flag I I	ng/L ng/L ng/L :: QC229 Units ng/L	True Conc. 12.50 2.50 12.50 12.50 015 CCVs True Conc. 12.50	Conc. 11.61 2.39 12.03 CCVs Found Conc. 11.38	Percent Recovery 92 95 96 CCVs Percent Recovery 91	Recovery Limits 90 - 110 90 - 110 90 - 110 Percent Recovery Limits 90 - 110	Analyzed 8/15/02 8/15/02 8/15/02 Date Analyzed 8/15/02 8/15/02
Chloride Nitrate-N Sulfate ICV (1) Param Chloride Nitrate-N	I QCBatch Flag I I	ng/L ng/L ng/L :: QC22! Units ng/L ng/L	True Conc. 12.50 2.50 12.50)15 CCVs True Conc. 12.50 2.50	Conc. 11.61 2.39 12.03 CCVs Found Conc. 11.38 2.38	Percent Recovery 92 95 96 CCVs Percent Recovery 91 95	Recovery Limits 90 - 110 90 - 110 90 - 110 Percent Recovery Limits 90 - 110 90 - 110	Analyzed 8/15/02 8/15/02 8/15/02 Date Analyzed 8/15/02
Chloride Nitrate-N Sulfate ICV (1) Param Chloride Nitrate-N	I QCBatch Flag I I	ng/L ng/L ng/L :: QC22! Units ng/L ng/L	True Conc. 12.50 2.50 12.50)15 CCVs True Conc. 12.50 2.50	Conc. 11.61 2.39 12.03 CCVs Found Conc. 11.38 2.38	Percent Recovery 92 95 96 CCVs Percent Recovery 91 95	Recovery Limits 90 - 110 90 - 110 90 - 110 Percent Recovery Limits 90 - 110 90 - 110	Analyzed 8/15/02 8/15/02 8/15/02 Date Analyzed 8/15/02 8/15/02
Chloride Nitrate-N Sulfate ICV (1) Param Chloride Nitrate-N	I QCBatch Flag I I	ng/L ng/L ng/L :: QC22! Units ng/L ng/L	True Conc. 12.50 2.50 12.50)15 CCVs True Conc. 12.50 2.50	Conc. 11.61 2.39 12.03 CCVs Found Conc. 11.38 2.38	Percent Recovery 92 95 96 CCVs Percent Recovery 91 95	Recovery Limits 90 - 110 90 - 110 90 - 110 Percent Recovery Limits 90 - 110 90 - 110	Analyzed 8/15/02 8/15/02 8/15/02 Date Analyzed 8/15/02 8/15/02

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ate V	Analysis Request	sniin & steiliu2	٠×	*	۰×۰	·×	•ו	٠×	٠×	*	×	×					(Time)				(time)
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ronme 24 (as 79 308 727 (F		the wh	8/13/02	8/13/02	8/13/02	8/13/02	8/13/02	8/13/02	8/19/02	8/14/02	8/14/0 2	8/14/02		Total Containers:	COC Seals:	Rec'd G	Conforms to Records:	Lab No.:		Box 54	
Trident Environmental P.O. Box 7624 Midland, Texas 79708 (915) 682-0727 (Fax) (915) 682-0727 (Fax)	04	14	ter	fer	ter	ter	fer	fer	Ē	<u>ě</u>	ter	ter								Please seriu rivoice uirect to circit. eathers. PO Box 5493. Denver. CO 80	•
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	Line Stalysis Inc. 44,1,1 Aberdeen, Ste. 9 Lubbock, Texas 79424 800-378-1296				Vial 2				0/51/8				formatic	Duke Energy Field Services	e Gas	Gil Van Deventer	10		ļ	ttn: Ste	
RIDEN		Sample Identification			7				BUng	,			Project Information	Duk	Lee	ច	V-101			special manuculome commenter. Please send involce direct to dirent. Duke Frierdy Field Sycs. Attn: Steve Weathers. PO Box 5493. Denver. CO 80217	
RUDE	Lab Name: Address: Telephone:	sampley (signariures)						œ	_				ā		Ë	er:			(M):		
PHE N	Lab Tele	Sar	MW-20	MW-19	1-13	1-12	NW-)	1	1 7	4				Project Name:	Project Location:	Project Manager:	No.:	Shipping ID No.:	Bill to (see below):	n msuur	
		sampi	٦ ۲	Bu	-MW	-MM-	Ś	МW	E					Project	Project	Project	Project No.:	Shippir	Bill to (Duke F	

ANALYTICAL REPORT

Prepared for:

GILBERT VAN DEVENTER TRIDENT ENVIRONMENTAL P.O. BOX 7624 MIDLAND, TX 79708

Project:Lee Gas PlantPO#:V-101Order#:G0204229Report Date:08/17/2002

Certificates

US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

TRIDENT ENVIRONMENTAL P.O. BOX 7624 MIDLAND, TX 79708 682-0727 Order#:G0204229Project:V-101Project Name:Lee Gas PlantLocation:DEFS/ Lee Gas Plant

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

	_			Date / Tin		Date / Time		
<u>ab ID:</u>	Sample :	<u>Matrix:</u>		Collected	<u> </u>	Received	Container	Preservative
0204229-01	MW-17	WATER		8/14/02 9:12		8/15/02 13:30	500mL HDPE	Ice
<u>La</u>	<u>b Testing:</u>	Rejected:	No		Temp:	3.0 C		
	Nitrogen, Nitrate							
	SULFATE, 375.4							
204229-02	MW-16	WATER		8/14/02		8/15/02	500mL HDPE	Ice
				10:10		13:30		
L a	<u>b Testing:</u>	Rejected:	No		Temp:	3.0 C		
	Nitrogen, Nitrate							
.	SULFATE, 375.4							
204229-03	MW-22	WATER		8/14/02		8/15/02	500mL HDPE	Ice
	T		м.	10:50	_	13:30		
<u>La</u>	b Testing:	Rejected:	NO		Temp:	3.0 C		
	Nitrogen, Nitrate							
.	SULFATE, 375.4							
204229-04	MW-14	WATER		8/14/02		8/15/02	500mL HDPE	Ice
				11:15		13:30		
<u>La</u>	<u>b Testing:</u>	Rejected:	No		Temp:	3.0 C		
•	Nitrogen, Nitrate							
	SULFATE, 375.4							
	MW-21	WATER		8/14/02		8/15/02	500mL HDPE	Ice
				12:00		13:30		
La	<u>b Testing:</u>	Rejected:	No		Temp:	3.0 C		
	Nitrogen, Nitrate							
<u></u>	SULFATE, 375.4							
0204229-06	MW-9	WATER		8/14/02		8/15/02	500mL HDPE	Ice
				18:05		13:30		
<u>La</u>	<u>b Testing:</u>	Rejected:	No		Temp:	3.0 C		
-	Nitrogen, Nitrate							
	SULFATE, 375.4							
0204229-07	MW-10	WATER		8/14/02		8/15/02	500mL HDPE	Ice
				19:10		13:30		
Ia	<u>b Testing:</u>	Rejected:	No		Temp:	3.0 C		

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

TRIDENT ENVIRONMENTAL P.O. BOX 7624 MIDLAND, TX 79708 682-0727 Order#:G0204229Project:V-101Project Name:Lee Gas PlantLocation:DEFS/ Lee Gas Plant

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

			Date / Time	Date / Time		
Lab ID:	Sample :	Matrix:	Collected	Received	<u>Container</u>	Preservative
	Nitrogen, Nitrate					
	SULFATE, 375.4					

ENVIRONMENTAL LAB OF TEXAS ANALYTICAL REPORT

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GILBERT VAN DEVENTER TRIDENT ENVIRONMENTAL P.O. BOX 7624 MIDLAND, TX 79708		Order# Project Project Locatio	t: t Name:	G0204229 V-101 Lee Gas Plar DEFS/ Lee (
Lab ID: 0204229-01 Sample ID: MW-17							
Test Parameters Parameter	<u>Result</u>	<u>Units</u>	Dilutio <u>Factor</u>		Method	Date Analyzed	<u>Analyst</u>
Nitrogen, Nitrate SULFATE, 375.4	0.60 48.0	mg/L mg/L	1 1	0.5 0.5	353.3 375.4	8/15/02 8/16/02	SB SB
Lab ID: 0204229-02 Sample ID: MW-16							
Test Parameters Parameter	<u>Result</u>	<u>Units</u>	Dilutio <u>Factor</u>		Method	Date <u>Analyzed</u>	<u>Analys</u> t
Nitrogen, Nitrate SULFATE, 375.4	2.10 59.2	mg/L mg/L	1 1	0.5 0.5	353.3 375.4	8/15/02 8/16/02	SB SB
Lab ID: 0204229-03 Sample ID: MW-22					··· · · · <u>.</u> · · · · · · · · · · · · · · · · · · ·		
<i>Test Parameters</i> Parameter	Result	Units	Dilution Factor		Method	Date Analyzed	Analys
Nitrogen, Nitrate SULFATE, 375.4	1.50 46.3	mg/L mg/L	1	0.5	353.3 375.4	8/15/02 8/16/02	SB SB
Lab ID: 0204229-04 Sample ID: MW-14							
Test Parameters Parameter	<u>Result</u>	<u>Units</u>	Dilution <u>Factor</u>	-	Method	Date <u>Analyzed</u>	Analys
Nitrogen, Nitrate SULFATE, 375.4	2.00 79.0	mg/L mg/L	1 1	0.5 0.5	353.3 375.4	8/15/02 8/16/02	SB SB
Lab ID: 0204229-05 Sample ID: MW-21				<u> </u>			
Test Parameters Parameter	<u>Result</u>	Units	Dilutio <u>Factor</u>		Method	Date <u>Analyzed</u>	Analys
Nitrogen, Nitrate SULFATE, 375.4	1.40 13.7	mg/L mg/L	1 1	0.5 0.5	353.3 375.4	8/15/02 8/16/02	SB SB

ENVIRONMENTAL LAB OF TEXAS ANALYTICAL REPORT

GILBERT VAN DEVENTER TRIDENT ENVIRONMENTAL P.O. BOX 7624 MIDLAND, TX 79708		Order# Project Project Locatio	t: V t Name: I	G0204229 /-101 .ee Gas Plai DEFS/ Lee (
Lab ID: 0204229-06 Sample ID: MW-9							
Test Parameters Parameter	Result	<u>Units</u>	Dilution <u>Factor</u>	<u>RL</u>	Method	Date <u>Analyzed</u>	Analyst
Nitrogen, Nitrate	3.60	mg/L	1	0.5	353.3	8/15/02	SB
SULFATE, 375.4	. 11.0	mg/L	1	0.5	375.4	8/16/02	SB
Lab ID: 0204229-07		···					· ··· ,
Sample ID: MW-10							
Test Parameters			Dilution			Date	
Parameter	Result	<u>Units</u>	Factor	<u>RL</u>	Method	Analyzed	<u>Analyst</u>
Nitzanan Nitzata	4.80	mg/L	1	0.5	353.3	8/15/02	SB
Nitrogen, Nitrate							

Cila D.Kune 8/22/02 Approval: Raland K. Tuttle, Lab Director, QA Officer Celey D. Keene, Org. Tech. Director Jeanne McMurrey, Inorg. Tech. Director Sandra Biezugbe, Lab Tech. Sara Molina, Lab Tech.

RL = Reporting Limit N/A = Not Applicable Date

ENVIRONMENTAL LAB OF TEXAS I, LTD.

12600 West I-20 East, Odessa, TX 79765 Ph: 915-563-1800

ENVIRONMENTAL LAB OF TEXAS QUALITY CONTROL REPORT

Test Parameters

Order#: G0204229

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Nitrogen, Nitrate-mg/L	0002832-01	·····		<0.10		
SULFATE, 375.4-mg/L	0002859-01			<0.50		
DUPLICATE WATER	LAB-IÐ #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Nitrogen, Nitrate-mg/L	0204229-01	0.6		0.5		18.2%
SULFATE, 375.4-mg/L	0204220-01	110		110		0.%
SRM WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Nitrogen, Nitrate-mg/L	0002832-04		2	1.9	95.%	
SULFATE, 375.4-mg/L	0002859-04		50	49.4	98.8%	

ENVIRONMENTAL LAB OF TEXAS I, LTD. 12600 West I-20 East, Odessa, TX 79765 Ph: 915-563-1800

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imental : 79708 3 7 (Fax)	Date B-14.02 B-14.02 B-14.02 B-14.02 B-14.02 B-14.02	Sample Total Containers	COC Seals:	Rec'd Good Cond/Cold:	Conforms to Records:	No.:	/oice	5493,	
nviror 7624 Texas 2-0808	po po de co po			Rec	Sol	Lab	in bra	õ Q	
Trident Environmental P.O. Box 7624 Midland, Texas 79708 (915) 682-0727 (Fax)	763 763 Matrix Water Water Water Water Water	envice.					Please send invoice direct to client:	ers, P	
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	12600 West 1-20 East Odessa, TX 79763 915-563-1800 M_{at} Matrix freation Matrix from Matrix from Matrix B	tt Information Duke Energy Field Services	Lee Gas Plant	Gil Van Deventer				Steve /	
	2600 Jdessa 115-56: atton	nforma ika Fin	ee C	il Var	V-101		ents:	Attn: §	
		Project Information	ٽ¦`	U	>		Comme	Svcs,	
RIDEN	Address: 1260 Odes Telephone: 915-5 (SIGNATURES) Sample Identification (2)		. ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;	Jer:		ow): (wo	ctions/	/ Field	
		Droiant Name	Project Location:	Project Manager:	t No.:	Shipping ID No.: Bill to (see below):	Special Instructions/Comments:	Duke Energy Field Svcs, Attn: Steve Weathers, PO Box 5493, Denver, CO 80217	
	Samplere MW MM MM MM MM MM MM MM MM	Droion	Project	Projec	Project No.:	Shippi Bill to 1	Specia	Duke	

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Appendix B

Well Sampling Data Forms

	CLIENT:	DUKE ENE	RGY FIELD	SERVICES	_	WELL ID:	MW-3
S		LE	E GAS PLAN	IT	-	DATE:	2/12/02
PRC	DJECT NO.		V-101	<u> ,</u> .	- *	SAMPLER:	Fergerson / Van Deventer
PURGING	3 METHOD:		Hand Bai	iled 🔲 Pı	ump If Pu	imp, Type:	
SAMPLIN	IG METHOD) :	🗹 Disposab	le Bailer [Direct	from Disch	arge Hose 🔲 Other:
DESCRIE	BE EQUIPMI	ENT DECO	NTAMINAT	ION METH	IOD BEFO	DRE SAMF	LING THE WELL:
☑ Glove	s 🗹 Alcono	x 🗹 Disti	lled Water F	Rinse 🔲	Other:	<u></u>	
DISPOSA	L METHOD	OF PURG	E WATER:	Surface	e Dischar	ge 🗌 Dru	ms Disposal Facility
Depth t Height	EPTH OF V O WATER: OF WATER AMETER:	COLUMN:	106.68 2.93	Feet		1.4	Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)
TIME	VOLUME		COND. <i>m</i> S/cm	рН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
0924	2	12.4	1560	7.36	7.47	19	Hand bailed
						0930	= sample collection time (MST)
····							
						·	
			:				<u>+</u>
	<u> </u>					; 	
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C:/FORMS/SAMPLING DATA FORM

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	CLIENT:	DUKE ENE	RGY FIELD	SERVICES		WELL ID:	MW-11
SI		LE	E GAS PLAN	IT		DATE:	2/11/02
PRC	DJECT NO.		V-101			SAMPLER:	Fergerson / Van Deventer
SAMPLIN	IG METHO	D:	🗹 Disposab	le Bailer] Direct	from Disch	3" Grundfos Pump harge Hose D Other: PLING THE WELL:
Glove	s 🗹 Alcond	x 🗹 Disti	lled Water R	Rinse 🔲 (Other:		
TOTAL D DEPTH T HEIGHT	EPTH OF V O WATER:	VELL: COLUMN:	118.03 105.73 12.30	Feet Feet	e Dischan	ge 🗌 Dru 24.1	Ims ☑Disposal Facility _Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)
TIME	VOLUME		COND. <i>m</i> S/cm	рН	DO mg/L	ORP mV	PHYSICAL APPEARANCE AND REMARKS
1603	0	-	-	-	-	_	Pump On
1607	5	18.9	2050	7.61	5.06		
1610	10	19.5	2270	7.52	3.63	-	
1612	15	19.8	2180	7.54	3.29	<u> </u>	
1614	20	19.9	2000	7.59	3.52	-	
1617	25	20.0	1890	7.63	3.79	-	
1620	30	20.1	1820	7.61	3.18	_	
1624	35	20.3	1750	7.65	3.00	-	
1627	40	20.3	1760	7.66	-		Pump Off
						1630	= sample collection time (MST)

COMMENTS:

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	CLIENT:	DUKE ENE	RGY FIELD	SERVICES		WELL ID:	MW-12
Sľ	TE NAME:	LE	E GAS PLAN	IT		DATE:	2/11/02
PRO	JECT NO.		V-101		5	SAMPLER:	Fergerson / Van Deventer
PURGING	METHOD	:	Hand Bai	iled 🗹 Pu	mp If Pu	mp, Type:	3" Grundfos Pump
SAMPLIN	g method	D :	Disposab	le Bailer] Direct	from Discha	arge Hose 🔲 Other:
DESCRIB	E EQUIPM	ENT DECO	NTAMINAT	ION METH	OD BEFC	ORE SAMP	LING THE WELL:
Glove	s 🗹 Alcond	x 🗹 Disti	lled Water F	Rinse 🔲 🤇	Other:		
DISPOSA	L METHOD	OF PURG	E WATER:		Dischar	je 🗌 Drui	ms Disposal Facility
DEPTH TO HEIGHT (O WATER: DF WATER		117.60 106.22 11.38 Inch	Feet		22.3	Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)
TIME	VOLUME PURGED	TEMP. ℃ / °F	COND. mS/cm	рН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
1501	0	-	-	-	_		Pump On!
1504	5	18.3	842	8.13	5.56		
1507	10	19.6	809	8.03	2.96		
1510	15	20.0	792	8.10	3.01	-	
1513	20	20.3	793	8.06	2.39	-	
1515	25	20.3	794	8.07	2.99		
1518	30	20.3	793	8.06	2.500	-	
1521	35	20.3	790	8.11	2.98	-	
1524	40	20.3	791	8.08	2.75	_	Pump Off
						1530	= sample collection time (MST)
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COMMENTS:

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	CLIENT:	DUKE ENE	RGY FIELD S	SERVICES		WELL ID:	MW-13
Sľ	TE NAME:	LE	E GAS PLAN	ΙТ		DATE:	2/11/02
PRO	JECT NO.		V-101		. 5	SAMPLER:	Fergerson / Van Deventer
PURGING	B METHOD:		🗌 Hand Bai	iled 🗹 Pu	imp If Pu	imp, Type:	3" Grundfos Pump
SAMPLIN):	Disposab	le Bailer [] Direct	from Discha	arge Hose 🔲 Other:
DESCRIB		ENT DECO	NTAMINAT	ION METH	OD BEFO	ORE SAMP	LING THE WELL:
✓ Glove	s 🗹 Alcono	x 🗹 Disti	iled Water F	Rinse 🔲	Other:		
					Dischar		na Moinnead Facility
					e Dischar		ns
	EPTH OF V O WATER:		<u>117.40</u> 108.11	Feet			
			9.29			18.2	Minimum Gallons to purge 3 well volum
WELL DI	AMETER:	4.0	Inch				(Water Column Height x 1.96)
TIME	VOLUME	TEMP. °C / °F	COND. <i>m</i> S/cm	pН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMAR
1328	0	-	-	-	-	-	Pump On
1333	5	17.7	1410	7.56	5.58	-	
1337	10	19.9	1550	7.38	2.49	-	
1342	15	20.4	1610	7.37	2.24	-	
1347	20	20.4	1620	7.37	2.76	-	
1352	25	20.5	1630	7.35	2.93	-	
1357	30	20.6	1650	7.34	2.98	-	
1402	35	20.6	1650	7.35	3.04	-	
1407	40	20.0	1660	7.36	3.05		Pump Off
						•	
						1400	= sample collection time (MST)

COMMENTS:

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	CLIENT:	DUKE ENE	RGY FIELD S	SERVICES		WELL ID:	MW-19
SI	TE NAME:	LE	E GAS PLAN	IT		DATE:	2/11/02
PRC	JECT NO.	·	V-101		. 5	SAMPLER:	Fergerson / Van Deventer
PURGING	G METHOD:	:	Hand Bai	iled 🔽 Pu	imp If Pu	mp. Type:	3" Grundfos Pump
							arge Hose Other:
							LING THE WELL:
			lled Water F				
							·····
DISPOSA	L METHOD	OF PURG	E WATER:	Surface	e Dischar	ge 🗌 Drui	ms Disposal Facility
TOTAL D	EPTH OF V	VELL:	126.57	Feet			
			<u>109.15</u> 17.42			34.1	Minimum Gallons to purge 3 well volum
	AMETER:			1 000			(Water Column Height x 1.96)
	VOLUME	TEMP.	COND.		DO		
TIME	PURGED	°C / °F	<i>m</i> S/cm	pН	mg/L	Turb	PHYSICAL APPEARANCE AND REMAR
1224	0	-	-	-	-	-	Pump On
1226	5	18.5	1270	7.1	4.48	-	
1228	10	19.1	1360	7.02	3.34	-	
1231	15	19.9	1360	6.95	2.81	-	
1235	20	20.2	1360	6.98	2.62	-	
		20.4	1360	6.96	2.47	-	
1239	25	20.4					
1239 1242	25 30	20.4	1350	6.99	2.76		
		••	1350 1350	6.99 6.96	2.76 2.72	-	
1242	30	20.4				-	Pump Off
1242 1246	30 35	20.4 20.5	1350	6.96	2.72	-	Pump Off
1242 1246	30 35	20.4 20.5	1350	6.96	2.72	-	Pump Off
1242 1246	30 35	20.4 20.5	1350	6.96	2.72	-	
1242 1246	30 35	20.4 20.5	1350	6.96	2.72	-	
1242 1246	30 35	20.4 20.5	1350	6.96	2.72	-	

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	CLIENT: DUKE ENERGY FIELD SERVICES						. <u>MW-20</u>
S		LE	E GAS PLAN	ит	-	DATE	2/11/02
PRC	DJECT NO.	NO. <u>V-101</u>				SAMPLER	E Fergerson / Van Deventer
PURGING		:	Hand Bai	iled 🗹 Pu	imp If Pu	mp, Type:	3" Grundfos Pump
SAMPLIN		D :	Disposab	le Bailer [Direct	from Disch	narge Hose 🔲 Other:
DESCRIE	E EQUIPM	ENT DECC	NTAMINAT	ION METH	IOD BEFO	DRE SAMP	PLING THE WELL:
Glove	s 🗹 Alcond	ox 🗹 Disti	illed Water F	Rinse 🔲 (Other:		
DISPOSA	L METHOL	OF PURG	E WATER:		e Dischar	ge 🗋 Dri	Ims Disposal Facility
	EPTH OF V	VELL:	128.05	Feet			
HEIGHT	O WATER: OF WATER		<u> </u>	Feet		31.6	Minimum Gallons to purge 3 well volumes
	AMETER:			•			(Water Column Height x 1.96)
TIME	VOLUME		COND. mS/cm	pН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
1053	0	-	-		-		Pump On
1056	5	18.6	699	6.9	3.99	_	· · · · · · · · · · · · · · · · · · ·
1104	10	18.9	692	7.41	3.75	-	
1109	15	20.2	669	7.55	3.99	-	
1113	20	20.9	644	7.60	3.16	-	
<u>11</u> 16	25	20.6	648	7.58	2.71	-	
1120	30	20.7	651	7.60	2.84	-	
1123	35	20.7	653	7.59	3.08	-	·
<u>11</u> 27	40	20.7	654	7.58	2.76	-	Pump off
						1130	= sample collection time (MST)

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	-		RGY FIELD		•		<u>MW-21</u>
	-		E GAS PLAN				2/11/02
PRC	JECT NO.		V-101			SAMPLER:	Fergerson / Van Deventer
PURGING	METHOD :		Hand Bai	iled 🗌 Pu	imp If Pu	mp, Type:	· · · · · · · · · · · · · · · · · · ·
SAMPLIN		D:	🗹 Disposab	le Bailer [] Direct	from Disch	arge Hose 🔲 Other:
DESCRIE	E EQUIPMI	ENT DECO	NTAMINAT	ION METH	OD BEFO	ORE SAMP	LING THE WELL:
Glove	s 🗹 Alcono	ox 🗹 Disti	lled Water F	Rinse 🔲 🤇	Other:		
DISPOSA		of Purg	E WATER:	Surface	e Dischar	ge 🗌 Drui	ms <a>Disposal Facility
			123.48				
DEPTH T	O WATER:		NM NM	Feet			Minimum Gallons to purge 3 well volum
	AMETER:						(Water Column Height x 0.49)
ТІМЕ	VOLUME		COND.	pН	DO	Turb	PHYSICAL APPEARANCE AND REMARK
	PURGED		<i>m</i> S/cm	•	mg/L		
1730	4	17.9	478	8.42	9.90	103	Hand bailed
1757	8	18.4	469	8.38	9.87	424	
					-	<u></u>	
						1745	= sample collection time (MST)
						17-10	
COMMEN	NTS:						

	CLIENT:	DUKE ENE	RGY FIELD S	SERVICES			MW-7
SI	TE NAME:	LE	E GAS PLAN	IT		DATE:	8/13/02
PRO	JECT NO.		V-101		. ⁸	SAMPLER:	Littlejohn / Van Deventer
PURGING	METHOD:	:	✓ Hand Bai	iled 🗌 Pu	ımp lf Pu	mp, Type:	
							narge Hose 🔲 Other:
DESCRIB	E EQUIPM	ENT DECO	NTAMINAT	ION METH	OD BEFO	DRE SAMF	PLING THE WELL:
Glove:	s 🗹 Alcond	x 🗹 Disti	lled Water F	Rinse 🔲 🤅	Other:		
DISPOSA) of Purg	E WATER:	Surface	e Dischar	ge 📙 Dru	Ims Disposal Facility
			111.65	Feet			
	O WATER: OF WATER		105.76 5.89	Feet		11.5	Minimum Gallons to purge 3 well volume
	METER:						(Water Column Height x 0.49)
711.45	VOLUME	TEMP.	COND.		DO	ORP	
TIME	PURGED	° C / ° F	<i>m</i> S/cm	рН	mg/L	mV	PHYSICAL APPEARANCE AND REMAR
1835	0		-	-	-	-	
1839	2	27.6	1099	7.08	3.64	-5.3	
1843	3	25.4	1152	7.10	2.86	-6.2	
						0.55	mg/L Ferrous Iron concentration*
						1850	= sample collection time (MST)
							Well pumped dry early. Discontinued
							purging after pumping 3 gallons so as
							not to risk burning up Grundfos pump
-							
							· · · · · · · · · · · · · · · · · · ·
	. 1			<u> </u>	1		1

	CLIENT:	DUKE ENE	RGY FIELD S	SERVICES		WELL ID:	MW-9
SI	TE NAME:	NAME: LEE GAS PLANT				DATE:	8/14/02
PRC	JECT NO.		V-101		. 8	SAMPLER:	Littlejohn / Van Deventer
PURGING METHOD: Hand Bailed I Pur SAMPLING METHOD: Disposable Bailer						from Disch	arge Hose Other:
			lled Water F				
TOTAL D DEPTH T HEIGHT (VELL:	117.02 107.38 9.64	Feet	e Discharg	-	ms ☑Disposal Facility _Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)
TIME	VOLUME	TEMP. °C / °F	COND. <i>m</i> S/cm	рН	DO mg/L	ORP mV	PHYSICAL APPEARANCE AND REMARKS
1747	0	-	•		-	-	Pump On
1749	5	30.5	-	6.65	2.51	19.1	
1753	15	24.0	1220	6.78	2.09	11.9	
1755	20	23.8	1123	6.77	1.80	12.5	
1752	25	23.7	1109	6.77	1.89	12.6	
1756	30	23.7	803	6.8	1.86	10.8	
1801	35	23.7	805	6.81	1.82	10.4	
1803	40	23.7	776	6.81	1.68	10.6	Pump Off
						9.7	mg/L Ferrous Iron concentration*
						1805	= sample collection time (MST)

COMMENTS:

* Hach Model 2010 Spectrophotometer used to measure ferrous iron in the field (Method 8146).

	CLIENT:	DUKE ENE	RGY FIELD	SERVICES		WELL ID:	MW-10
SI		LE	E GAS PLAN	IT		DATE:	8/14/02
PRO	DJECT NO				. 5	SAMPLER:	Littlejohn / Van Deventer
PURGING		:	Hand Bai	iled 🗹 Pu	imp If Pu	mp, Type:	3" Grundfos Pump
							arge Hose 🔲 Other:
DESCRIB	E EQUIPM	ENT DECC	NTAMINAT	ION METH	OD BEFO	ORE SAMP	LING THE WELL:
Glove	s 🗹 Alcond	x 🗹 Disti	lled Water F	Rinse 🔲 (Other:		
					e Dischar	je 🗋 Dru	ms <a>Disposal Facility
TOTAL D	EPTH OF V	VELL:	<u> 117.50</u> 107.09	Feet			
			107.09			20.4	Minimum Gallons to purge 3 well volume
WELL DIA	AMETER:	4.0	Inch	-			(Water Column Height x 1.96)
TIME	VOLUME		COND.	рН	DO	ORP	PHYSICAL APPEARANCE AND REMARK
	PURGED	° C / ° F	mS/cm	• • •	mg/L	mV	
1842	3	25.3	-	6.94	3.51	3.0	Conductivity meter went bad
1846	6	25.2	-	7.00	3.57	-0.4	
1851	9	25.3	-	6.99	2.94	0.0	
1855	12	25.3	-	7.00	4.66	-0.1	
1858	15	25.3	-	6.99	1.81	0.3	
1902	18	25.2	-	6.99	2.33	0.0	
1906	21	25.3	-	6.99	1.57	0.5	
1910	24	25.3	_	6.99	2.00	0.2	Pump Off
						8.44	mg/L Ferrous Iron concentration*
						1910	= sample collection time (MST)

COMMENTS:

* Hach Model 2010 Spectrophotometer used to measure ferrous iron in the field (Method 8146).

	CLIENT:	DUKE ENE	RGY FIELD S	SERVICES		WELL ID:	MW-11
SI		LE	E GAS PLAN	IT		DATE:	8/13/02
PRO	PROJECT NO V-101				. 8	SAMPLER:	Littlejohn / Van Deventer
SAMPLIN	g method) :	🗹 Disposab	le Bailer [Direct	from Disch	3" Grundfos Pump arge Hose [] Other: LING THE WELL:
		_			•		ms
TOTAL DI DEPTH TO HEIGHT (EPTH OF V O WATER: DF WATER	VELL:	118.03 106.16 11.87	Feet Feet		-	Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)
TIME	VOLUME PURGED	TEMP. °C / °F	COND. mS/cm	pН	DO mg/L	ORP mV	PHYSICAL APPEARANCE AND REMARKS
1610	0	-	_		-	-	Pump On
1613	5	25.0	1844	7.20	1.92	-12.2	
1616	10	24.3	1518	7.21	1.89	-12.9	
1619	15	24.1	1315	7.25	1.60	-14.8	
1622	20	24.2	1220	7.27	1.82	-16.3	· · · · · · · · · · · · · · · · · · ·
1626	25	24.2	1168	7.29	1.77	-17.0	
1631	30	24.2	1148	7.30	1.92	-17.8	
1634	35	24.2	1121	7.29	1.77	-17.3	
1638	40	24.2	1053	7.30	1.90	-18.3	Pump Off
						0.03	mg/L Ferrous Iron concentration*
						1640	= sample collection time (MST)
			`				· · · · · · · · · · · · · · · · · · ·

COMMENTS:

* Hach Model 2010 Spectrophotometer used to measure ferrous iron in the field (Method 8146).

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		DUKE ENE	RGY FIELD S	SERVICES		WELL ID:	MW-12
Sľ	TE NAME:	LE	E GAS PLAN	т		DATE:	8/13/02
PRO	JECT NO.		V-101	<u> </u>		SAMPLER:	Littlejohn / Van Deventer
PURGING	METHOD:		🗌 Hand Bai	led 🗹 Pu	mp If Pu	mp, Type:	3" Grundfos Pump
SAMPLIN	g method):	Disposab	le Bailer	Direct	from Disch	arge Hose 🔲 Other:
DESCRIB	e Equipmi	ENT DECO	NTAMINAT	ION METH	OD BEFO	DRE SAMP	LING THE WELL:
Giove	s 🗹 Alcond	x 🗹 Disti	lled Water R	linse 🔲 🤇	Other:		
DISPOSA	L METHOD	OF PURG	E WATER:	Surface	Dischar	ge 🗌 Drui	ms Disposal Facility
Depth to Height (O WATER:	COLUMN:	117.60 106.66 10.94 Inch	Feet		21.4	Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)
TIME	VOLUME PURGED	TEMP. °C / °F	COND. mS/cm	рН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
1500	0	-	-	-	-	-	Pump On!
1503	5	22.9	890	7.52	3.35	-	
1505	10	25.9	842	7.53	2.56		
1510	15	24.7	805	7.53	1.88	-	
1514	20	24.7	803	7.54	1.76	-	
1519	25	24.7	807	7.52	1.66		
1524	30	24.8	799	7.53	1.61	-	
1528	35	24.7	794	7.53	1.58	-	
1532	40	24.7	807	7.52	1.58	-	Pump Off
						0.07	mg/L Ferrous Iron concentration*
						1535	= sample collection time (MST)
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COMMENTS:

* Hach Model 2010 Spectrophotometer used to measure ferrous iron in the field (Method 8146).

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	CLIENT:	DUKE ENE	RGY FIELD S	SERVICES		WELL ID:	MW-13
SI	TE NAME:	LE	E GAS PLAN	IT		DATE:	8/13/02
PRO	JECT NO.		V-101		. 5	SAMPLER:	Littlejohn / Van Deventer
							3" Grundfos Pump
DESCRIB	E EQUIPM	ENT DECO	NTAMINAT	ION METH	OD BEFC	ORE SAMP	LING THE WELL:
Glove	s 🗹 Alcond	x 🗹 Disti	lled Water R	Rinse 🔲 (Other:		
TOTAL DI DEPTH TO HEIGHT (EPTH OF V O WATER:	VELL: COLUMN:	<u>117.40</u> 108.54 8.86	Feet Feet		je 🗍 Dru 17.4	ms Disposal Facility Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)
TIME	VOLUME PURGED		COND. mS/cm	pН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
1207	0	-	-	-	-	-	Pump On
1210	5	25.9	1260	7.28	2.47	-	
1213	10	24.1	1317	7.03	4.33	-	
1218	15	25.3	1375	6.94	6.17	_	
1225	20	25.2	1353	6.91	6.57	-	
1232	25	25.0	1391	6.91	6.39	-	
1238	30	25.3	1407	6.90	7.03	-	
1244	38	25.3	1401	6.89	6.23		Pump Off
<u> </u>						<u></u>	
						0.10	mg/L Ferrous Iron concentration*
						1250	= sample collection time (MST)
							

	CLIENT:	DUKE ENE	RGY FIELD S	SERVICES		WELL ID	. <u>MW-14</u>
SI		LE	E GAS PLAN	IТ		DATE	8/14/02
PRC	JECT NO.		V-101			SAMPLER	: Littlejohn / Van Deventer
			_	_			
							3" Grundfos Pump
SAMPLIN	g methoe	D:	Disposab	le Bailer	Direct	from Discl	harge Hose 🔲 Other:
DESCRIE	EEQUIPM	ENT DECO	NTAMINAT	ION METH	OD BEF	ORE SAM	PLING THE WELL:
Glove	s 🗹 Alcond	x 🗹 Disti	lled Water F	Rinse 🔲 🤇	Other:		
DISPOSA) of Purg	E WATER:		e Dischar	ge 🗌 Dru	ums Disposal Facility
DEPTH T HEIGHT (O MAIA TED.	COLUMN:	118.49 109.87 8.62 Inch	F 4		16.9	Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)
TIME	VOLUME PURGED	TEMP. ℃ / °F	COND. <i>m</i> S/cm	рН	DO mg/L	ORP mV	PHYSICAL APPEARANCE AND REMARKS
1416	0	-			-	_	Pump On
1419	5	23.6	1560	7.04	1.62	90	
1422	10	22.6	1490	6.99	1.66	28	
1425	15	21.9	1580	7.01	2.18	28	
1428	20	21.7	1640	6.96	2.33	12	
1431	25	21.8	1640	6.93	2.45	2	
1433	30	21.5	1630	6.92	2.58	2	
1436	35	21.2	1640	6.90	2.39	1	
1439	40	21.2	1640	6.90	2.39	1	Pump Off
		-					mg/L Ferrous Iron concentration*
							= sample collection time (MST)
			l				
COMMEN	NTS:	* Hach Mod	del 2010 Sp	ectrophotor	neter use	d to meas	ure ferrous iron in the field (Method 8146).

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	CLIENT:	DUKE ENE	RGY FIELD	BERVICES		WELL ID:	MW-16
SI	TE NAMÈ:	LE	E GAS PLAN	T		DATE:	8/14/02
PRO	JECT NO.		V-101				Littlejohn / Van Deventer
	_						
PURGING	METHOD:	;	🗌 Hand Bai	ied 🗹 Pu	mp If Pu	imp, Type:	3" Grundfos Pump
SAMPLIN	g Method) :	🗹 Disposab	le Bailer] Direct	from Disch	arge Hose 🔲 Other:
DESCRIB	E EQUIPMI	ENT DECO	NTAMINAT	ION METH	OD BEFO	DRE SAMP	LING THE WELL:
Glove:	s 🗹 Alcono	x 🗹 Disti	lled Water R	Rinse 🔲 🤇	Other:		
DISPOSA		OF PURG	E WATER:		Dischar	ne 🗌 Dru	ms Disposal Facility
Total Di Depth To Height (EPTH OF V O WATER:	VELL: COLUMN:	125.15 105.38 19.77	Feet Feet		-	Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)
TIME	VOLUME PURGED		COND. mS/cm	pН	DO mg/L	ORP mV	PHYSICAL APPEARANCE AND REMARKS
0948	0	-	-	ŀ	-	-	Pump On
0952	5	23.1	601	6.86	2.53	9.9	
0954	10	23.1	588	6.76	2.84	16.9	
0956	15	23.0	583	6.87	4.68	9.4	· ·
0959	20	23.1	548	6.99	5.62	-0.2	
1002	25	23.1	538	7.06	5.92	-4.7	
1005	30	23.1	539	7.08	6.19	-6.9	
1007	35	23.1	540	7.11	6.00	-8.7	
1010	40	23.5	552	7.18	5.64	-10.1	Pump Off
						0.08	mg/L Ferrous Iron concentration*
							· · · · · · · · · · · · · · · · · · ·
						1010	= sample collection time (MST)

COMMENTS:

* Hach Model 2010 Spectrophotometer used to measure ferrous iron in the field (Method 8146).

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SITE NAME: LEE GAS PLANT DATE: 8/14/02 PROJECT NO. V-101 SAMPLER: Littlejohn / Van Deventer PURGING METHOD: Hand Bailed Pump If Pump, Type: 3" Grundtos Pump SAMPLING METHOD: Disposable Bailer Direct from Discharge Hose Other: DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL: Gioves Alconox Distilled Water Rinse Other: DISPOSAL METHOD OF PURGE WATER: Surface Discharge Drums Disposal Facility TOTAL DEPTH OF WELL: 124.09 Feet 31.3 Minimum Gallons to purge 3 well volumes WELL DIAMETER: 4.0 Inch Minimum Gallons to purge 3 well volumes WELL DIAMETER: 4.0 Inch Minimum Gallons to purge 3 well volumes WELL DIAMETER: 4.0 Inch Minimum Gallons to purge 3 well volumes 0846 0 - - - Pump On 0852 10 22.6 732 6.86 2.71 8.0 0858 20 22.8 706 6.90 1.91 5.3 0902 25 22.9 697 6.86		CLIENT:	DUKE ENE	RGY FIELD S	BERVICES		WELL ID:	MW-17
PROJECT NO. V-101 SAMPLER: Littlejohn / Van Deventer PURGING METHOD: ☐ Hand Bailed ☐ Pump If Pump, Type: 3° Grundfos Pump SAMPLING METHOD: ☐ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other:	SI	TE NAME:	LE	E GAS PLAN	IT		DATE:	8/14/02
SAMPLING METHOD: ☑ Disposable Bailer □ Direct from Discharge Hose □ Other:	PRO	JECT NO.		V-101		5		
SAMPLING METHOD: ☑ Disposable Bailer □ Direct from Discharge Hose □ Other: DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL: ☑ ☑ Gloves ☑ Alconox ☑ Distilled Water Rinse □ Other:		-						
DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL: Image: Gloves Image: Gl	PURGING	METHOD:		Hand Bai	iled 🗹 Pu	mp If Pu	imp, Type:	3" Grundfos Pump
	SAMPLIN	g method) :	🗹 Disposab	le Bailer	Direct	from Disch	arge Hose 🔲 Other:
DISPOSAL METHOD OF PURGE WATER: Surface Discharge Drums Disposal Facility TOTAL DEPTH OF WELL: 124.09 Feet 108.12 Feet 108.12 Feet HEIGHT OF WATER: 4.0 Inch 31.3 Minimum Gallons to purge 3 well volumes WELL DIAMETER: 4.0 Inch Wetre Column Height x 1.96) TIME VOLUME TEMP. COND. pH DO ORP PHYSICAL APPEARANCE AND REMARKS 0846 0 - - - - PURGED 722.2 756 6.86 2.71 8.0 0852 10 22.6 732 6.82 2.17 10.2 0 0858 20 22.8 706 6.90 1.91 5.3 0 0902 25 22.9 701 6.93 1.66 3.5 0 0905 30 22.9 696 6.99 1.72 0.0 0 0912 40 22.9 691 6.99 1.72 0.0 Pump Off 0912 40 22.9 691 6.99 1.72	DESCRIB	E EQUIPM	ENT DECO	NTAMINAT	ION METH	OD BEFO	ORE SAMP	LING THE WELL:
TOTAL DEPTH OF WELL: 124.09 Feet DEPTH TO WATER: 108.12 Feet HEIGHT OF WATER COLUMN: 15.97 Feet WELL DIAMETER: 4.0 Inch 0 TIME VOLUME VOLUME TEMP. 027 °F mS/cm PH DO mg/L mV PHYSICAL APPEARANCE AND REMARKS 0846 0 0 - 0846 0 0 - 0849 5 22.2 756 6.82 2.17 10 22.6 732 6.82 2.17 10.2 0855 15 22.7 725 6.84 1.88 9.4 0858 20 22.8 706 6.90 1.91 0902 25 22.9 697 6.96 1.32 1.6 0908 35 22.9 691 0912 40 22.9 691 6.99 </td <td>Glove:</td> <td>s 🗹 Alcond</td> <td>x 🗹 Disti</td> <td>lled Water F</td> <td>Rinse 🗌 🤇</td> <td>Other:</td> <td><u> </u></td> <td></td>	Glove:	s 🗹 Alcond	x 🗹 Disti	lled Water F	Rinse 🗌 🤇	Other:	<u> </u>	
DEPTH TO WATER: 108.12 Feet HEIGHT OF WATER COLUMN: 15.97 Feet 31.3 Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96) TIME VOLUME TEMP. PURGED COND. %C / %F pH DO mS/cm ORP mg/L PHYSICAL APPEARANCE AND REMARKS 0846 0 - - - - Purget 0846 0 - - - - Purget 0846 0 - - - Purget Purget 0849 5 22.2 756 6.86 2.71 8.0 0852 10 22.6 732 6.82 2.17 10.2 0855 15 22.7 725 6.84 1.88 9.4 0858 20 22.8 706 6.90 1.91 5.3 0902 25 22.9 697 6.96 1.32 1.6 0908 35 22.9 696 6.99 1.72 0.0 <td>DISPOSA</td> <td></td> <td>) of Purg</td> <td>E WATER:</td> <td>Surface</td> <td>Dischar</td> <td>ge 🗌 Drui</td> <td>ms Disposal Facility</td>	DISPOSA) of Purg	E WATER:	Surface	Dischar	ge 🗌 Drui	ms Disposal Facility
INME PURGED °C / °F mS/cm PH mg/L mV PHYSICAL APPEARANCE AND REMARKS 0846 0 - - - - Pump On 0849 5 22.2 756 6.86 2.71 8.0 0852 10 22.6 732 6.82 2.17 10.2 0855 15 22.7 725 6.84 1.88 9.4 0858 20 22.8 706 6.90 1.91 5.3 0902 25 22.9 701 6.93 1.66 3.5 0905 30 22.9 697 6.96 1.32 1.6 0908 35 22.9 696 6.99 1.72 0.0 0912 40 22.9 691 6.99 1.72 0.0 Pump Off	DEPTH TO HEIGHT (o water: of water	COLUMN:	108.12 15.97	Feet		31.3	
0849 5 22.2 756 6.86 2.71 8.0 0852 10 22.6 732 6.82 2.17 10.2 0855 15 22.7 725 6.84 1.88 9.4 0858 20 22.8 706 6.90 1.91 5.3 0902 25 22.9 701 6.93 1.66 3.5 0905 30 22.9 697 6.96 1.32 1.6 0908 35 22.9 696 6.99 1.72 0.0 0912 40 22.9 691 6.99 1.72 0.0 0912 40 22.9 691 6.99 1.72 0.0 Pump Off 0.68 mg/L Ferrous Iron concentration* 0.68 mg/L Ferrous Iron concentration* 0.68	TIME				pН			PHYSICAL APPEARANCE AND REMARKS
0852 10 22.6 732 6.82 2.17 10.2 0855 15 22.7 725 6.84 1.88 9.4 0858 20 22.8 706 6.90 1.91 5.3 0902 25 22.9 701 6.93 1.66 3.5 0905 30 22.9 697 6.96 1.32 1.6 0908 35 22.9 696 6.99 1.72 0.0 0912 40 22.9 691 6.99 1.72 0.0 0.912 40 22.9 691 6.99 1.72 0.0	084 6	0	-	-	1	-	-	Pump On
0855 15 22.7 725 6.84 1.88 9.4 0858 20 22.8 706 6.90 1.91 5.3 0902 25 22.9 701 6.93 1.66 3.5 0905 30 22.9 697 6.96 1.32 1.6 0908 35 22.9 696 6.99 1.72 0.0 0912 40 22.9 691 6.99 1.72 0.0 0912 40 22.9 691 6.99 1.72 0.0 0.68 mg/L Ferrous Iron concentration* 0.68 mg/L Ferrous Iron concentration*	0849	5	22.2	756	6.86	2.71	8.0	
0858 20 22.8 706 6.90 1.91 5.3 0902 25 22.9 701 6.93 1.66 3.5 0905 30 22.9 697 6.96 1.32 1.6 0908 35 22.9 696 6.99 1.72 0.0 0912 40 22.9 691 6.99 1.72 0.0 0912 40 22.9 691 6.99 1.72 0.0 0.912 40 22.9 691 6.99 1.72 0.0 Pump Off	0852	10	22.6	732	6.82	2.17	10.2	
0902 25 22.9 701 6.93 1.66 3.5 0905 30 22.9 697 6.96 1.32 1.6 0908 35 22.9 696 6.99 1.72 0.0 0912 40 22.9 691 6.99 1.72 0.0 Pump Off 0.912 40 22.9 691 6.99 1.72 0.0 Pump Off 0.0 1.72 0.0 Pump Off 1.72 0.0 Pump Off	0855	15	22.7	725	6.84	1.88	9.4	
0905 30 22.9 697 6.96 1.32 1.6 0908 35 22.9 696 6.99 1.72 0.0 0912 40 22.9 691 6.99 1.72 0.0 Pump Off 0.68 mg/L Ferrous Iron concentration*	0858	20	22.8	706	6.90	1.91	5.3	
0908 35 22.9 696 6.99 1.72 0.0 0912 40 22.9 691 6.99 1.72 0.0 Pump Off 0.68 mg/L Ferrous Iron concentration*	0902	25	22.9	701	6.93	1.66	3.5	
0912 40 22.9 691 6.99 1.72 0.0 Pump Off 0.0 0.68 mg/L Ferrous Iron concentration* 0.68 mg/L Ferrous Iron concentration*	0905	30	22.9	697	6.96	1.32	1.6	
0.68 mg/L Ferrous Iron concentration*	0908	35	22.9	696	6.99	1.72	0.0	
	0912	40	22.9	691	6.99	1.72	0.0	Pump Off
912 sample collection time (MST)				; 			0.68	mg/L Ferrous Iron concentration*
912 = sample collection time (MST)								
							912	= sample collection time (MST)
			L			<u> </u>		

COMMENTS:

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* Hach Model 2010 Spectrophotometer used to measure ferrous iron in the field (Method 8146).

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	CLIENT:	DUKE ENE	RGY FIELD S	SERVICES		WELL ID:	MW-18
SI		LE	E GAS PLAN	IT		DATE:	8/13/02
PRO	JECT NO.		V-101		8	SAMPLER:	Littlejohn / Van Deventer
							3" Grundfos Pump
SAMPLIN	g method	D :	✓ Disposab	le Bailer L	_ Direct	from Disch	arge Hose 🔲 Other:
DESCRIB	E EQUIPM	ENT DECO	NTAMINAT	ION METH	OD BEFC	DRE SAMP	LING THE WELL:
Glove	s 🗹 Alcond	x 🗹 Disti	lled Water R	Rinse 🗌 🤇	Other:		
DISPOSA	L METHOD) of purg	E WATER:	Surface	Dischar	je 🗌 Dru	ms Disposal Facility
depth to Height (O WATER:	COLUMN:	130.02 109.53 20.49 Inch	Feet		40.1	Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)
TIME	VOLUME PURGED		COND. mS/cm	pН	DO mg/L	ORP mV	PHYSICAL APPEARANCE AND REMARKS
1718	0	-	-	-	-	-	Pump On
1722	5	26.7	525	7.19	2.44	-11.1	
1726	10	23.8	466	7.08	1.50	-6.2	
1729	15	23.7	465	7.22	1.42	-13.8	
1734	20	23.7	460	7.32	1.34	-20.5	
1738	25	23.6	454	7.38	1.34	-23.6	
1742	30	23.6	452	7.41	1.35	-25.9	
1745	35	23.5	446	7.43	1.31	-26.9	
1749	40	23.4	444	7.45	1.30	-27.7	Pump Off
						0.08	mg/L Ferrous Iron concentration*
						1750	= sample collection time (MST)
			· · · · · · · · · · · · · · · · · · ·				
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CLIENT: DUKE ENERGY FIELD SERVICES						WELL ID:	MW-19	
SITE NAME: LEE GAS PLANT				IT			8/13/02	
PROJECT NO.			V-101			SAMPLER:	Littlejohn / Van Deventer	
SAMPLIN DESCRIB I Glove DISPOSA TOTAL D DEPTH T	G METHOD E EQUIPM s ☑ Alcond L METHOD EPTH OF V O WATER:	D: ENT DECO DX 🗹 Disti DOF PURG VELL:	✓ Disposab NTAMINAT Iled Water R E WATER: <u>126.57</u> 109.66	le Bailer [ION METH Linse 🔲 (D Surface Feet Feet	Direct OD BEFC Other:	from Disch DRE SAMP ge 🔲 Dru	3" Grundfos Pump arge Hose Other: LING THE WELL: ms Disposal Facility	
		COLUMN: 4.0	16.91 Inch	Feet		33.1	Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)	
TIME	VOLUME		COND. <i>m</i> S/cm	pН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS	
1118	0	-	-	-	-	-	Pump On	
1120	5	26.0	1041	6.63	3.13	-		
1122	10	23.9	1022	6.62	2.65	-		
1125	15	23.3	1028	6.64	2.62	-		
1128	20	23.3	1028	6.63	2.15	-		
1130	25	23.2	1035	6.62	1.91	-	· ·	
1133	30	23.1	1026	6.67	2.63	-		
1136	35	23.1	1024	6.64	2.13	_		
1138	40	23.1	1018	6.68	2.78	_	Pump Off	
						0.03	mg/L Ferrous Iron concentration*	
						1143	= sample collection time (MST)	
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COMMEN	ITS:	* Hach Mod	del 2010 Spe	ectrophotor	neter use	d to measu	re ferrous iron in the field (Method 8146).	

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	CLIENT:	DUKE ENE	RGY FIELD	SERVICES	-	WELL ID:	MW-21
SITE NAME: LEE GAS PLANT			_	DATE:	8/14/02		
PRC	DJECT NO.		V-101		. s	AMPLER:	Littlejohn / Van Deventer
URGING	G METHOD:	:	🗹 Hand Bai	iled 🗌 Pu	ump if Pu	np, Type:	
AMPLIN):	✓ Disposab	le Bailer [Direct f	rom Disch	arge Hose 🔲 Other:
ESCRIE		ENT DECC	NTAMINAT	ION METH	IOD BEFC	RE SAMP	LING THE WELL:
✓ Glove	s I Alcond	x 🗹 Disti	lled Water F	Rinse 🔲	Other:		
					o Disabam		ns
					e Dischary		
OTAL D	EPTH OF V O WATER:	VELL:	123.48 NM				
IEIGHT	OF WATER	COLUMN:	NM	Feet	_		Minimum Gallons to purge 3 well volume
VELL DI	AMETER:	2.0	Inch				(Water Column Height x 0.49)
TIME	VOLUME		COND. mS/cm	рН	DO mg/L	ORP mV	PHYSICAL APPEARANCE AND REMARKS
1200	9	27.2	442	6.77	6.45	13.1	Hand bailed
						0.33	mg/L Ferrous Iron concentration*
						0.33	mg/L Ferrous Iron concentration*
							mg/L Ferrous Iron concentration* = sample collection time (MST)

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	CLIENT:	DUKE ENE	RGY FIELD S	SERVICES		WELL ID:	MW-22
Sľ	TE NAME:	LE	E GAS PLAN	IT		DATE:	8/14/02
PRO	JECT NO.		V-101		. 8	SAMPLER:	Littlejohn / Van Deventer
PURGING	METHOD:		I Hand Bai	iled 🗌 Pu	ımp lf Pu	mp, Type:	
SAMPLIN) :	✓ Disposab	le Bailer	Direct	from Discha	arge Hose 🔲 Other:
DESCRIB	E EQUIPM	ENT DECC	NTAMINAT	ION METH	OD BEFO	ORE SAMP	LING THE WELL:
☑ Glove	s 🗹 Alcond	x 🗹 Disti	illed Water R	Rinse 🗌 🤇	Other:		
					Nischar		ms
					Disolial		
	epth of v o water:		148.58 NM				
HEIGHT (OF WATER	COLUMN:		Feet		<u></u>	Minimum Gallons to purge 3 well volume
WELL DIA	AMETER:	2.0	Inch				(Water Column Height x 0.49)
TIME	VOLUME		COND. mS/cm	pН	DO mg/L	ORP mV	PHYSICAL APPEARANCE AND REMARKS
1050	9	24.6	468	7.69	7.91	-45.7	Hand bailed
						0.72	mg/L Ferrous Iron concentration*
		·		. <u></u>			
-						1050	= sample collection time (MST)
							-
				· · · · · · · · · · · · · · · · · · ·			

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2001 Annual Groundwater Monitoring and Sampling and Remediation System Performance Report Duke Energy Field Services Lee Gas Plant Lea County, New Mexico

NOVEMBER 14, 2001

Prepared For:

Duke Energy Field Services P. O. Box 5493 Denver, Colorado 80217



Prepared By:

RII ENVIRONMENTAL

Trident Environmental P O Box 7624 Midland, Texas 79708

2001 Annual Groundwater Monitoring and Sampling Report Duke Energy Field Services – Lee Gas Plant Lea County, New Mexico

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Dale T. Littlejohn Quality Assurance Officer

DATE:

11-14-01

11-14-01

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Appendix B Well Sampling Data Forms



1.0 Executive Summary

Trident Environmental (Trident), was retained by Duke Energy Field Services (DEFS) to perform the sampling and monitoring operations at the Lee Gas Plant. The plant is located in sections 30 and 31 of township 17 south and range 35 east in Lea County, New Mexico. This 2001 annual report summarizes the two sampling events performed by Trident at the DEFS Lee Gas Plant on February 15 through 16, 2001 and July 31 through August 1, 2001.

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 sparge 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, with the exception of MW-7, which has decreased to below the WQCC standard for the first time since July 1994. Toluene, ethylbenzene, and xylene concentrations in all of the wells have remained below the WQCC standards since at least August 1995. The benzene concentrations measured over the past six years in MW-7, MW-10, and MW-16 are generally stable to decreasing while those measured in MW-9 and MW-14, appear to be periodically interrupted by isolated spikes of elevated concentrations. The benzene concentration in MW-17 has increased since August of 1997.
- During the July 31 through August 1, 2001 monitoring event, light non-aqueous phase liquid (LNAPL) was measured in monitoring wells MW-5 (0.11 feet), MW-6 (≈3.0 feet), MW-8 (0.01 feet), and MW-15 (3.44 feet).
- A total of 4,765,727 gallons of groundwater was recovered by three recovery wells during the 1-year period of record (October 1, 2000 through September 30, 2001).
- 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 July 31, 2001.
- 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 LNAPL recovery at MW-6 with the Xitech system.
- Continue free product recovery from MW-5, MW-8, and MW-15 using passive bailers and/or hydrophobic adsorbent socks, and hand bailing methods as appropriate.
- Begin a program of monitoring natural attenuation that includes the analysis of dissolved oxygen (DO), nitrate (NO₃), sulfate (SO₄), ferric iron (Fe³⁺), ferrous iron (Fe²⁺), and manganese (Mn) to assess the efficacy of intrinsic bioremediation processes occurring on site.
- Continue the sampling and monitoring program on a semi-annual basis. The next sampling event is scheduled during the first quarter of 2002.



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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 guarterly sampling activities on January 23, 1992, April 28, 1992, July 30, 1992 and October 21, 1992. GCL completed the Final Phase of a subsurface investigation to complete February 24, 1992 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. The OCD approved the "Discharge Plan GW-2 Modification and Remedial April 26, 1993 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. GCL completed installation of soil vapor extraction system on recovery well August 3, 1993 **RW-1**. GCL completed installation of air sparging injection unit in monitoring well November 15, 1993 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.

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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 22, 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.



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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.
November 6, 2000	TRW conducted O & M on Xitech, vapor extraction, and air sparge systems. Upon arrival it was determined that the electrical breaker at the main transformer had been thrown. Following the restoration of electrical power the submersible water pump in RW-3 would not operate. All of the other systems were operational.
December 13, 2000	TRW conducted O & M on Xitech, vapor extraction, and air sparge systems. All of the systems were operational except the water pump in RW-3.
January 23, 2001	TRW conducted O & M on Xitech, vapor extraction, and air sparge systems. All of the systems were operational except the water pumps in RW-3 and RW-4.
February 15, 2001	TRW conducted O & M on Xitech, vapor extraction, and air sparge systems, and performed semi-annual sampling activities. A water well contractor installed a new submersible pump in RW-3 and a new relay switch in the breaker box at RW-4. All systems were operational upon completion of the site visit, however the flow meter in RW-4 was not working properly.
March 20, 2001	TRW conducted O & M on Xitech, vapor extraction, and air sparge systems. All of the systems were operational except for the flow meters at RW-2 and RW-3, and the submersible pump in RW-4. Field personnel serviced the flow meter, replaced the check valve in RW-3, and re-activated the power and replaced the flow meter at RW-4. All systems were operational upon the completion of the site visit; however the flow meters at RW-2 and RW-3 were not working properly.
May 1, 2001	Trident Environmental acquired the assets and staff of the Midland, Texas office of TRW Inc.

May 10, 2001	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems. The submersible pump in RW-3 and the flow meter at RW-4 were not operational.
May 23, 2001	Trident replaced an "Airgas-owned" nitrogen bottle with a Trident-owned bottle, replaced a digital "GPI" flow meter in RW-1 with an analog "Neptune" totalizer and installed a stainless steel strainer in line at RW-4 to protect the flow meter. The submersible pump in RW-3 was not operational.
June 18, 2001	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems. The submersible pumps in RW-2 and RW-3, and the flow meter at RW-4 were not operational upon arrival. Trident personnel serviced the flow meter and cleaned out the stainless steel strainer at RW-4
June 19, 2001	A water well servicing contractor (W-H-B) bailed 2 gallons of sand and installed a new ³ / ₄ hp Myers submersible pump in RW-3, and replaced a relay switch at the breaker for RW-2. Upon completion of the site visit all of the remedial systems were operation, however the flow meter in RW-3 was not working properly.
July 20, 2001	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems. The submersible pump in RW-2 and the flow meter at RW-3 were not operational upon arrival. Trident personnel replaced the digital GPI flow meter in RW-3 with an analog Neptune totalizer.
July 25, 2001	Trident personnel attempted to re-start RW-2 by replacing the relay and capacitor, but the submersible pump would not reactivate. The totalizer from RW-2 was moved to RW-3. All other systems were operational upon departure.
July 31, 2001	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems, and performed annual sampling activities. The totalizer in RW-3 (used unit) was replaced with a new totalizer.
September 11, 2001	Trident conducted O & M on Xitech, vapor extraction, and air sparge systems. The submersible pump in RW-2, the flow meter at RW-3, and the VE unit (RW-1) were not operational upon arrival. Trident personnel restarted the VE unit and replaced the totalizer in RW-3 with a "GPI" meter.
October 10, 2001	A water well servicing contractor (W-H-B) removed old pump and installed a new $\frac{1}{2}$ hp Myers submersible pump in RW-2.
October 11, 2001	Trident installed a sediment trap and digital GPI flowmeter at RW-2. All systems were operational upon departure.



3.0 Procedures

Each monitoring well at the Lee Gas Plant was gauged for depth to groundwater on February 15, 2001 and July 31, 2001, using a Heron H.01L oil/water interface probe. The depth to groundwater in the recovery wells was not gauged due to 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-3, MW-21, and MW-22, which were purged using a decontaminated hand bailer. Purging operations were completed after groundwater parameters (pH, conductivity, dissolved oxygen, turbidity, and temperature) stabilized with the exception of MW-3, which was bailed dry. Conductivity, pH, dissolved oxygen (DO), turbidity, and temperature readings were measured after every 5 gallons of purging using a Horiba Model U-10 and Hanna Model 9143 DO meter. Approximately 660 gallons of well development water was purged from the monitoring wells during the 2001-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 hydrochloric acid (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 2001 calendar year is presented in Table 1.

2001 Annual Sampling and Monitoring Report Duke Energy Field Services - Lee Gas Plant

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MonitoringSemi-annual event02/15/01PumpDisposable bailerAnnual event07/31/01PumpDisposable bailerMonitoringSemi-annual event02/16/01Hand BailerDisposable bailerAnnual event07/31/01Hand BailerDisposable bailerMonitoringAnnual event07/31/01Hand BailerDisposable bailerMonitoringAnnual event07/31/01Hand BailerDisposable bailerInjectionNot sampled due to use as air sparge well.NSNSNS		07/31/01	Pump	Disposable bailer	40 gallons
Annual event07/31/01PumpDisposable bailerMonitoringSemi-annual event02/16/01Hand BailerDisposable bailerAnnual event07/31/01Hand BailerDisposable bailerMonitoringAnnual event07/31/01Hand BailerDisposable bailerInjectionNSNSNSNS		02/15/01	dund	Disposable bailer	35 gallons
MonitoringSemi-annual event02/16/01Hand BailerDisposable bailerAnnual event07/31/01Hand BailerDisposable bailerMonitoringAnnual event07/31/01Hand BailerDisposable bailerInjectionNot sampled due to use as air sparge well.NSNSNS		07/31/01	Pump	Disposable bailer	40 gallons
Annual event07/31/01Hand BailerDisposable bailerMonitoringAnnual event07/31/01Hand BailerDisposable bailerInjectionNot sampled due to use as air sparge well.NSNSNS		02/16/01	Hand Bailer	Disposable bailer	8 gallons
Monitoring Annual event 07/31/01 Hand Bailer Disposable bailer Injection Not sampled due to use as air sparge well. NS NS NS	,	07/31/01	Hand Bailer	Disposable bailer	18 gallons
Injection Not sampled due to use as air sparge well. NS NS NS NS		07/31/01	Hand Bailer	Disposable bailer	27 gallons
			NS	NS	0 gallons

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4.0 Groundwater Elevations, Hydraulic Gradient and Flow Direction

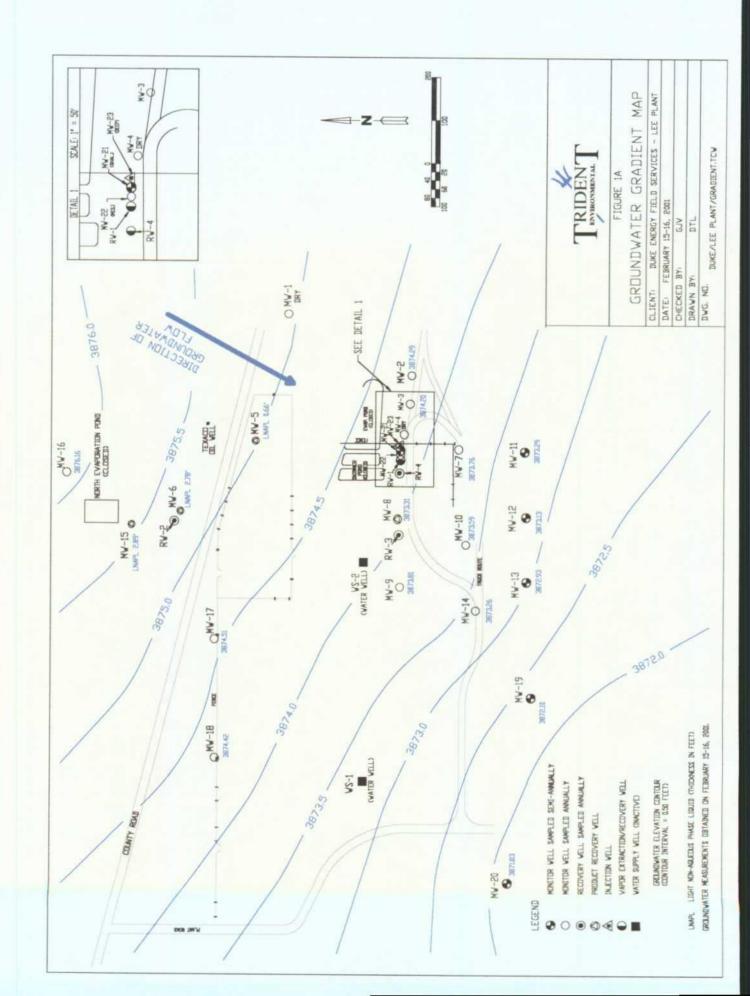
Based on the most recent gauging data collected by Trident on July 31, 2001, the groundwater conditions at the Lee Gas Plant are characterized below.

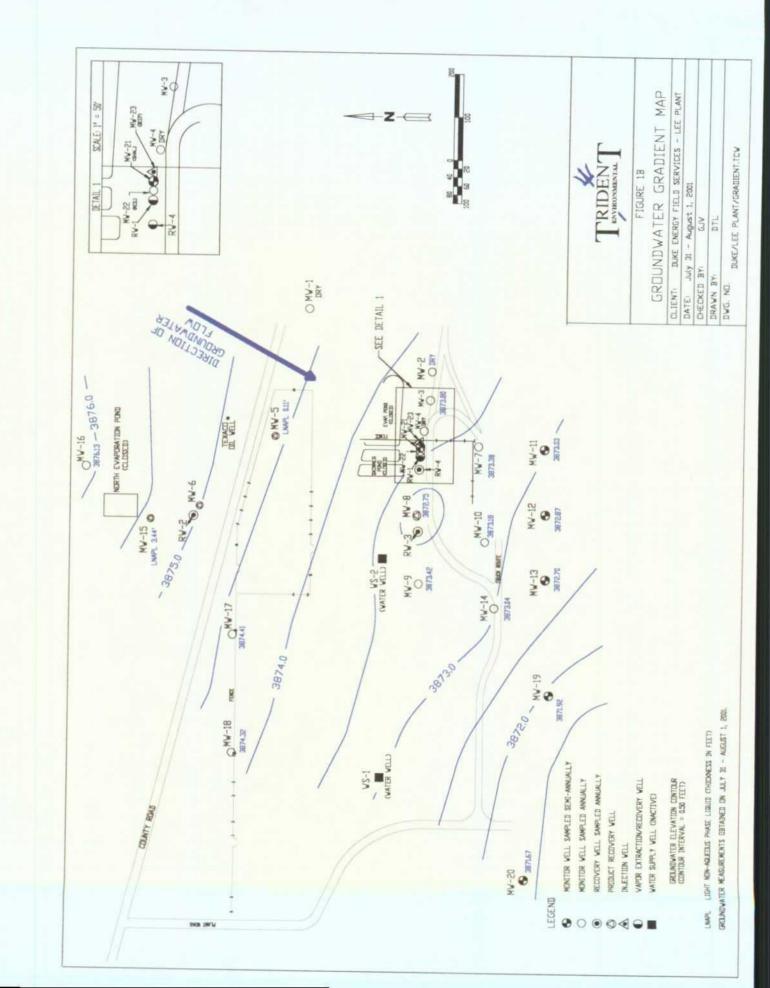
- The depth to the water table across the site varies from approximately 105 to 112 feet below ground surface
- The hydraulic gradient is approximately 0.0035 feet/foot
- The direction of groundwater flow is to the southwest

Groundwater elevation maps depicting the water table elevation and direction of groundwater flow using the gauging data obtained during the two 2001 sampling events are presented in Figure 1A (February 15, 2001) and Figure 1B (July 31, 2001). Groundwater elevations and depth to water measurements for the year 2001 are summarized in Table 2.

The direction of groundwater flow and hydraulic gradient has remained consistent for the past thirteen 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 thirteen years, MW-1, MW-2, and MW-4 no longer extend to the groundwater depth. In addition, 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.



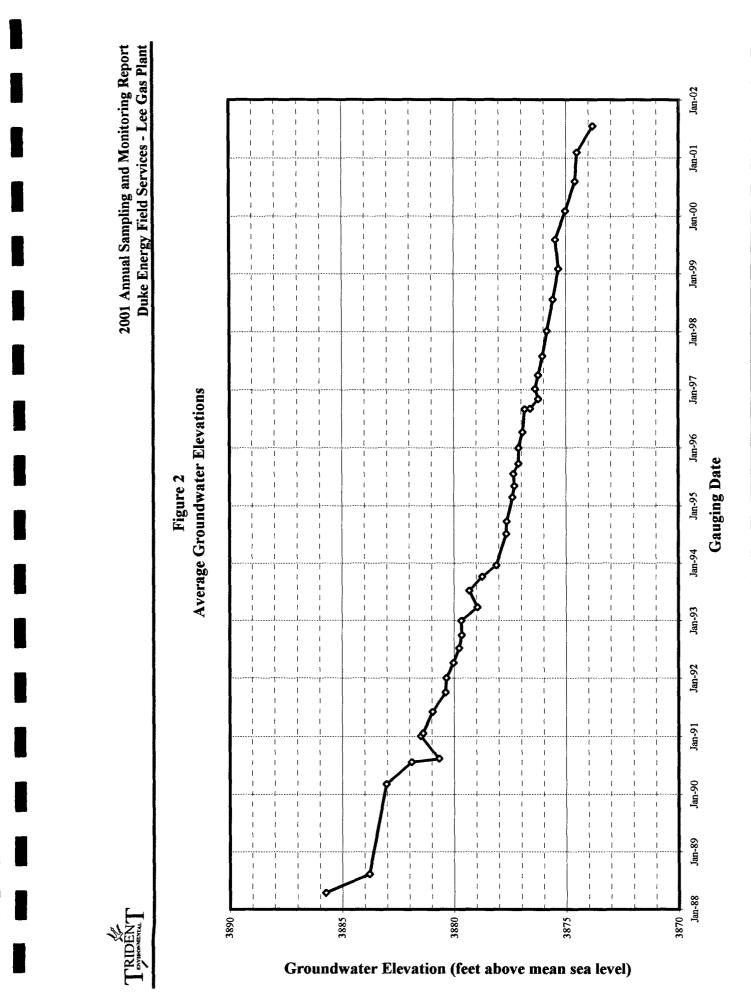




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Table 2 2001 Groundwater Elevations								
Duke Energy Field Services - Lee Plant								
		Relative	Depth to	Relative	Phase-Separate			
Monitoring	Date	Top of Casing	Groundwater	Groundwater	Hydrocarbon			
Well	Gauged	Elevation	Below Top of	Elevation	Thickness			
		(feet)*	Casing (feet)	(feet)**	(feet)			
MW-1	02/15/01	3979.25	Dry	Dry	0.00			
	07/31/01	3979.25	Dry	Dry	0.00			
MW-2	02/15/01	3980.50	106.21	3874.29	0.00			
	07/31/01	3980.50	Dry	Dry	0.00			
MW-3	02/15/01	3980.27	106.07	3874.20	0.00			
	07/31/01	3980.27	106.47	3873.80	0.00			
MW-4	02/15/01	3980.16	Dry	Dry	0.00			
	07/31/01	3980.16	Dry	Dry	0.00			
MW-5	02/15/01	3979.82	105.59	3874.77	0.66			
	07/31/01	3979.82	105.36	3874.55	0.11			
MW-6	02/15/01	3981.79	108.90	3875.17	2.78			
	07/31/01	3981.79		ot gauge during and	nual event			
MW-7	02/15/01	3978.45	104.69	3873.76	0.00			
	07/31/01	3978.45	105.07	3873.38	0.00			
MW-8	02/15/01	3979.96	106.65	3873.31	0.00			
	07/31/01	3979.96	107.22	3872.75	0.01			
MW-9	02/15/01	3980.17	106.36	3873.81	0.00			
	07/31/01	3980.17	106.75	3873.42	0.00			
MW-10	02/15/01	3979.66	106.07	3873.59	0.00			
	07/31/01	3979.66	106.48	3873.18	0.00			
MW-11	02/15/01	3978.50	105.21	3873.29	0.00			
	07/31/01	3978.50	105.47	3873.03	0.00			
MW-12	02/15/01	3978.82	105.69	3873.13	0.00			
	07/31/01	3978.82	105.95	3872.87	0.00			
MW-13	02/15/01	3980.52	107.59	3872.93	0.00			
]	07/31/01	3980.52	107.82	3872.70	0.00			
MW-14	02/15/01	3982.23	108.97	3873.26	0.00			
	07/31/01	3982.23	109.19	3873.04	0.00			
MW-15	02/15/01	3981.70	108.39	3875.68	2.89			
	07/31/01	3981.70	108.86	3875.66	3.44			
MW-16	02/15/01	3980.80	104.64	3876.16	0.00			
	07/31/01	3980.80	104.67	3876.13	0.00			
MW-17	02/15/01	3981.80	107.29	3874.51	0.00			
	07/31/01	3981.80	107.39	3874.41	0.00			
MW-18	02/15/01	3983.10	108.68	3874.42	0.00			
	07/31/01	3983.10	108.78	3874.32	0.00			
MW-19	02/15/01	3980.80	108.70	3872.10	0.00			
	07/31/01	3980.80	108.88	3871.92	0.00			
MW-20	02/15/01	3983.30	111.47	3871.83	0.00			
	07/31/01	3983.30	111.63	3871.67	0.00			



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5.0 Distribution of Hydrocarbons in Groundwater

A historical listing of BTEX concentrations obtained from the on site monitoring wells is summarized in Table 3. The BTEX concentration map depicting the February 15 through 16, 2001 results are presented in Figure 3A and the BTEX concentration map depicting the July 31 through August 1, 2001 results are presented in Figure 3B. Hydrocarbon concentration and groundwater elevation versus time graphs are grouped 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 Trident from July 31 through August 1, 2001, 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 sparge 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, with the exception of MW-7, which has decreased to below the WQCC standard for the first time since July 1994. Toluene, ethylbenzene, and xylene concentrations in all of the wells have remained below the WQCC standards since at least August 1995. The benzene concentrations measured over the past six years in MW-7, MW-10, and MW-16 are generally stable to decreasing while those measured in MW-9 and MW-14, appear to be periodically interrupted by isolated spikes of elevated concentrations. The benzene concentration in MW-17 has increased since August of 1997.
- During the July 31 through August 1, 2001 monitoring event LNAPL was measured in MW-5 (0.11 feet), MW-6 (≈3.0 feet), MW-8 (0.01 feet), and MW-15 (3.44 feet).



	<u></u>	Tab			
		X Analytical Res			
Monitoring	Date	ke Energy Field	Toluene	Ethylbenzene	Xylenes
Well	Sampled	(mg/l)	(mg/l)	(mg/l)	(mg/l)
MW-1	Mar-90	0.004	<0.001	<0.001	<0.001
141 44 -1	03/28/90	0.004	<0.001	<0.001	<0.001 <0.001
	06/27/91	<0.002	<0.001	<0.001	<0.001
MW-2	Mar-90	<0.002	<0.002	<0.002	<0.003
101 00 -2					
	03/28/90	0.002	<0.001	<0.001	<0.001
	06/27/90	<0.002	<0.002	<0.002 <0.001	<0.003 <0.001
	07/30/92	<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
	02/16/01	<0.005	<0.005	<0.005	< 0.005
	08/01/01	<0.005	<0.005	<0.005	<0.005
MW-4				is or dry well condition	
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
	08/01/01	0.006	< 0.005	< 0.005	<0.005
QCC Standard		0.010	0.75	0.75	0.62



Table 3 (continued) BTEX Analytical Results In Groundwater Duke Energy Field Services - Lee Plant						
Well	Sampled	(mg/l)	(mg/l)	(mg/l)	(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	
1	07/21/93	0.673	0.314	0.029	0.069	
1	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	
j	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	
	08/01/01	4.88	<0.1	<0.1	<0.1	
MW-10	08/10/90	1.3	0.050	0.034	0.016	
1	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	
1	08/27/96	2.98	0.060	<0.025	<0.025	
l l	08/12/97	4.71	< 0.050	<0.050	< 0.050	
	08/06/98	1.50	0.011	0.013	0.008	
ļ	08/20/99	1.01	< 0.010	<0.010	< 0.010	
l	08/17/00	3.70	< 0.005	<0.005	<0.005	
1017.11	08/01/01	3.43	<0.05	<0.05	< 0.05	
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 0.007	<0.001 0.002	<0.001 0.001	
	07/30/92 10/21/92	0.031		1		
	01/20/93	0.078 0.001	0.130	0.022 <0.001	0.051 0.001	
			<0.001	1		
	04/15/93 07/20/93	0.001 0.016	<0.001 0.031	<0.001 <0.002	0.001 0.012	
	10/26/93		<0.002	<0.002 <0.002	<0.012	
		<0.002				
	01/06/94	0.004	0.006	<0.001	0.004	
	05/03/94	<0.001 0.002	<0.001	0.001 <0.001	0.004 <0.003	
QCC Standards	07/26/94	0.002	0.001	0.75	0.62	
	TEX using EPA Method		0.75	0.73	0.02	

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Table 3 (continued)BTEX Analytical Results In GroundwaterDuke Energy Field Services - Lee Plant						
Well	Sampled	(mg/l)	(mg/l)	(mg/l)	(mg/l)	
AW-11 (con't)	10/12/94	<0.001	0.002	<0.001	< 0.003	
	03/16/95	<0.001	0.002	<0.001	0.003	
1	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	<0.003 <0.001	
	01/16/96	<0.001	<0.001	<0.001	<0.001 <0.001	
	04/25/96	<0.001	<0.001	<0.001	<0.001	
			<0.001	<0.001	<0.001	
	08/27/96	<0.001		1 1		
	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	
	02/16/01	<0.005	<0.005	<0.005	<0.005	
	08/01/01	<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	
ļ	10/17/91	0.004	0.003	<0.001	<0.001	
[01/23/92	<0.001	< 0.001	<0.001	< 0.001	
l	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	
1	04/15/93	0.030	< 0.001	<0.001	< 0.001	
}	07/20/93	0.011	0.029	<0.002	0.012	
1	10/26/93	< 0.002	< 0.002	<0.002	< 0.006	
	01/06/94	0.002	0.002	<0.002	< 0.000	
	05/03/94			s (
		< 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	
ļ	11/20/96	<0.001	<0.001	<0.001	< 0.001	
	01/21/97	<0.001	<0.001	<0.001	< 0.001	
l	04/17/97	<0.001	<0.001	<0.001	< 0.001	
l	08/12/97	<0.001	<0.001	<0.001	< 0.001	
	01/20/98	< 0.001	< 0.001	<0.001	< 0.001	
QCC Standards ((mg/l)	0.010	0.75	0.75	0.62	



Table 3 (continued) BTEX Analytical Results In Groundwater Duke Energy Field Services - Lee Plant						
Monitoring	Date	Benzene	Toluene	Ethylbenzene	Xylenes	
Well	Sampled	(mg/l)	(mg/l)	(mg/l)	(mg/l)	
AW-12 (con't)	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	
	02/15/01	<0.005	<0.005	<0.005	<0.005	
	07/31/01	<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	
	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	<0.005	
	01/16/96	<0.001	< 0.001	<0.001	<0.001	
Į	04/25/96	<0.001	<0.001	<0.001	<0.001	
Į	08/27/96	<0.001	<0.001	<0.001	<0.001	
	11/20/96	<0.001	<0.001	<0.001	<0.001 <0.001	
	01/21/97	<0.001	<0.001	<0.001	<0.001 <0.001	
			<0.001		<0.001 <0.001	
	04/17/97	<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	
Ì	08/05/98	<0.001	< 0.001	<0.001	<0.001	
1	02/15/99	<0.001	< 0.001	<0.001	< 0.001	
1	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	
	02/15/01	<0.005	<0.005	<0.005	<0.005	
	07/31/01	<0.001	<0.001	<0.001	< 0.001	
MW-14	01/27/91	<0.001	<0.001	<0.001	< 0.001	
1	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	
QCC Standards (mg/l)	0.010	0.75	0.75	0.62	



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	BTE	Table 3 (c X Analytical Res	,	water	
		ke Energy Field S			
Monitoring	Date	Benzene	Toluene	Ethylbenzene	Xylenes
Well	Sampled	(mg/l)	(mg/l)	(mg/l)	(mg/l)
MW-14 (con't)	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
	08/01/01	1.940	< 0.005	0.006	< 0.005
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
1	07/20/93	1.19	0.157	0.030	0.048
	07/26/94	3.82	1.66	0.120	<0.300
1	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
	08/01/01	0.018	< 0.005	<0.005	< 0.005
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
	08/01/01	0.148	< 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
	08/01/01	< 0.005	< 0.005	<0.005	<0.005
MW-19	10/25/91	<0.001	0.001	<0.001	<0.001
1	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
QCC Standards		0.010	0.75	0.75	0.62
	TEX using EPA Method				



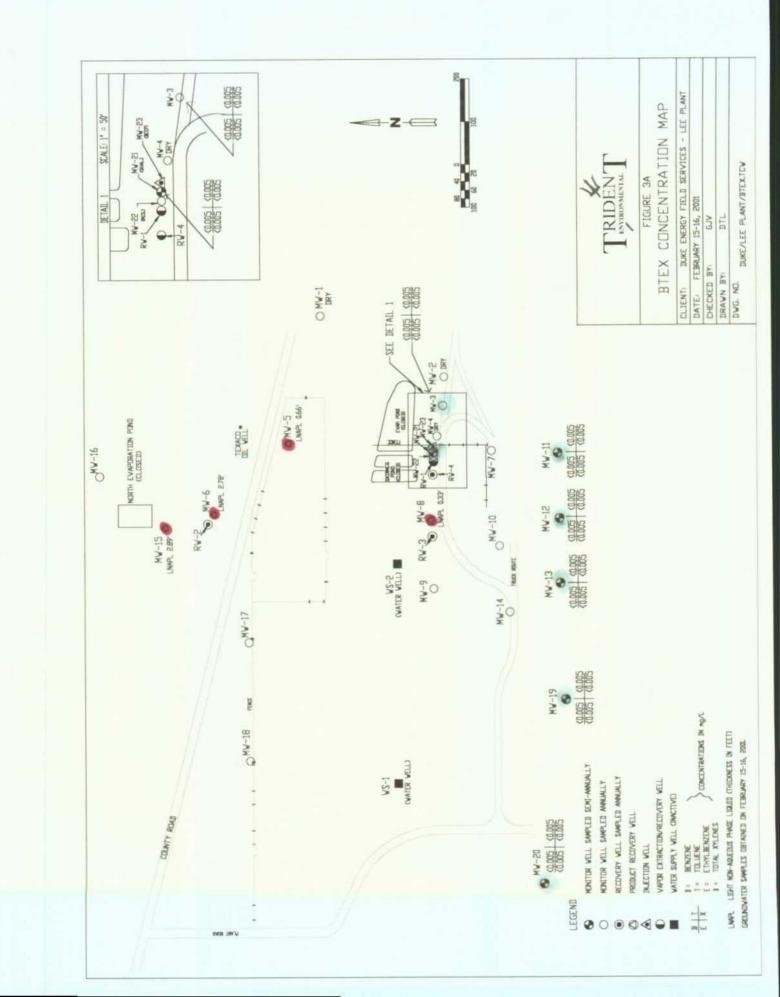
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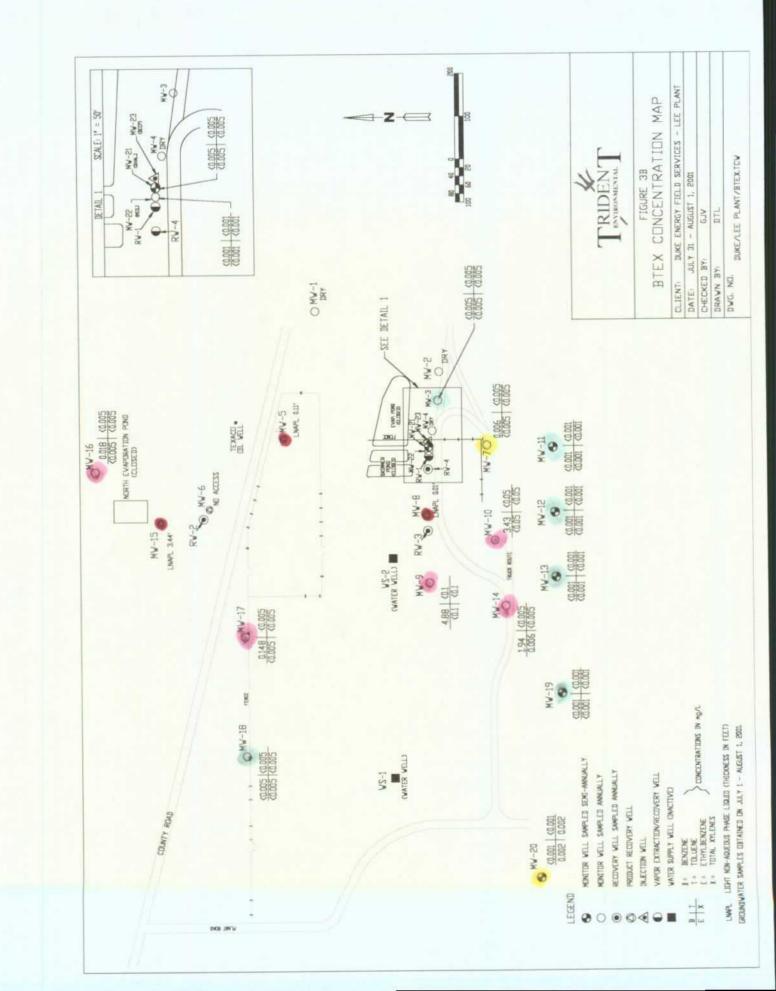
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	*****	Table 3 (co	-		
		X Analytical Res ke Energy Field S			
Monitoring	Date	Benzene	Toluene	Ethylbenzene	Xylenes
Well	Sampled	(mg/l)	(mg/l)	(mg/l)	(mg/l)
vien viW-19 (con't)	03/16/95	0.079	0.028	0.005	0.011
	05/24/95	0.003	0.004	0.002	0.003
	08/10/95	<0.001	<0.004	<0.001	< 0.003
	10/10/95	<0.001	<0.001	<0.001	<0.003
	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
1	11/20/96	<0.001	< 0.001	<0.001	< 0.001
1	01/21/97	< 0.001	< 0.001	<0.001	< 0.001
l	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
]	02/15/01	<0.005	< 0.005	<0.005	< 0.005
1	07/31/01	<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	0.001	0.102	0.011	0.034
	10/26/93	0.018	0.012	<0.002	<0.006
	01/06/94	0.004	0.005	0.002	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
1	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
1	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
ļ	04/17/97	<0.001	<0.001	<0.001	<0.001
ļ	08/12/97	<0.001	<0.001	<0.001	<0.001
	01/20/98	<0.005	<0.005	<0.005	<0.005
1	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	< 0.001	< 0.001	<0.001	<0.001
Į	08/15/00	<0.005	<0.005	<0.005	<0.005
Į	02/15/01	<0.003	<0.003	<0.003	< 0.005
			1		
OCC Standard- (07/31/01	<0.001	<0.001	0.002	0.002
QCC Standards (шg/1)	0.010	0.75	0.75	0.62

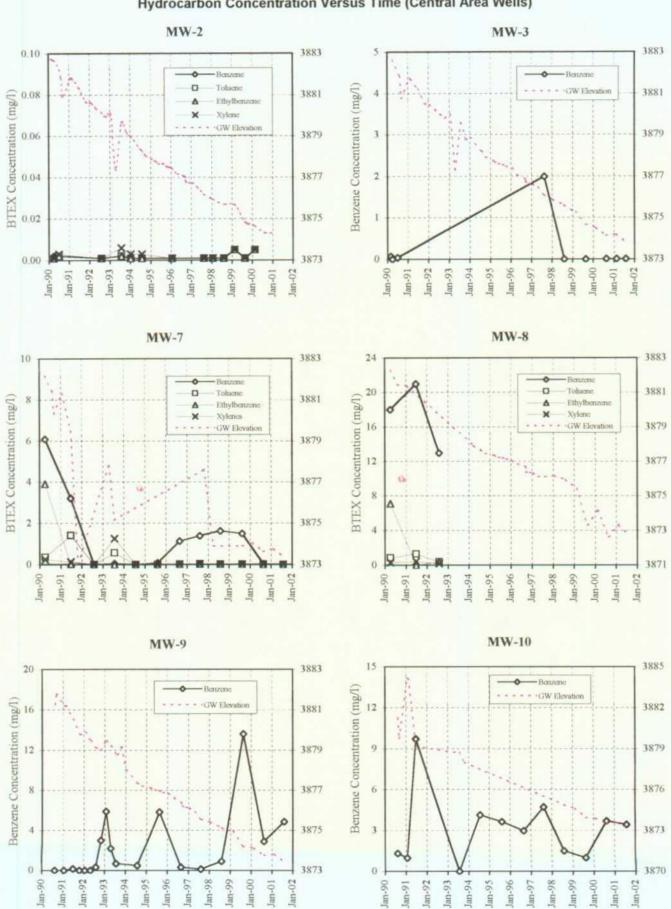


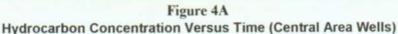
		Table 3 (co	•				
	BTEX Analytical Results In Groundwater						
Duke Energy Field Services - Lee Plant							
Monitoring	Date	Benzene	Toluene	Ethylbenzene	Xylenes		
Well	Sampled	(mg/l)	(mg/l)	(mg/l)	(mg/l)		
MW-21	07/20/93	37	5	<2	<6		
	04/23/94	0.007	<0.001	<0.001	< 0.003		
	05/04/94	0.517	0.052	<0.001	< 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		
	02/16/01	<0.005	<0.005	<0.005	<0.005		
	08/01/01	<0.005	< 0.005	<0.005	< 0.005		
	07/20/93	0.170	0.065	0.036	0.048		
101 00 -2.2	04/23/94	2.52	0.26	<0.10	< 0.30		
	05/04/94	0.007	0.002	<0.10	< 0.30 0.007		
	03/04/94	0.007	0.002	1 1	< 0.007		
				<0.001			
	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		
	07/31/01	<0.001	<0.001	<0.001	< 0.001		
MW-23	07/20/93	0.190	0.130	0.010	0.046		
	08/13/97	<0.001	<0.001	<0.001	<0.001		
WS-1	Mar-90	0.015	0.004	0.002	0.004		
)	08/10/90	0.010	0.001	0.001	0.001		
	06/27/91	0.007	<0.002	<0.002	<0.003		
	01/23/92	0.110	0.020	0.020	0.010		
	07/30/92	0.015	0.003	0.003	0.002		
	04/15/93	0.007	0.003	0.002	0.002		
	07/26/94	0.020	<0.001	0.002	< 0.003		
WS-2	Mar-90	0.007	<0.001	0.001	< 0.001		
	06/27/91	0.280	0.027	0.002	0.003		
	01/23/92	0.010	<0.001	<0.001	<0.001		
	07/30/92	0.46	0.011	0.005	0.002		
	04/15/93	1.6	<0.001	0.019	0.014		
RW-1	04/04/90	2.6	0.32	0.58	0.19		
QCC Standards		0.010	0.75	0.75	0.62		



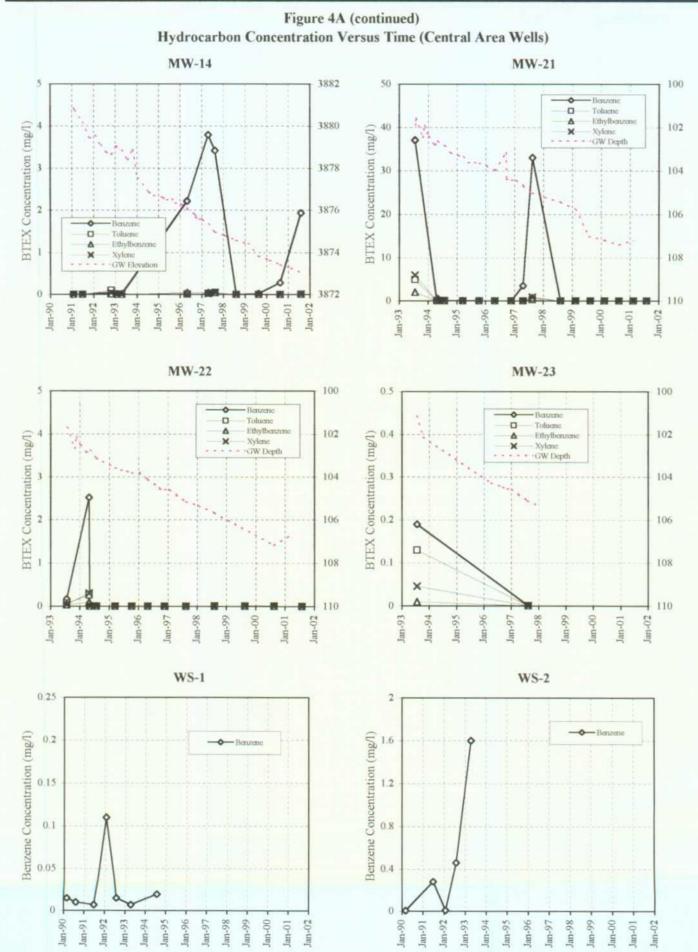




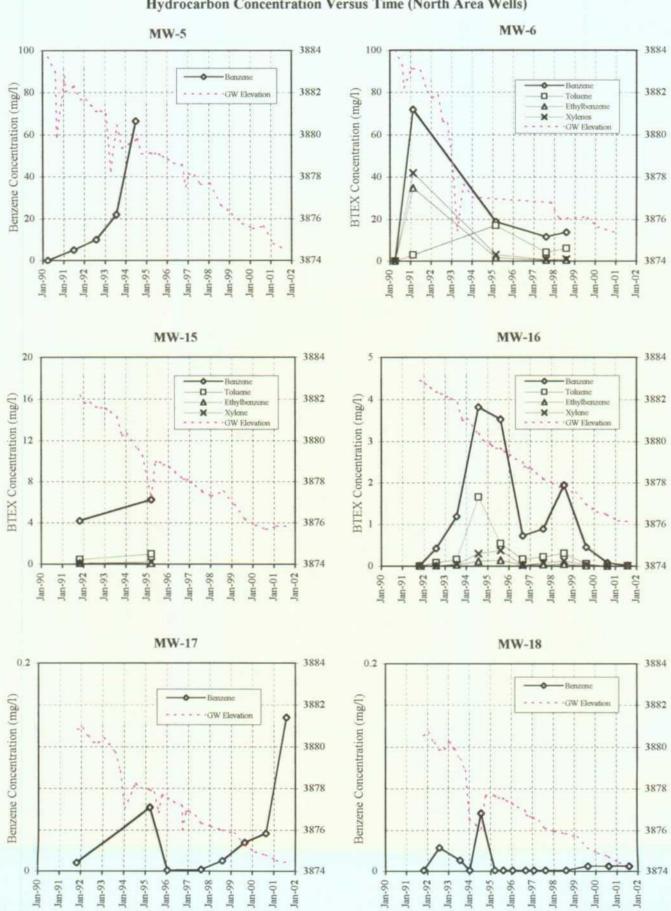


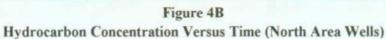














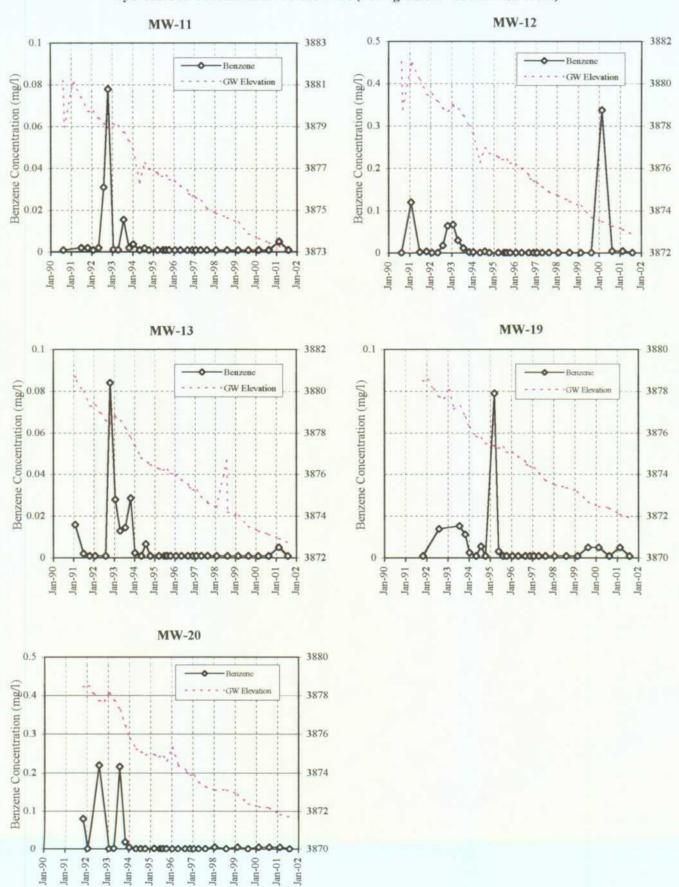


Figure 4C Hydrocarbon Concentration Versus Time (Downgradient - South Area Wells)

6.0 Remediation System Performance

The estimated total fluid extraction volumes from the remediation system recovery wells, for the fourth quarter of 2000 through the third quarter of 2001, are summarized in Table 4. A graphical representation of monthly groundwater recovery volumes for the period of record (October 1, 2000 through September 30, 2001) is depicted in Figure 5. A total of 4,765,727 gallons of groundwater was recovered by the three recovery wells during the period of record.

The Xitech product recovery system remains operational at MW-6. LNAPL has also been observed in monitoring wells MW-5, MW-8, and MW-15, therefore passive bailers, absorbent socks, and hand bailing methods have 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 – 2 hp) at RW-1 has been in operation since August 1993. Air sparging is accomplished by means of a 1 HP Gast® Piston air compressor. Air sparging 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, 2000 to September 30, 2001 is provided in Table 5. A total of 622 gallons of measurable free product was recovered during the period of record.

	Duke Ener	gy Field Servic	es - Lee Gas Plar	nt
Month - Year		Gallons of Gr	oundwater Recover	red
Monui - Tear	RW-2	RW-3	RW-4	Monthly Totals
Oct-00	27,360	238,618	123,965	389,943
Nov-00	321,007	0	144,329	465,336
Dec-00	297,346	0	259,868	557,214
Jan-01	264,030	0	2,149	266,179
Feb-01	179,583	81,561	41	261,185
Mar-01	66,333	216	125,107	191,656
Apr-01	64,851	0	387,832	452,683
May-01	57,133	0	348,789	405,922
Jun-01	7,457	71,280	259,614	338,351
Jul-01	136,800	123,120	243,996	503,916
Aug-01	0	36,000	254,168	290,168
Sep-01	0	405,216	237,957	643,173
Well Totals	1,421,900	956,011	2,387,816	4,765,727

Table 4
Total Fluids Extraction Volumes for 10/1/00-9/30/01
Duke Energy Field Services - Lee Gas Plant

Values in italics indicates volume estimated due to flow meter failure during monitoring period.



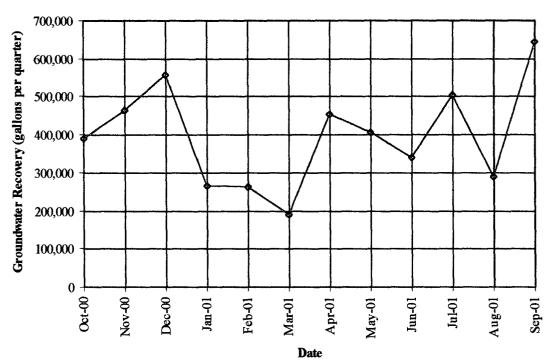


Figure 5 Total Fluid Extraction Volumes for 10/1/00-9/30/01

Table 5Measurable Free Product Recovery Volumes for 11/1/00-9/30/01Duke Energy Field Services - Lee Gas Plant

	Dune	shergy field be	THEES DEC OF		
Month - Year		Measurable	Free Product Rec	overed (gallons)	
	MW-5	MW-6	MW-8	MW-15	Monthly Totals
Nov-00	0.67	70.0	0.01	0.00	70.7
Dec-00	2.37	80.0	0.10	3.02	85.5
Jan-01	1.05	70.0	0.01	1.78	72.8
Feb-01	0.96	80.0	0.00	2.79	83.7
Mar-01	0.4	70.0	0.16	3.61	74.1
Apr-01	0.00	78	0.00	0.00	78.0
May-01	1.04	0	0.34	4.53	5.9
Jun-01	0.35	0	0.37	3.11	3.8
Jul-01	0.79	70	0.36	3.20	74.3
Aug-01	0.00	0	0.0	0.00	0.0
Sep-01	0.7	70	0.5	2.3	73.4
Well Totals	8.3	588	1.8	24.3	622

* 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

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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 and the levels appear to be generally stable to declining in most wells, however a recent increasing trend of benzene concentrations in MW-17 has been observed.

The recovery of LNAPL from the groundwater in wells MW-6 (Xitech), MW-5 and MW-8 (absorbent socks) has been effective, however potential product recovery volumes in MW-15 exceed the capabilities of the passive bailer currently in use.

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 LNAPL recovery at MW-6 with the Xitech system.
- Continue free product recovery from MW-5, MW-8, and MW-15 using passive bailers and/or hydrophobic adsorbent socks, and hand bailing methods as appropriate.
- Begin a program of monitoring natural attenuation that includes the analysis of dissolved oxygen, nitrate (NO₃), sulfate (SO₄), ferric iron (Fe³⁺), ferrous iron (Fe²⁺), and manganese (Mn) to assess the efficacy of intrinsic bioremediation processes occurring on site.
- Continue the sampling and monitoring program on a semi-annual basis. The next sampling event is scheduled during the first quarter of 2002.

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Appendix A

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Laboratory Analytical Reports

and

Chain-of-Custody Documentation

TraceAnalysis, Inc.

Gil Van Deventer

P.O. Box 7624

Trident Environmental

Midland, Tx. 79708

Lubbock, TX 79424-1515

(806) 794-1296

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I.

Report Date: August 13, 2001 Order Number: A01080311 CC # V-101 Duke Energy Field Services Page Number: 1 of 2 Lee Gas Plant

Summary Report

Report Date:

August 13, 2001

Order ID Number: A01080311

Project Number:CC # V-101Project Name:Duke Energy Field ServicesProject Location:Lee Gas Plant

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
176277	MW-20	Water	7/31/01	11:15	8/3/01
176278	MW-19	Water	7/31/01	12:00	8/3/01
176279	MW-13	Water	7/31/01	13:00	8/3/01
176280	MW-12	Water	7/31/01	16:00	8/3/01
176281	MW-11	Water	7/31/01	17:00	8/3/01
176282	MW-22	Water	7/31/01	17:50	8/3/01
176283	MW-21	Water	8/1/01	18:50	8/3/01
176284	MW-18	Water	8/1/01	9:00	8/3/01
176285	MW-17	Water	8/1/01	10:00	8/3/01
176286	MW-16	Water	8/1/01	11:00	8/3/01
176287	MW-3	Water	8/1/01	11:45	8/3/01
176288	MW-7	Water	8/1/01	12:25	8/3/01
176289	MW-14	Water	8/1/01	14:00	8/3/01
176290	MW-9	Water	8/1/01	15:45	8/3/01
176291	MW-10	Water	8/1/01	16:45	8/3/01
176292	Duplicate	Water	8/1/01	:	8/3/01
176293	Rinsate	Water	8/1/01	17:35	8/3/01
176294	Trip Blank	Water	8/1/01	:	8/3/01

This report consists of a total of 2 page(s) and is intended only as a summary of results for the sample(s) listed above.

	<u></u>	· · · · · · · · · · · · · · · · · · ·	BTEX		<u> </u>
	Benzene	Toluene	Ethylbenzene	M,P,O-Xylene	Total BTEX
Sample - Field Code	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
176277 - MW-20	< 0.001	< 0.001	0.002	0.002	0.004
176278 - MW-19	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
176279 - MW-13	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
176280 - MW-12	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
176281 - MW-11	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
176282 - MW-22	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
176283 - MW-21	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
176284 - MW-18	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
176285 - MW-17	0.148	< 0.005	< 0.005	< 0.005	0.148
176286 - MW-16	0.018	< 0.005	< 0.005	< 0.005	0.018
176287 - MW-3	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
176288 - MW-7	0.006	< 0.005	< 0.005	< 0.005	0.006
176289 - MW-14	1.94	< 0.005	0.006	< 0.005	1.94
176290 - MW-9	4.88	< 0.1	< 0.1	<0.1	4.88
176291 - MW-10	3.43	< 0.05	< 0.05	< 0.05	3.43

Continued ...

TraceAnalysis, Inc.

Lubbock, TX 79424-1515

(806) 794-1296

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Report Date: August 13, 2001 Order Number: A01080311CC # V-101Duke Energy Field Services

Page Number: 2 of 2 Lee Gas Plant

			BTEX		
	Benzene	Toluene	Ethylbenzene	M,P,O-Xylene	Total BTEX
Sample - Field Code	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
176292 - Duplicate	17	< 0.2	0.598	< 0.2	17.6
176293 - Rinsate	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
176294 - Trip Blank	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005



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Analytical and Quality Control Report

Gil Van Deventer **Trident Environmental** P.O. Box 7624 Midland, Tx. 79708

Report Date:

August 13, 2001

Order ID Number: A01080311

CC # V-101 Project Number: Project Name: Duke Energy Field Services Project Location: Lee Gas Plant

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

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
176277	MW-20	Water	7/31/01	11:15	8/3/01
176278	MW-19	Water	7/31/01	12:00	8/3/01
176279	MW-13	Water	7/31/01	13:00	8/3/01
176280	MW-12	Water	7/31/01	16:00	8/3/01
176281	MW-11	Water	7/31/01	17:00	8/3/01
176282	MW-22	Water	7/31/01	17:50	8/3/01
176283	MW-21	Water	8/1/01	18:50	8/3/01
176284	MW-18	Water	8/1/01	9:00	8/3/01
176285	MW-17	Water	8/1/01	10:00	8/3/01
176286	MW-16	Water	8/1/01	11:00	8/3/01
176287	MW-3	Water	8/1/01	11:45	8/3/01
176288	MW-7	Water	8/1/01	12:25	8/3/01
176289	MW-14	Water	8/1/01	14:00	8/3/01
176290	MW-9	Water	8/1/01	15:45	8/3/01
176291	MW-10	Water	8/1/01	16:45	8/3/01
176292	Duplicate	Water	8/1/01	:	8/3/01
176293	Rinsate	Water	8/1/01	17:35	8/3/01
176294	Trip Blank	Water	8/1/01	:	8/3/01

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

This report consists of a total of 12 pages and shall not be reproduced except in its entirety including the chain of custody (COC), without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Analytical Report

Sample: 176277 - MW-20

Analysis: Analyst:	BTEX CG	Analytical Met Preparation M		QC Batch: Prep Batch:	QC13065 PB11159	Date Analyzed: Date Prepared:	8/3/01 8/3/01
Param		Flag	Result	Units	Dih	ıtion	RDL
Benzene			< 0.001	mg/L		1	0.001
Toluene			< 0.001	mg/L		1	0.001
Ethylbenze	ene		0.002	mg/L		1	0.001
M,P,O-Xyl	ene		0.002	mg/L		1	0.001
Total BTE	X		0.004	$\mathrm{mg/L}$		1	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.102	mg/L	1	0.10	102	72 - 128
4-BFB		0.093	mg/L	1	0.10	93	72 - 128

Sample: 176278 - MW-19

Analysis: Analyst:	BTEX CG	Analytical Method Preparation Metho		QC Batch: Prep Batch:	QC13065 PB11159	Date Analyzed: Date Prepared:	8/3/01 8/3/01
Param		Flag	Result	Units	Dilt	ition .	RDL
Benzene			< 0.001	mg/L		1	0.001
Toluene			< 0.001	mg/L		1	0.001
Ethylbenze	ene		< 0.001	mg/L		1	0.001
M,P,O-Xyl	ene		< 0.001	mg/L		1	0.001
Total BTE	Х		< 0.001	mg/L		1	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.1	mg/L	1	0.10	100	72 - 128
4-BFB		0.0915	mg/L	1	0.10	92	72 - 128

Sample: Analysis: Analyst:	1 7627 9 BTEX CG	9 - MW-13 Analytical Method: Preparation Method:	S 8021B E 5030B	QC Batch: Prep Batch:	QC13065 PB11159	Date Analyzed: Date Prepared:	8/3/01 8/3/01
Param		Flag	Result	Units	Dilu	ition	RDL
Benzene		<	(0.001	mg/L		1	0.001
Toluene		<	:0.001	mg/L		1	0.001
Ethylbenze	ne	<	(0.001	mg/L		1	0.001
M,P,O-Xyle	ene	<	:0.001	mg/L		1	0.001
Total BTE	X	<	(0.001	mg/L		1	0.001

Continued ...

Order Number: A01080311 Duke Energy Field Services Page Number: 3 of 12 Lee Gas Plant

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	······································	0.108	mg/L	1	0.10	108	72 - 128
4-BFB		0.0933	mg/L	1	0.10	93	72 - 128

Sample: 176280 - MW-12

Analysis: Analyst:	BTEX CG	Analytical Method: Preparation Method	S 8021B : E 5030B	QC Batch: Prep Batch:	QC13065 PB11159	Date Analyzed: Date Prepared:	8/3/01 8/3/01
Param		Flag	Result	Units	Dilı	ition	RDL
Benzene			< 0.001	mg/L		1	0.001
Toluene			< 0.001	mg/L		1	0.001
Ethylbenze	ene		< 0.001	$\mathrm{mg/L}$		1	0.001
M,P,O-Xyl	lene		< 0.001	mg/L		1	0.001
Total BTE	\mathbf{X}		< 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		0.0946	$\mathrm{mg/L}$	1	0.10	95	72 - 128

Sample: 176281 - MW-11

Analysis: Analyst:	BTEX CG	Analytical Meth Preparation Met		QC Batch: Prep Batch:	QC13065 PB11159	Date Analyzed: Date Prepared:	8/3/01 8/3/01
Param		Flag	Result	Units	Dilı	ition	RDL
Benzene			< 0.001	mg/L		1	0.001
Toluene			< 0.001	mg/L		1	0.001
Ethylbenze	ene		< 0.001	mg/L		1	0.001
M,P,O-Xyl	ene		< 0.001	mg/L		1	0.001
Total BTE	X		<0.001	mg/L		1	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.105	mg/L	1	0.10	105	72 - 128
4-BFB		0.0922	mg/L	1	0.10	92	72 - 128

Sample:	176282	2 - MW-22					
Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC13065	Date Analyzed	l: 8/3/01
Analyst:	CG	Preparation Method:	E 5030B	Prep Batch:	PB11159	Date Prepared	l: 8/3/01
Param		Flag	Result	Units	Dilı	ition	RDL
Benzene		<u> </u>	< 0.001	mg/L		1	0.001
Toluene		•	< 0.001	m mg/L		1	0.001
Ethylbenzer	ne		< 0.001	mg/L		1	0.001
							Continued

Order Number: A01080311 Duke Energy Field Services

Continued	Sample:	176282 Analysis	: BTEX				
Param	-	Flag	Result	Units	Dilı	ition	RDL
M,P,O-Xylene	:		<0.001	mg/L	·······	1	0.001
Fotal BTEX			< 0.001	mg/L		1	0.001
			······································				
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
FFT		0.0943	mg/L	1	0.10	94	72 - 128
1-BFB		0.08	mg/L	1	0.10	80	72 - 128
S	170000	N #317 01					
*		- MW-21	2 0 0001D		0010115		0/0/0
	BTEX	Analytical Metho		QC Batch:	QC13115	Date Analyzed:	8/6/0
Analyst: C	CG	Preparation Metl	hod: E 5030B	Prep Batch:	PB11203	Date Prepared:	8/6/0
Param		Flag	Result	Units		ution	RD
Benzene			< 0.005	mg/L		5	0.00
Toluene			< 0.005	mg/L		5	0.00
Ethylbenzene			< 0.005	mg/L		5	0.00
M,P,O-Xylene	9		< 0.005	mg/L		5	0.00
Total BTEX			< 0.005	mg/L		5	0.00
					C-11.	Deveent	D
Surrogate TFT 4-BFB	Flag 1	Result 0.32 0.135	Units mg/L mg/L	Dilution 5 5	Spike Amount 0.10 0.10	Percent Recovery 13 27	Recover: Limits 72 - 128 72 - 128
IFT 4-BFB Sample: Analysis: H	1	0.32	mg/L mg/L od: S 8021B	5	Amount 0.10	Recovery 13	Limits 72 - 128
IFT 4-BFB Sample: Analysis: H Analyst: (Param	1 176284 3TEX	0.32 0.135 - MW-18 Analytical Metho	mg/L mg/L od: S 8021B hod: E 5030B Result	5 5 QC Batch: Prep Batch: Units	Amount 0.10 0.10 QC13115 PB11203	Recovery 13 27 Date Analyzed: Date Prepared: ution	Limits 72 - 128 72 - 128 8/6/0 8/6/0 RD
IFT 4-BFB Analysis: H Analyst: (Param Benzene	1 176284 3TEX	0.32 0.135 - MW-18 Analytical Metho Preparation Met	mg/L mg/L bd: S 8021B hod: E 5030B <u>Result</u> <0.005	5 5 QC Batch: Prep Batch: Units mg/L	Amount 0.10 0.10 QC13115 PB11203	Recovery 13 27 Date Analyzed: Date Prepared: ution 5	Limits 72 - 128 72 - 128 8/6/0 8/6/0 RD 0.00
FFT 4-BFB Analysis: H Analyst: C Param Benzene Foluene	1 176284 3TEX CG	0.32 0.135 - MW-18 Analytical Metho Preparation Met	mg/L mg/L bd: S 8021B hod: E 5030B <u>Result</u> <0.005 <0.005	5 5 QC Batch: Prep Batch: Units	Amount 0.10 0.10 QC13115 PB11203	Recovery 13 27 Date Analyzed: Date Prepared: ution	Limits 72 - 128 72 - 128 8/6/0 8/6/0 RD 0.00 0.00
TFT 4-BFB Analysis: H Analyst: (Param Benzene Toluene	1 176284 3TEX CG	0.32 0.135 - MW-18 Analytical Metho Preparation Met	mg/L mg/L bd: S 8021B hod: E 5030B <u>Result</u> <0.005	5 5 QC Batch: Prep Batch: Units mg/L	Amount 0.10 0.10 QC13115 PB11203	Recovery 13 27 Date Analyzed: Date Prepared: ution 5	Limits 72 - 128 72 - 128 8/6/0 8/6/0 RD 0.00 0.00
IFT 4-BFB Analysis: I Analysis: I Analyst: (Param Benzene Toluene Ethylbenzene	1 176284 3TEX CG	0.32 0.135 - MW-18 Analytical Metho Preparation Met	mg/L mg/L bd: S 8021B hod: E 5030B <u>Result</u> <0.005 <0.005	5 5 QC Batch: Prep Batch: Units mg/L mg/L	Amount 0.10 0.10 QC13115 PB11203	Recovery 13 27 Date Analyzed: Date Prepared: ution 5 5	Limits 72 - 128 72 - 128 8/6/0 8/6/0 8/6/0 RD 0.00 0.00 0.00
TFT 4-BFB Analysis: H Analysis: H Analyst: O Param Benzene Toluene Ethylbenzene M,P,O-Xylene	1 176284 3TEX CG	0.32 0.135 - MW-18 Analytical Metho Preparation Met	mg/L mg/L bd: S 8021B hod: E 5030B Result <0.005 <0.005 <0.005	5 5 QC Batch: Prep Batch: Units mg/L mg/L mg/L	Amount 0.10 0.10 QC13115 PB11203	Recovery 13 27 Date Analyzed: Date Prepared: ution 5 5 5	Limits 72 - 128 72 - 128 8/6/0 8/6/0 RD 0.00 0.00 0.00 0.00
TFT 4-BFB Analysis: H Analysis: H Analyst: C Param Benzene Toluene Ethylbenzene M,P,O-Xylene Total BTEX	1 176284 3TEX CG	0.32 0.135 - MW-18 Analytical Metho Preparation Met Flag	mg/L mg/L bd: S 8021B hod: E 5030B Result <0.005 <0.005 <0.005 <0.005 <0.005	5 5 QC Batch: Prep Batch: Units mg/L mg/L mg/L mg/L mg/L	Amount 0.10 0.10 QC13115 PB11203 Dil Spike	Recovery 13 27 Date Analyzed: Date Prepared: ution 5 5 5 5 5 5 5 5 5 5 5	Limits 72 - 128 72 - 128 8/6/0 8/6/0 RD 0.00 0.00 0.00 0.00 0.00 0.00
TFT 4-BFB Sample: Analysis: H Analysis: H Analyst: C Param Benzene Toluene Ethylbenzene M,P,O-Xylene Total BTEX Surrogate	1 176284 3TEX CG P	0.32 0.135 - MW-18 Analytical Metho Preparation Met Flag Result	mg/L mg/L bd: S 8021B hod: E 5030B Result <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005	5 5 QC Batch: Prep Batch: Units mg/L mg/L mg/L mg/L mg/L mg/L	Amount 0.10 0.10 QC13115 PB11203 Dil Spike Amount	Recovery 13 27 Date Analyzed: Date Prepared: ution 5 5 5 5 5 5 5 5 5 5 5 5 5	Limits 72 - 128 72 - 128 8/6/0 8/6/0 RD 0.00 0.00 0.00 0.00 0.00 0.00 0.00
TFT 4-BFB Analysis: I Analysis: I Analyst: (Param Benzene Toluene Ethylbenzene M,P,O-Xylene Total BTEX	1 176284 3TEX CG	0.32 0.135 - MW-18 Analytical Metho Preparation Met Flag	mg/L mg/L bd: S 8021B hod: E 5030B Result <0.005 <0.005 <0.005 <0.005 <0.005	5 5 QC Batch: Prep Batch: Units mg/L mg/L mg/L mg/L mg/L	Amount 0.10 0.10 QC13115 PB11203 Dil Spike	Recovery 13 27 Date Analyzed: Date Prepared: ution 5 5 5 5 5 5 5 5 5 5 5	Limits 72 - 128 72 - 128 8/6/0 8/6/0 RD 0.00 0.00 0.00 0.00 0.00 0.00

Analysis: Analyst:

CG

BTEX Analytical Method:

S 8021B Preparation Method: E 5030B QC Batch: Prep Batch: PB11203

QC13115

Date Analyzed: Date Prepared: 8/6/01

8/6/01

¹Poor surrogate recovery due to matrix difficulties.

²Poor surrogate recovery due to matrix difficulties. ³Poor surrogate recovery due to matrix difficulties.

Report Date: August 13, 2001 CC # V-101		Order Number: A01080311 Duke Energy Field Services			Page Number: 5 of 12 Lee Gas Plant		
Param		Flag	Result	Units	Dilu	ition	RDL
Benzene			0.148	mg/L		5	0.001
Toluene			< 0.005	mg/L		5	0.001
Ethylbenze	ne		< 0.005	mg/L		5	0.001
M,P,O-Xyle	ene		< 0.005	mg/L		5	0.001
Total BTE	X		0.148	mg/L		5	0.00
					Spike	Percent	Recovery
Surrogate	\mathbf{Flag}	Result	Units	Dilution	Amount	Recovery	Limits
TFT	4	0.335	mg/L	5	0.10	67	72 - 128
4-BFB	5	0.152	mg/L	5	0.10	30	72 - 128
Analyst:				PTON Katch			0/0/01
·	CG	Preparation Met		Prep Batch:	PB11203	Date Prepared:	8/6/03
Param		Flag	Result	Units	Dilı	ltion	RDI
Param Benzene		-	Result 0.018	Units mg/L	Dilı	1tion5	RDI 0.00
Param Benzene Toluene	<u> </u>	-	Result 0.018 <0.005	Units mg/L mg/L	Dilı	ition 5 5	RDI 0.00 0.00
Param Benzene Toluene Ethylbenze	ne	-	Result 0.018	Units mg/L mg/L mg/L	Dilt	1 1 5 5 5 5	RDI 0.00 0.00
Param Benzene Toluene Ethylbenze M,P,O-Xyle	ene	-	Result 0.018 <0.005 <0.005	Units mg/L mg/L	Dilu	ition 5 5	8/6/0 RDI 0.00 0.00 0.00 0.00 0.00
Param Benzene Toluene Ethylbenze M,P,O-Xyle	ene	-	Result 0.018 <0.005 <0.005 <0.005	Units mg/L mg/L mg/L mg/L	Dilı	1tion 5 5 5 5 5	RDI 0.00 0.00 0.00 0.00 0.00
Param Benzene Toluene Ethylbenze M,P,O-Xyle Total BTE	ene	-	Result 0.018 <0.005 <0.005 <0.005	Units mg/L mg/L mg/L mg/L	Dilu	1tion 5 5 5 5 5	RDI 0.00 0.00 0.00 0.00
Param Benzene Toluene Ethylbenze M,P,O-Xyld Total BTE Surrogate	ene X Flag 6	Flag	Result 0.018 <0.005 <0.005 <0.005 0.018	Units mg/L mg/L mg/L mg/L mg/L	Dilı	ation 5 5 5 5 5 5 Percent	RD1 0.00 0.00 0.00 0.00 0.00 Recover
Param Benzene Toluene Ethylbenze M,P,O-Xyle Total BTE Surrogate TFT	ene X Flag 6	Flag Result 0.215	Result 0.018 <0.005	Units mg/L mg/L mg/L mg/L Dilution 5	Dilı Spike Amount 0.10	ation 5 5 5 5 5 9 9 ercent Recovery 43	RD 0.00 0.00 0.00 0.00 0.00 Recover Limits 72 - 12
Param Benzene Toluene Ethylbenze M,P,O-Xyle Total BTE Surrogate	ene ene X Flag 6 7	Flag	Result 0.018 <0.005	Units mg/L mg/L mg/L mg/L mg/L	Dilı Spike Amount	ntion 5 5 5 5 5 5 Percent Recovery	R 0. 0. 0. 0. 0. 0. Recov

Analyst: CG	Preparation M	Method: E 5030B	Prep Batch:	PB11203	Date Prepared:	8/6/01
Param	Flag	\mathbf{Result}	Units	Dilt	ition	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

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
TFT	8 -	0.211	mg/L	5	0.10	42	72 - 128
4-BFB	9	0.0701	mg/L	5	0.10	14	72 - 128

⁴Poor surrogate recovery due to matrix difficulties. ⁵Poor surrogate recovery due to matrix difficulties. ⁶Poor surrogate recovery due to matrix difficulties. ⁷Poor surrogate recovery due to matrix difficulties. ⁸Poor surrogate recovery due to matrix difficulties. ⁹Poor surrogate recovery due to matrix difficulties.

Analysis: F Analysis: F Analyst: C Param Benzene Toluene Ethylbenzene M,P,O-Xylene Total BTEX Surrogate TFT 4-BFB Sample: Analysis: 1	BTEX CG	Result 0.247 0.12	S 8021B E 5030B Result 0.006 <0.005 <0.005 <0.005 0.006 Units mg/L mg/L	QC Batch: Prep Batch: Units mg/L mg/L mg/L mg/L Dilution 5 5		Date Analyzed: Date Prepared: 1tion 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	8/6/01 8/6/01 RDI 0.001 0.001 0.001 0.001 0.001 Recovery Limits 72 - 128
Analysis: F Analysis: F Analyst: C Param Benzene Toluene Ethylbenzene M,P,O-Xylene Total BTEX Surrogate TFT 4-BFB Sample: Analysis: 1	CG e Flag 10 11 176289	Preparation Method: Flag Result 0.247 0.12	E 5030B Result 0.006 <0.005 <0.005 0.005 0.006 Units mg/L	Prep Batch: Units mg/L mg/L mg/L mg/L mg/L Dilution 5	PB11203 Dilu Spike Amount 0.10	Date Prepared: ition 5 5 5 5 5 Percent Recovery	8/6/01 RDI 0.001 0.001 0.001 0.001 0.001 Recovery Limits
Param Benzene Toluene Ethylbenzene M,P,O-Xylene Total BTEX Surrogate TFT 4-BFB Sample: Analysis: 1	e Flag 10 11 176289	Flag Result 0.247 0.12	Result 0.006 <0.005 <0.005 0.006 Units mg/L	Units mg/L mg/L mg/L mg/L mg/L Dilution	Dih Spike Amount 0.10	ntion 5 5 5 5 5 9 Percent Recovery	RDI 0.001 0.001 0.001 0.001 0.001 Recovery Limits
Benzene Foluene Ethylbenzene M,P,O-Xylene Total BTEX Surrogate TFT 4-BFB Sample: Analysis: 1	e Flag 10 11 176289	Result 0.247 0.12	0.006 <0.005 <0.005 <0.005 0.006 Units mg/L	mg/L mg/L mg/L mg/L Dilution 5	Spike Amount 0.10	5 5 5 5 7 Percent Recovery	0.001 0.001 0.001 0.001 0.001 Recovery Limits
Foluene Ethylbenzene M,P,O-Xylene Total BTEX Surrogate TFT 4-BFB Sample: Analysis: 1	e Flag 10 11 176289	Result 0.247 0.12	<0.005 <0.005 <0.005 0.006 Units mg/L	mg/L mg/L mg/L mg/L Dilution	Spike Amount 0.10	5 5 5 Percent Recovery	0.001 0.001 0.001 0.001 Recovery Limits
Ethylbenzene M,P,O-Xylene Total BTEX Surrogate TFT 4-BFB Sample: Analysis: 1	e Flag 10 11 176289	Result 0.247 0.12	<0.005 <0.005 0.006 Units mg/L	mg/L mg/L mg/L Dilution 5	Spike Amount 0.10	5 5 5 Percent Recovery	0.001 0.001 0.002 Recovery Limits
M,P,O-Xylene Total BTEX Surrogate TFT 4-BFB Sample: Analysis: 1	e Flag 10 11 176289	Result 0.247 0.12	<0.005 0.006 Units mg/L	mg/L mg/L Dilution 5	Spike Amount 0.10	5 5 Percent Recovery	0.00 0.00 Recovery Limits
Total BTEX Surrogate TFT 4-BFB Sample: Analysis: 1	Flag 10 11 176289	Result 0.247 0.12	0.006 Units mg/L	mg/L Dilution 5	Spike Amount 0.10	5 Percent Recovery	0.00 Recovery Limits
Surrogate TFT 4-BFB Sample: Analysis: 1	10 11 176289	0.247 0.12	Units mg/L	Dilution 5	Spike Amount 0.10	Percent Recovery	Recovery Limits
TFT 4-BFB Sample: Analysis: 1	10 11 176289	0.247 0.12	mg/L	5	Amount 0.10	Recovery	Limits
TFT 4-BFB Sample: Analysis: 1	10 11 176289	0.247 0.12	mg/L	5	Amount 0.10	Recovery	Limits
TFT 4-BFB Sample: Analysis: 1	10 11 176289	0.247 0.12	mg/L	5	0.10		
4-BFB Sample: Analysis: 1	11 176289	0.12				49	17 - 17/8
Sample: Analysis: 1	176289		mg/L	Ð	11 111		
Analysis: 1					0.10	24	72 - 128
Analysis: 1		<u>እ / ፕፕፓ 1 /</u>					
0	D 1 E A		S 8021B	OC Detal.	0012115	Data Anal	0/0/0
Analyst: (CG	Analytical Method:		QC Batch:	QC13115	Date Analyzed:	8/6/0
	CG	Preparation Method	: E 5030B	Prep Batch:	PB11203	Date Prepared:	8/6/0
Param		Flag	Result	Units		ution	RD
Benzene			1.94	mg/L		5	0.00
Toluene			< 0.005	mg/L		5	0.00
Ethylbenzene			0.006	mg/L		5	0.00
M,P,O-Xylen	e		< 0.005	mg/L		5	0.00
Total BTEX			1.94	mg/L	<u></u>	5	0.00
					Spike	Percent	Recover
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
TFT			mg/L	5	0.10	97	72 - 128
4-BFB	12	0.276	mg/L	5	0.10	55	72 - 128
Sample: Analysis:	176290 BTEX	- MW-9 Analytical Method:	S 8021B	QC Batch:	QC13263	Date Analyzed:	8/10/0
•	CG	Preparation Method		Prep Batch:	PB11286	Date Prepared:	8/9/01
Param		Flag	Result	Units	Dilu	ition	RD
Benzene			4.88	mg/L		00	0.00
Toluene			<0.1	m mg/L		00	0.00
Ethylbenzene			<0.1	mg/L		00	0.00
M,P,O-Xylen			<0.1	mg/L		00	0.00
Total BTEX			4.88	mg/L	1	00	0.00
					Spike	Percent	Recover
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
TFT	13		mg/L	100	0.10	23	72 - 12
······		due to matrix difficulties		<u> </u>			ntinued.

Report Date: August 13, 2001 CC # V-101		Order Number: A01080311 Duke Energy Field Services			Page Number: 7 of 12 Lee Gas Plant		
<u></u>					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
-BFB	14	2.14	mg/L	100	0.10	21	72 - 128
	- <u> </u>						
Sample: Analysis:	1 76291 BTEX	- MW-10 Analytical Metho	d: S 8021B	QC Batch:	QC13263	Date Analyzed:	8/10/0
Analyst:	CG	Preparation Meth		Prep Batch:	PB11286	Date Prepared:	8/9/01
Param		Flag	Result	Units	Dilu		RDI
Benzene			$3.4\overline{3}$	mg/L	5		0.00
Foluene			< 0.05	mg/L	5		0.00
Ethylbenzei			< 0.05	mg/L	5		0.00
M,P,O-Xyle			< 0.05	mg/L	5		0.00
Total BTEX	ζ		3.43	mg/L	5	0	0.00
					C :1	Demonst	D
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recover Limits
TFT T	I 14g	4.72	mg/L	50	0.10	94	72 - 128
4-BFB		4.12	mg/L	50 50	0.10	94 90	72 - 12 72 - 12
Analysis:	BTEX	- Duplicate Analytical Metho		QC Batch:	QC13263	Date Analyzed:	8/10/0
Analysis:				QC Batch: Prep Batch:	QC13263 PB11286	Date Analyzed: Date Prepared:	8/10/0
Analysis: Analyst: Param	BTEX	Analytical Metho	hod: E 5030B Result	Prep Batch: Units	PB11286 Dilu	Date Prepared:	8/10/0 8/9/01 RD
Analysis: Analyst: Param Benzene	BTEX	Analytical Metho Preparation Metho	hod: E 5030B Result 17	Prep Batch: Units mg/L	PB11286	Date Prepared: ation 00	8/10/0 8/9/01 RD 0.00
Sample: Analysis: Analyst: Param Benzene Toluene	BTEX CG	Analytical Metho Preparation Metho	hod: E 5030B Result 17 <0.2	Prep Batch: Units mg/L mg/L	PB11286 Dilt 24 25	Date Prepared: ntion 00 00	8/10/0 8/9/01 RD 0.00 0.00
Analysis: Analyst: Param Benzene Toluene Ethylbenze	BTEX CG	Analytical Metho Preparation Metho	hod: E 5030B Result 17 <0.2 0.598	Prep Batch: Units mg/L mg/L mg/L	PB11286 Dilu 24 24 24	Date Prepared: ntion 00 00 00	8/10/0 8/9/01 RD 0.00 0.00 0.00
Analysis: Analyst: Param Benzene Foluene Ethylbenze M,P,O-Xyle	BTEX CG ne ene	Analytical Metho Preparation Metho	hod: E 5030B <u>Result</u> 17 <0.2 0.598 <0.2	Prep Batch: Units mg/L mg/L mg/L mg/L	PB11286 Dilu 24 24 24 24 24 24 24 24 24 24	Date Prepared: ation 00 00 00 00 00	8/10/0 8/9/01 RD 0.00 0.00 0.00 0.00
Analysis: Analyst: Param Benzene Toluene Ethylbenze M,P,O-Xyle	BTEX CG ne ene	Analytical Metho Preparation Metho	hod: E 5030B Result 17 <0.2 0.598	Prep Batch: Units mg/L mg/L mg/L	PB11286 Dilu 24 24 24 24 24 24 24 24 24 24	Date Prepared: ntion 00 00 00	8/10/0 8/9/01 RD 0.00 0.00 0.00 0.00
Analysis: Analyst: Param Benzene Foluene Ethylbenze M,P,O-Xyle Total BTE:	BTEX CG ne ene X	Analytical Metho Preparation Metho Flag	hod: E 5030B <u>Result</u> 17 <0.2 0.598 <0.2 17.6	Prep Batch: Units mg/L mg/L mg/L mg/L mg/L	PB11286 Dilu 24 24 24 24 22 22 25 Spike	Date Prepared: ation 00 00 00 00 00 Percent	8/10/0 8/9/01 0.00 0.00 0.00 0.00 0.00 0.00
Analysis: Analyst: Param Benzene Foluene Ethylbenze M,P,O-Xyle Fotal BTE: Surrogate	BTEX CG ne ene	Analytical Metho Preparation Method Flag Result	hod: E 5030B Result 17 <0.2 0.598 <0.2 17.6 Units	Prep Batch: Units mg/L mg/L mg/L mg/L mg/L	PB11286 Dilu 24 24 24 24 24 24 24 24 24 24 24 24 24	Date Prepared: ation 00 00 00 00 00 00 Percent Recovery	8/10/0 8/9/01 RD 0.00 0.00 0.00 0.00 0.00 Recover Limits
Analysis: Analyst: Param Benzene Foluene Ethylbenze M,P,O-Xyle Fotal BTE Surrogate	BTEX CG ne ene X	Analytical Metho Preparation Method Flag Result 20.3	hod: E 5030B Result 17 <0.2 0.598 <0.2 17.6 Units mg/L	Prep Batch: Units mg/L mg/L mg/L mg/L mg/L Dilution 200	PB11286 Dilu 24 24 24 24 24 24 24 24 24 24 24 24 24	Date Prepared: ation 00 00 00 00 00 00 Percent Recovery 101	8/10/0 8/9/01 RD 0.00 0.00 0.00 0.00 0.00 Recover Limits 72 - 12
Analysis: Analyst: Param Benzene Foluene Ethylbenze M,P,O-Xyle Fotal BTE Surrogate	BTEX CG ne ene X	Analytical Metho Preparation Method Flag Result	hod: E 5030B Result 17 <0.2 0.598 <0.2 17.6 Units	Prep Batch: Units mg/L mg/L mg/L mg/L mg/L	PB11286 Dilu 24 24 24 24 24 24 24 24 24 24 24 24 24	Date Prepared: ation 00 00 00 00 00 00 Percent Recovery	8/10/0 8/9/01 RD 0.00 0.00 0.00 0.00 0.00 Recove Limit: 72 - 12
Analysis: Analysis: Param Benzene Foluene Ethylbenze M,P,O-Xyle Fotal BTE2 Gurrogate FFT 4-BFB	BTEX CG ne Ene X Flag 176293	Analytical Metho Preparation Metho Flag Result 20.3 19.1	hod: E 5030B <u>Result</u> 17 <0.2 0.598 <0.2 17.6 <u>Units</u> mg/L mg/L	Prep Batch: Units mg/L mg/L mg/L mg/L Dilution 200 200	PB11286 Dilu 24 24 24 29 20 21 21 21 21 21 21 21 21 21 21 21 21 21	Date Prepared: ation 00 00 00 00 00 00 00 00 00 0	8/10/0 8/9/0 RL 0.00 0.00 0.00 0.00 0.00 0.00 0.00
Analysis: Analysis: Param Benzene Foluene Ethylbenze M,P,O-Xyle Fotal BTE Gurrogate FFT 4-BFB Sample: Analysis:	BTEX CG ne ene X Flag 176293 BTEX	Analytical Metho Preparation Metho Flag Result 20.3 19.1 - Rinsate Analytical Meth	hod: E 5030B Result 17 <0.2 0.598 <0.2 17.6 Units mg/L mg/L od: S 8021B	Prep Batch: Units mg/L mg/L mg/L mg/L Dilution 200 200 200	PB11286 Dilu 24 24 24 24 24 24 24 24 24 24 24 24 24	Date Prepared: ation 00 00 00 00 00 00 00 00 00 0	8/10/(8/9/01 RD 0.00 0.00 0.00 0.00 0.00 0.00 0.00 8/0/
Analysis: Analysis: Param Benzene Foluene Chylbenze M,P,O-Xyle Total BTE Gurrogate FFT 4-BFB Sample: Analysis:	BTEX CG ne Ene X Flag 176293	Analytical Metho Preparation Metho Flag Result 20.3 19.1	hod: E 5030B Result 17 <0.2 0.598 <0.2 17.6 Units mg/L mg/L od: S 8021B	Prep Batch: Units mg/L mg/L mg/L mg/L Dilution 200 200	PB11286 Dilu 24 24 24 24 24 24 24 24 24 24 24 24 24	Date Prepared: ation 00 00 00 00 00 00 00 00 00 0	8/10/(8/9/01 RD 0.00 0.00 0.00 0.00 0.00 0.00 0.00 8/0/
Analysis: Analysis: Analyst: Benzene Foluene Chylbenze: M,P,O-Xyle Cotal BTE: Gurrogate FFT H-BFB Sample: Analysis: Analysis: Param	BTEX CG ne ene X Flag 176293 BTEX	Analytical Metho Preparation Metho Flag Result 20.3 19.1 - Rinsate Analytical Meth	hod: E 5030B Result 17 <0.2 0.598 <0.2 17.6 Units mg/L mg/L od: S 8021B	Prep Batch: Units mg/L mg/L mg/L mg/L Dilution 200 200 200	PB11286 Dilu 24 24 24 24 24 24 24 24 24 24 24 24 24	Date Prepared: ation 00 00 00 00 00 00 00 00 00 0	8/10/0 8/9/01 RD 0.00 0.00 0.00 0.00 0.00 0.00 0.00 8/6/0 8/6/0 RI
Analysis: Analysis: Analyst: Param Benzene Foluene Ethylbenze M,P,O-Xyle Fotal BTE2 Surrogate FFT 4-BFB Sample: Analysis: Analysis: Param	BTEX CG ne ene X Flag 176293 BTEX	Analytical Metho Preparation Method Flag Result 20.3 19.1	hod: E 5030B Result 17 <0.2 0.598 <0.2 17.6 Units mg/L mg/L od: S 8021B hod: E 5030B	Prep Batch: Units mg/L mg/L mg/L mg/L Dilution 200 200 200	PB11286 Dilu 24 24 24 24 24 24 24 24 24 24 24 24 24	Date Prepared: ation 00 00 00 00 00 00 00 00 00 0	8/10/0 8/9/01 RD 0.00 0.00 0.00 0.00 0.00 0.00 0.00 8/6/0 8/6/0 RI
Analysis: Analysis: Analyst: Param Benzene Foluene Ethylbenze M,P,O-Xyle Fotal BTE: Surrogate FFT 4-BFB Sample: Analysis: Analyst: Param Benzene	BTEX CG ne ene X Flag 176293 BTEX	Analytical Metho Preparation Method Flag Result 20.3 19.1	hod: E 5030B Result 17 <0.2 0.598 <0.2 17.6 Units mg/L mg/L od: S 8021B hod: E 5030B Result	Prep Batch: Units mg/L mg/L mg/L mg/L Dilution 200 200 200 QC Batch: Prep Batch: Units mg/L	PB11286 Dilu 24 24 24 24 24 24 24 24 24 24 24 24 24	Date Prepared: Ition 00 00 00 00 00 00 00 00 00 0	8/10/0 8/9/01 RD 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0
Analysis: Analysis: Analyst: Param Benzene Toluene Ethylbenze M,P,O-Xyle Total BTE Surrogate TFT 4-BFB Sample: Analysis: Analyst: Param Benzene Toluene	BTEX CG ne Ene X Flag 176293 BTEX CG	Analytical Metho Preparation Method Flag Result 20.3 19.1	hod: E 5030B Result 17 <0.2 0.598 <0.2 17.6 Units mg/L mg/L od: S 8021B hod: E 5030B Result <0.005	Prep Batch: Units mg/L mg/L mg/L mg/L Dilution 200 200 QC Batch: Prep Batch: Prep Batch: Units mg/L mg/L	PB11286 Dilu 24 24 24 24 24 24 24 24 24 24 24 24 24	Date Prepared: ation 00 00 00 00 00 00 00 00 00 0	8/10/0 8/9/01 RD 0.00 0.00 0.00 0.00 0.00 0.00 Recover Limits 72 - 12 72 - 12 72 - 12 8/6/0 8/6/0 RE 0.00 0.00
Analysis: Analyst: Param Benzene Toluene	BTEX CG ne ene X Flag I76293 BTEX CG	Analytical Metho Preparation Method Flag Result 20.3 19.1	hod: E 5030B Result 17 <0.2 0.598 <0.2 17.6 Units mg/L mg/L od: S 8021B hod: E 5030B Result <0.005 <0.005	Prep Batch: Units mg/L mg/L mg/L mg/L Dilution 200 200 200 QC Batch: Prep Batch: Units mg/L	PB11286 Dilu 24 24 24 24 24 24 24 24 24 24 24 24 24	Date Prepared: ation 00 00 00 00 00 00 00 00 00 0	8/10/0 8/9/01 RD 0.00

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¹⁴Poor surrogate recovery due to matrix difficulties.

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.508	mg/L	5	0.10	101	72 - 128
4-BFB		0.379	mg/L	1	0.10	75	72 - 128

Sample: Analysis: Analyst:	176294 BTEX CG	- Trip Blank Analytical Method: Preparation Method:	S 8021B E 5030B	QC Batch: Prep Batch:	QC13115 PB11203	Date Analyzed: Date Prepared:	8/6/01 8/6/01
Param		Flag	Result	Units	Dilu	tion	RDL
Benzene		<	< 0.005	mg/L	ت ر		0.001
Toluene		<	<0.005	mg/L	5	i i	0.001
Ethylbenzer	ne	<	<0.005	mg/L	5	i	0.001
M,P,O-Xyle	ne	<	<0.005	m mg/L	5	i	0.001
Total BTEX	ζ	· · · · · · · · · · · · · · · · · · ·	< 0.005	mg/L)	0.001
					Spike	Percent	Recovery
Surrogate	Flag		Units	Dilution	Amount	Recovery	Limits
TFT	15	0.277 r	ng/L	5	0.10	55	72 - 128
4-BFB	16	0.167 1	ng/L	5	0.10	33	72 - 128

¹⁵Poor surrogate recovery due to matrix difficulties. ¹⁶Poor surrogate recovery due to matrix difficulties.

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Quality Control Report Method Blank

Method Blank	QCBatch:	QC13065
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Param	Flag	Results	Units	Reporting Limit
Benzene		<0.001	mg/L	0.001
Toluene		< 0.001	m 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	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.0961	mg/L	1	0.10	96	72 - 128
4-BFB		0.0816	mg/L	1	0.10	82	72 - 128

Method Blank QCBatch: QC13115

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

					Spike	Percent	Recovery
Surrogate	\mathbf{Flag}	Result	Units	Dilution	Amount	Recovery	Limits
TFT		0.107	mg/I.	1	0.10	107	72 - 128
4-BFB		0.0746	mg/L	1	0.10	75	72 - 128

Method Blank

QCBatch: QC13263

	Param	Flag	Results	Units	Reporting Limit
ł	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

Quality Control Report Lab Control Spikes and Duplicate Spikes

Laboratory Control Spikes

Order Number: A01080311 Duke Energy Field Services Page Number: 10 of 12 Lee Gas Plant

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
MTBE	0.092	0.092	mg/L	1	0.10	< 0.001	92	0	80 - 120	20
Benzene	0.097	0.094	mg/L	1	0.10	< 0.001	97	3	80 - 120	20
Toluene	0.098	0.095	mg/L	1	0.10	< 0.001	98	3	80 - 120	20
Ethylbenzene	0.098	0.095	mg/L	1	0.10	< 0.001	98	3	80 - 120	20
M,P,O-Xylene	0.284	0.276	mg/L	1	0.30	< 0.001	94	2	80 - 120	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCS	LCSD			Spike	LCS	LCSD	Recovery
Surrogate	Result	\mathbf{Result}	Units	Dilution	Amount	% Rec	% Rec	Limits
TFT	0.096	0.092	mg/L	1	0.10	96	92	72 - 128
4-BFB	0.096	0.093	mg/L	1	0.10	96	93	72 - 128

Laboratory Control Spikes

QCBatch: QC13115

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
MTBE	0.103	0.106	mg/L	1	0.10	< 0.001	103	2	80 - 120	20
Benzene .	0.096	0.102	mg/L	1	0.10	< 0.001	96	6	80 - 120	20
Toluene	0.097	0.103	mg/L	1	0.10	< 0.001	97	5	80 - 120	20
Ethylbenzene	0.096	0.102	mg/L	1	0.10	< 0.001	96	6	80 - 120	20
M,P,O-Xylene	0.287	0.304	mg/L	1	0.30	< 0.001	95	5	80 - 120	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	$\begin{array}{c} \text{LCSD} \\ \text{Result} \end{array}$	Units	Dilution	Spike Amount	LCS % Rec	LCSD % Rec	Recovery Limits
TFT	0.109	0.115	mg/L	1	0.10	109	115	72 - 128
4-BFB	0.107	0.111	mg/L	11	0.10	107	111	72 - 128

Laboratory Control Spikes

QCBatch: QC13263

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
MTBE	0.11	0.109	mg/L	1	0.10	<0.001	110	0	80 - 120	20
Benzene	0.109	0.107	mg/L	1	0.10	< 0.001	109	1	80 - 120	20
Toluene	0.107	0.104	mg/L	1	0.10	< 0.001	107	2	80 - 120	20
Ethylbenzene	0.107	0.104	mg/L	1	0.10	< 0.001	107	2	80 - 120	20
M,P,O-Xylene	0.313	0.305	mg/L	1	0.30	< 0.001	104	2	80 - 120	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dilution	Spike Amount	LCS % Rec	LCSD % Rec	Recovery Limits
TFT	0.108	0.107	mg/L	1	0.10	108	107	72 - 128
4-BFB	0.103	0.102	mg/L	1	0.10	103	102	72 - 128

Quality Control Report Continuing Calibration Verification Standards

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CCV (1) QCBatch: QC13065

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	\mathbf{Units}	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/L	0.10	0.087	87	85 - 115	8/3/01
Benzene		mg/L	0.10	0.095	95	85 - 115	8/3/01
Toluene		mg/L	0.10	0.095	95	85 - 115	8/3/01
Ethylbenzene		mg/L	0.10	0.095	95	85 - 115	8/3/01
M,P,O-Xylene		mg/L	0.30	0.277	92	85 - 115	8/3/01

ICV(1)	QCBatch:	QC13065
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			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE	<u>. </u>	mg/L	0.10	0.094	94	85 - 115	8/3/01
Benzene		mg/L	0.10	0.098	98	85 - 115	8/3/01
Toluene		mg/L	0.10	0.099	99	85 - 115	8/3/01
Ethylbenzene		mg/L	0.10	0.099	99	85 - 115	8/3/01
M,P,O-Xylene		mg/L	0.30	0.288	96	85 - 115	8/3/01

CCV (1)

QCBatch: QC13115

			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/L	0.10	0.080	80	85 - 115	8/6/01
Benzene		mg/L	0.10	0.086	86	85 - 115	8/6/01
Toluene		mg/L	0.10	0.085	85	85 - 115	8/6/01
Ethylbenzene		mg/L	0.10	0.083	83	85 - 115	8/6/01
M,P,O-Xylene		Mg/L	0.30	0.247	82	85 - 115	8/6/01

CCV (2)

QCBatch: QC13115

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	\mathbf{Units}	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/L	0.10	0.097	97	85 - 115	8/6/01
Benzene		mg/L	0.10	0.097	97	85 - 115	8/6/01
Toluene		mg/L	0.10	0.098	98	85 - 115	8/6/01
Ethylbenzene		mg/L	0.10	0.098	98	85 - 115	8/6/01
M,P,O-Xylene	<u></u>	mg/L	0.30	0.29	96	85 - 115	8/6/01

ICV (1)

Order Number: A01080311 Duke Energy Field Services Page Number: 12 of 12 Lee Gas Plant

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.095	95	85 - 115	8/6/01
Benzene		mg/L	0.10	0.096	96	85 - 115	8/6/01
Toluene		mg/L	0.10	0.096	96	85 - 115	8/6/01
Ethylbenzene		mg/L	0.10	0.095	95	85 - 115	8/6/01
M,P,O-Xylene		mg/L	0.30	0.283	94	85 - 115	8/6/01

CCV (1)	QCBatch:	QC13263	
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			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/L	0.10	0.106	106	85 - 115	8/10/01
Benzene		$\mathrm{mg/L}$	0.10	0.101	101	85 - 115	8/10/01
Toluene		$\mathrm{mg/L}$	0.10	0.099	99	85 - 115	8/10/01
Ethylbenzene		$\mathrm{mg/L}$	0.10	0.1	100	85 - 115	8/10/01
M,P,O-Xylene		mg/L	0.30	0.292	97	85 - 115	8/10/01

CCV (2)

QCBatch: QC13263

			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	\mathbf{Flag}	\mathbf{Units}	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/L	0.10	0.101	101	85 - 115	8/10/01
Benzene		mg/L	0.10	0.095	95	85 - 115	8/10/01
Toluene		mg/L	0.10	0.093	93	85 - 115	8/10/01
Ethylbenzene		$\mathrm{mg/L}$	0.10	0.093	93	85 - 115	8/10/01
M,P,O-Xylene		mg/L	0.30	0.273	91	85 - 115	8/10/01

ICV (1)

QCBatch: QC13263

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.105	105	85 - 115	8/10/01
Benzene		mg/L	0.10	0.096	96	85 - 115	8/10/01
Toluene		mg/L	0.10	0.095	95	85 - 115	8/10/01
Ethylbenzene		mg/L	0.10	0.095	95	85 - 115	8/10/01
M,P,O-Xylene		mg/L	0.30	0.277	92	85 - 115	8/10/01

V-101-0701-1 Chain of Custody		2391163710	s: Imber of Co		2	2	2	2	2	2	2	2	2	2	Relinquished By: (3) (Company)		(Printed Name)	ture)	(Date) (Time)	Received By: (13) (Epanipani)	1 16Ket Inglysis	1/1/1/ 1/ 1/1/1/	(Sunation Che, Una luz	(Date) 8.3.01 (0,00)	Copy signed original form for Indent Environmental records $\varsigma 902 \ tr 74 \ t/s \ y \ y 7 \ \phi$
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Trident Environmental P.O. Box 7624 Midland, Texas 79708 (915) 682-0727 (Fax)	•	ULUUURACEANALYSIS, 11 Adecideen Avenue Luddock, Texas 79424 808-7	mlit	tion Matrix	10277 Water	Water	79 Water	11 Jate	81 W " ter	82 Water	83 Water		- Water	86 Water	Project Information	Duke Energy Field Services	Lee Gas Plant	Gil Van Deventer		1		ents: Please send	Duke Energy Field Svcs, Attn: Steve Weathers, PO Box 5493, Derver, CO 80		
TRIDEN	Lab Name:	Address: AddLLLLLLLLLLTT Telephone: 6701 Aberdeen Avenue	Samplers (SIGNATURES)	Sample Identification	MW-20 176	P1-41	EI-MW	ZI-M	11-MW	MW-22	MW-21	MW-18	LI-MW	MW-16	Project Ir	Project Name: Du	:0			Shipping ID No.:	Bill to (see below):	Special Instructions/Comments:	Juke Energy Field Svcs,		

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	ronmenta! 24 xas 79708 808 727 (Fax)		IRACEANALYSIS, INC.	Type: Πριε Τγρε: Γεταρ, C-Con		3-1-01 1145	8-1-01 1225	3-1-01 1400	3-1.31 1545	3-1-01 1645	8-1-61 0000	8-1-01 1735				Sample Receipt	Total Containers:	COC Seals:	Rec'd Good Cond/Cold:	Conforms to Records:	Lab No.:		Please send invoice direct to client:	Box 5493, Denver, CO 80217		
	Trident Environmental P.O. Box 7624 Midland, Texas 79708 (915) 682-0808 (915) 682-0727 (Fax)		ILLTRACEA		Matrix	3			3	Water	Water	Water	94 Wo	$\left\{ -\right\}$	_		Duke Energy Field Services		eventer				Please send	ve Weathers, PO I		
	TRIDENT	Lab Name:	Address:	Samplers (SIGNATURES)	Sample Identification	176281 176287		5-1	MW-9 60	MW-10 91	Duplicate 92	10	ank 2038A/13			Project Information	Project Name: Duke Energ	i i i i i i i i i i i i i i i i i i i				Bill to (see below):	Special Instructions/Comments:	Uuke Energy Field Svcs, Attn: Steve Weathers, PO Box 5493, Denver, CO 80217 (Senature)		y k k.o.7

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FAX 806 • 794 • 1298

6701 Aberdeen Avenue, Suite 9 155 McCutcheon, Suite H

Lubbock, Texas 79424 800 • 378 • 1296 El Paso, Texas 79932 888•588•3443 E-Mail: lab@traceanalysis.com 806 • 794 • 1296 915•585•3443

FAX 915 • 585 • 4944

Analytical and Quality Control Report

Dale Littlejohn TRW 415 West Wall Suite 1818 Midland, TX 79701

Report Date:

March 2, 2001

L.

Order ID Number: A01021712

Project Number: P/6494/1AC Duke Energy Field Services Project Name: Project Location: Lee Gas Plant

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

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
165139	MW-20 0102151013	Water	2/15/01	10:13	2/17/01
165140	MW-19 0102151800	Water	2/15/01	18:00	2/17/01
165141	MW-12 0102151925	Water	2/15/01	19:25	2/17/01
165142	MW-13 0102151850	Water	2/15/01	18:50	2/17/01
165143	Rinsate 0102151935	Water	2/15/01	19:35	2/17/01
165144	Dup 0102160000	Water	2/15/01	:	2/17/01
165145	MW-3 0102160830	Water	2/16/01	8:30	2/17/01
165146	MW-11 0102160900	Water	2/16/01	9:00	2/17/01
165147	MW-21 0102161015	Water	2/16/01	10:15	2/17/01

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(cs) in which your sample(s) were analyzed.

This report consists of a total of 9 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Report Date: March 2, 2001Order Number: A01021712Page NP/6494/1ACDuke Energy Field ServicesI

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Analytical Report

Sample: 165139 - MW-20 0102151013

Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC09403	Date Analyzed:	2/27/01
Analyst:	JW	Preparation Method:	E 5030B	Prep Batch:	PB08073	Date Prepared:	2/28/01
Param		Flag	Result	Units	Di	lution	RDL
Benzene			< 0.005	mg/L		5	0.001
Toluene			< 0.005	mg/L		5	0.001
Ethylbenze	ne		< 0.005	mg/L		5	0.001
M,P.O-Xyl	ene		< 0.005	mg/L		5	0.001
Total BTE	Х		< 0.005	mg/L		5	0.001
Test Comm	ients	1	NOTE	mg/L		1	

					Spike	Percent	Recovery
Surrogate	\mathbf{F} lag	Result	Units	Dilution	Amount	Recovery	Limits
TFT		0.465	mg/L	1	0.10	93	72 - 128
4-BFB		0.411	mg/L	1	0.10	82	72 - 128

Sample: 165140 - MW-19 0102151800

Analysis: Analyst:	BTEX JW	Analytical Method: Preparation Method:	S 8021B E 5030B	QC Batch: Prep Batch:	QC09403 Date Analyzed PB08073 Date Prepared	· · ·
Param		Flag	Result	Units	Dilution	RDL
Benzene			< 0.005	mg/L	5	0.001
Toluene			< 0.005	mg/L	5	0.001
Ethylbenzo	ene		< 0.005	mg/L	5	0.001
M,P.O-Xyl	ene		< 0.005	mg/L	5	0.001
Total BTE	Х		< 0.005	mg/L	5	0.001
Test Comn	nents	2	NOTE	mg/L	1	

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
TFT		0.467	mg/L	1	0.10	93	72 - 128
4-BFB		0.416	mg/L	1	0.10	83	72 - 128

Sample: 165141 - MW-12 0102151925

Analysis: Analyst:	BTEX JW	Analytical Method: Preparation Method:	S 8021B E 5030B	QC Batch: Prep Batch:	QC09403 PB08073	Date Analyzed: Date Prepared:	2/27/01 2/28/01
Param		Flag	Result	Units	Di	lution	RDL
Benzene			< 0.005	mg/L		5	0.001
Tolucne			< 0.005	$\mathrm{mg/L}$		5	0.001
Ethylbenzo	ene		< 0.005	mg/L		5	0.001
M,P,O-Xyl	ene		< 0.005	mg/L		5	0.001
Total BTE	X		< 0.005	mg/L		5	0.001

Continued ...

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Report Date: March 2, 2001 P/6494/1AC				Order Number: A01021712 Duke Energy Field Services			Page Number: 3 of 9 Lee Gas Plant		
Continued	Sample:	165141 Analysi	s: BTEX						
Param		Flag	Result	Units		Dilution	RDL		
Test Comment	ts	3	NOTE	mg/L		1			
					Spike	Percent	Recovery		
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits		
TFT		0.447	mg/L	1	0.10	89	72 - 128		
4-BFB		0.405	mg/L	1	0.10	81	72 - 128		

Sample: 165142 - MW-13 0102151850

Analysis: Analyst:	BTEX JW	Analytical Method: Preparation Method:	S 8021B E 5030B	QC Batch: Prep Batch:	QC09403 Date Analy PB08073 Date Prepa	· · · ·
Param		Flag	Result	Units	Dilution	RDL
Benzene			< 0.005	mg/L	5	0.001
Toluene			< 0.005	mg/L	5	0.001
Ethylbenzer	ne		< 0.005	$\mathrm{mg/L}$	5	0.001
M,P,O-Xylo	ene		< 0.005	mg/L	5	0.001
Total BTEX	Х		< 0.005	mg/L	5	0.001
Test Comm	ients	4	NOTE	mg/L	1	

					Spike	Percent	Recovery
Surrogate	Flag	\mathbf{Result}	Units	Dilution	Amount	Recovery	Limits
TFT		0.461	mg/L	1	0.10	92	72 - 128
4-BFB		0.405	mg/L	1	0.10	81	72 - 128

Sample: 165143 - Rinsate 0102151935

Analysis: Analyst:	BTEX JW	Analytical Method: Preparation Method:	S 8021B E 5030B	QC Batch: Prep Batch:	•	Date Analyzed: Date Prepared:	2/27/01 2/28/01
Anaiyst.	0 V V	Treparation Method.	00000	Tiep Daten.	1 000010	Date i Teparcu.	2/20/01
Param		Flag	Result	Units	Dilu	ntion	RDL
Benzene			< 0.005	mg/L	ł	5	0.001
Toluene			< 0.005	$\mathrm{mg/L}$;	5	0.001
Ethylbenzo	ene		< 0.005	mg/L	5	5	0.001
M,P,O-Xyl	ene		< 0.005	$\mathrm{mg/L}$	5	5	0.001
Total BTE	X		< 0.005	mg/L	ł	5	0,001
Test Com	nents	5	NOTE	mg/L	-	1	

Surrogata	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Surrogate	Tiag	nesuit	Onits	Difution	Amount	necovery	Limits
TFT		0.474	mg/L	1	0.10	94	72 - 128
4-BFB		0.415	mg/L	1	0.10	83	72 - 128

³ELEVATED REPORTING LIMITS DUE TO LACK OF SAMPLE ⁴ELEVATED REPORTING LIMITS DUE TO LACK OF SAMPLE ⁵ELEVATED REPORTING LIMITS DUE TO LACK OF SAMPLE

P/6494/1A	e: March 2, C	2001		lumber: A010217 lergy Field Servi	Page Number: 4 of 9 Lee Gas Plant		
Sample:	165144	- Dup 010216000)0				~ ~
Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC09403	Date Analyzed:	2/27/01
Analyst:	JW	Preparation Method		Prep Batch:	PB08073	Date Prepared:	2/28/01
Param		Flag	Result	Units	D	oilution	RDL
Benzene			< 0.005	mg/L		5	0.001
Toluene			< 0.005	mg/L		5	0.001
Ethylbenzei	ne		< 0.005	mg/L		5	0.001
M,P,O-Xyle	ene		< 0.005	mg/L		5	0.001
Total BTE			< 0.005	mg/L		5	0.001
Test Comm	ents	6	NOTE	mg/L		1	
					Spike	Percent	Recovery
	-	Result	Units	Dilution	Amount	Recovery	Limits
Surrogate	Flag						
	Flag		mg/L	1	0.10	94	12 - 128
TFT 4-BFB		0.474 0.416	mg/L mg/L	1 1	0.10 0.10	94 83	
FFT 4-BFB Sample: Analysis:	165145 BTEX	0.474 0.416 - MW-3 010216 Analytical Method:	mg/L 0830 S 8021B	QC Batch:	0.10 QC09403	83 Date Analyzed:	72 - 128 2/27/01
FFT 4-BFB Sample: Analysis:	165145	0.474 0.416 - MW-3 010216	mg/L 0830 S 8021B	1	0.10	83	72 - 128 2/27/01
FFT 4-BFB Sample: Analysis: Analyst: Param	165145 BTEX	0.474 0.416 - MW-3 010216 Analytical Method:	mg/L D830 S 8021B : E 5030B Result	1 QC Batch: Prep Batch: Units	0.10 QC09403 PB08073	83 Date Analyzed: Date Prepared: Dilution	72 - 128 2/27/01 2/28/01 RDI
FFT 4-BFB Sample: Analysis: Analyst: Param Benzene	165145 BTEX	0.474 0.416 - MW-3 010216 Analytical Method: Preparation Method	mg/L D830 S 8021B : E 5030B <u>Result</u> <0.005	1 QC Batch: Prep Batch: Units mg/L	0.10 QC09403 PB08073	83 Date Analyzed: Date Prepared: Dilution 5	72 - 128 2/27/01 2/28/01 RDI 0.002
FFT 4-BFB Analysis: Analysis: Param Benzene Toluene	165145 BTEX JW	0.474 0.416 - MW-3 010216 Analytical Method: Preparation Method	mg/L D830 S 8021B : E 5030B <u>Result</u> <0.005 <0.005	1 QC Batch: Prep Batch: Units mg/L mg/L	0.10 QC09403 PB08073	83 Date Analyzed: Date Prepared: Dilution 5 5	72 - 128 2/27/01 2/28/01 RDI 0.001 0.001
FFT 4-BFB Analysis: Analysis: Param Benzene Toluene Ethylbenze	165145 BTEX JW	0.474 0.416 - MW-3 010216 Analytical Method: Preparation Method	mg/L D830 S 8021B : E 5030B <u>Result</u> <0.005 <0.005 <0.005	1 QC Batch: Prep Batch: Units mg/L mg/L	0.10 QC09403 PB08073	83 Date Analyzed: Date Prepared: Dilution 5 5 5 5	72 - 128 2/27/01 2/28/01 RDI 0.001 0.001 0.001
FFT 4-BFB Analysis: Analysis: Param Benzene Toluene Ethylbenze M,P,O-Xyld	165145 BTEX JW	0.474 0.416 - MW-3 010216 Analytical Method: Preparation Method	mg/L D830 S 8021B : E 5030B Result <0.005 <0.005 <0.005 <0.005 <0.005	1 QC Batch: Prep Batch: Units mg/L mg/L mg/L	0.10 QC09403 PB08073	83 Date Analyzed: Date Prepared: Dilution 5 5 5 5 5 5	72 - 128 2/27/0 2/28/0 RDI 0.00 0.00 0.00 0.00
TFT 4-BFB Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenze M,P,O-Xyld	165145 BTEX JW	0.474 0.416 - MW-3 0102160 Analytical Method: Preparation Method Flag	mg/L D830 S 8021B : E 5030B Result <0.005 <0.005 <0.005 <0.005 <0.005 <0.005	1 QC Batch: Prep Batch: Units mg/L mg/L mg/L mg/L	0.10 QC09403 PB08073	83 Date Analyzed: Date Prepared: Dilution 5 5 5 5 5 5 5 5 5	72 - 128 2/27/01 2/28/01 RDI 0.001 0.001 0.001 0.001
TFT 4-BFB Analysis: Analysis: Param Benzene Toluene Ethylbenze M,P,O-Xyle	165145 BTEX JW	0.474 0.416 - MW-3 010216 Analytical Method: Preparation Method	mg/L D830 S 8021B : E 5030B Result <0.005 <0.005 <0.005 <0.005 <0.005	1 QC Batch: Prep Batch: Units mg/L mg/L mg/L	0.10 QC09403 PB08073	83 Date Analyzed: Date Prepared: Dilution 5 5 5 5 5 5	72 - 128 72 - 128 2/27/01 2/28/01 RDI 0.001 0.001 0.001
TFT 4-BFB Analysis: Analysis: Analyst: Param Benzene Toluene Ethylbenze M,P,O-Xyle Total BTE	165145 BTEX JW	0.474 0.416 - MW-3 0102160 Analytical Method: Preparation Method Flag	mg/L D830 S 8021B : E 5030B Result <0.005 <0.005 <0.005 <0.005 <0.005 <0.005	1 QC Batch: Prep Batch: Units mg/L mg/L mg/L mg/L	0.10 QC09403 PB08073 E	83 Date Analyzed: Date Prepared: Dilution 5 5 5 5 5 5 5 1	72 - 128 2/27/01 2/28/01 RDI 0.001 0.001 0.001
TFT 4-BFB Analysis: Analysis: Analyst: Param Benzene Toluene Ethylbenze M,P,O-Xyle Total BTE Test Comm	165145 BTEX JW	0.474 0.416 - MW-3 0102160 Analytical Method: Preparation Method Flag 7	mg/L S 8021B E 5030B Result <0.005 <0.005 <0.005 <0.005 <0.005 NOTE	1 QC Batch: Prep Batch: Units mg/L mg/L mg/L mg/L mg/L	0.10 QC09403 PB08073 E	83 Date Analyzed: Date Prepared: Dilution 5 5 5 5 5 5 5 1 Percent	72 - 128 2/27/01 2/28/01 0.001 0.001 0.001 0.001 0.001 0.001
Surrogate	165145 BTEX JW	0.474 0.416 - MW-3 0102160 Analytical Method: Preparation Method Flag 7 Result	mg/L S 8021B E 5030B Result <0.005 <0.005 <0.005 <0.005 <0.005 NOTE Units	1 QC Batch: Prep Batch: Units mg/L mg/L mg/L mg/L mg/L mg/L	0.10 QC09403 PB08073 L Spike Amount	83 Date Analyzed: Date Prepared: Dilution 5 5 5 5 5 1 Percent Recovery	72 - 128 2/27/01 2/28/01 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001
TFT 4-BFB Analysis: Analysis: Analyst: Param Benzene Toluene Ethylbenze M,P,O-Xyle Total BTE Test Comm	165145 BTEX JW	0.474 0.416 - MW-3 0102160 Analytical Method: Preparation Method Flag 7	mg/L S 8021B E 5030B Result <0.005 <0.005 <0.005 <0.005 <0.005 NOTE	1 QC Batch: Prep Batch: Units mg/L mg/L mg/L mg/L mg/L	0.10 QC09403 PB08073 E	83 Date Analyzed: Date Prepared: Dilution 5 5 5 5 5 5 5 1 Percent	72 - 128 2/27/01 2/28/01 RDI 0.001 0.001 0.001 0.001 0.001 0.001

Sample: 165146 - MW-11 0102160900

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Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC09403	Date Analyzed:	2/27/01
Analyst:	JW	Preparation Method:	E 5030B	Prep Batch:	PB08073	Date Prepared:	2/28/01
Param		Flag	Result	Units	D	ilution	RDL
Benzene			< 0.005	mg/L		5	0.001
Toluene			< 0.005	mg/L		5	0.001
Ethylbenze	ne		< 0.005	mg/L		5	0.001
M,P,O-Xyl	ene		< 0.005	mg/L		5	0.001
Total BTE	Х		< 0.005	mg/L		5	0.001
Test Comn	nents	8	NOTE	mg/L		1	

⁶ELEVATED REPORTING LIMITS DUE TO LACK OF SAMPLE ⁷ELEVATED REPORTING LIMITS DUE TO LACK OF SAMPLE ⁸ELEVATED REPORTING LIMITS DUE TO LACK OF SAMPLE

Report Dat P/6494/1A	ce: March 2, C	2001		Number: A010217 aergy Field Servi	Page Number: 5 of 9 Lee Gas Plant		
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.459	mg/L	1	0.10	91	72 - 128
4-BFB			mg/L	1	0.10	80	72 - 128
Sample: Analysis:	165147 - BTEX	- MW-21 010216 Analytical Method:	51015 S 8021B	QC Batch:	QC09404	Date Analyzed:	2/27/01
	JW	•		v	QC09404 PB08074	Date Prepared:	
Analyst:	.) VV	Preparation Method	. E 3030D	Prep Batch:		-	2/28/01
Param		Flag	Result	Units	I	Dilution	RDL
Benzene			< 0.005	mg/L		5 -	0.001
Toluene			< 0.005	$\mathrm{mg/L}$		5	0.001
Ethylbenzer	ne		< 0.005	$\mathrm{mg/L}$		5	0.001
M,P,O-Xyle	ene		< 0.005	mg/L		5	0.001
Total BTE	Х		< 0.005	mg/L		5	0.001
Test Comm	nents	9	NOTE	mg/L		1	
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
TFT		0.466	mg/L	1	0.10	93	72 - 128
4-BFB		0.436	mg/L	1	0.10	87	72 - 128

Report Date: March 2, 2001 P/6494/1AC

Order Number: A01021712 Duke Energy Field Services Page Number: 6 of 9 Lee Gas Plant

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Quality Control Report Method Blank

Method Blank	QCBatch:	QC09403		Reporting
Param	Flag	Results	Units	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-Xylenc	10	0.001	mg/L	0.001
Total BTEX		0.001	mg/L	0.001

				Spike	Percent	Recovery
Surrogate	Flag	\mathbf{Result}	Units	Amount	Recovery	Limit
TFT		0.106	mg/L	0.10	106	72 - 128
4-BFB		0.096	mg/L	0.10	96	72 - 128

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Method Blank

QCBatch: QC09404

				Reporting
Param	\mathbf{Flag}	Results	Units	Limit
Benzene		<0.001	mg/L	0.001
Tolucne		< 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

				Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Amount	Recovery	Limit
TFT		0.098	mg/L	0.10	98	72 - 128
4-BFB		0.087	mg/L	0.10	87	72 - 128

Quality Control Report Lab Control Spikes and Duplicate Spikes

LCS QC Batch: QC09403

					Spike					
		Sample			Amount	Matrix	%		% Rec.	RPD
Param	Flag	Result	Units	Dil.	Added	Result	Rec.	RPD	\mathbf{Limit}	Limit
MTBE		0.112	mg/L	1	0.10	< 0.001	112		80 - 120	20
Benzene		0.104	mg/L	1	0.10	< 0.001	104		80 - 120	20
Toluene		0.104	$\mathrm{mg/L}$	1	0.10	< 0.001	104		80 - 120	20
									Cantin	an ad

Continued ...

¹⁰METHOD BLANK TOOK A HIT AT 0.001 PPM POSSIBLY DUE TO RESIDUAL CARRYOVER

Report Date: M P/6494/1AC		Number: A0 Energy Field		Page Number: 7 of 9 Lee Gas Plant							
					Spike				0	Continued	
		Sample			Amount	Matrix	%		% Rec.	RPD	
Param	Flag	Result	Units	Dil.	Added	Result	Rec.	RPD	Limit	Limit	
Ethylbenzene		0.104	mg/L	1	0.10	< 0.001	104		80 - 120	20	
M,P,O-Xylene		0.304	mg/L	1	0.30	0.001	101		80 - 120	20	
Surrogate	Flag	Res	alt	Units	Dil.		Spike Amount		% .ec.	% Rec. Limit	
TFT		0.		mg/L	1		0.10		00	72 - 128	
4-BFB		0.1	-	mg/L	1		0.10		09	72 - 128	

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LCSD QC Batch: QC09403

					Spike					
		Sample			Amount	Matrix	%		% Rec.	RPD
Param	Flag	\mathbf{Result}	Units	Dil.	Added	Result	Rec.	RPD	\mathbf{Limit}	Limit
MTBE		0.097	mg/L	1	0.10	< 0.001	97	14	80 - 120	20
Benzene		0.093	mg/L	1	0.10	< 0.001	93	11	80 - 120	20
Toluene		0.095	mg/L	1	0.10	< 0.001	95	9	80 - 120	20
Ethylbenzene		0.096	$\mathrm{mg/L}$	1	0.10	< 0.001	96	8	80 - 120	20
M,P,O-Xylene		0.282	mg/L	1	0.30	0.001	94	8	80 - 120	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
TFT	1 lag	0.094	mg/L	1	0.10	94	72 - 128
4-BFB		0.101	mg/L	1	0.10	101	72 - 128

LCS QC Batch: QC09404

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					Spike					
		Sample			Amount	Matrix	%		% Rec.	RPD
Param	Flag	Result	Units	Dil.	Added	Result	Rec.	RPD	Limit	Limit
MTBE		0.099	mg/L	1	0.10	< 0.001	99		80 - 120	20
Benzene		0.089	mg/L	1	0.10	< 0.001	89		80 - 120	20
Tolucne		0.089	mg/L	1	0.10	< 0.001	89		80 - 120	20
Ethylbenzene		0.095	mg/L	1	0.10	< 0.001	95		80 - 120	20
M,P,O-Xylene		0.249	mg/L	1	0.30	< 0.001	83		80 - 120	20

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

LCSD QC Batch: QC09404

Report Date: M P/6494/1AC	Report Date: March 2, 2001 P/6494/1AC					1021712 Services		Page Number: 8 of 9 Lee Gas Plant		
Param	Flag	Sample Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec.	RPD	% Rec. Limit	RPD Limit
MTBE		0.093	mg/L	1	0.10	< 0.001	93	6	80 - 120	20
Benzene		0.089	mg/L	1	0.10	< 0.001	89	2	80 - 120	20
Toluene		0.093	mg/L	1	0.10	< 0.001	93	4	80 - 120	20
Ethylbenzene		0.093	mg/L	1	0.10	< 0.001	93	2	80 - 120	20
M,P.O-Xylene		0.272	mg/L	1	0.30	< 0.001	90	9	80 - 120	20
Surrogate	Flag	Res	ult	Units	Dil.		Spike Amount		% lec.	% Rec. Limit
TFT		0.0	98	mg/L	1		0.10		98	72 - 128
4-BFB		0.1	12	mg/L	1		0.10	1	12	72 - 128

Quality Control Report Continuing Calibration Verification Standards

CCV (1) QC Batch: QC09403

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/L	0.10	0.113	113	85 - 115	2/27/01
Benzene		$\mathrm{mg/L}$	0.10	0.093	93	85 - 115	2/27/01
Toluene		mg/L	0.10	0.091	91	85 - 115	2/27/01
Ethylbenzene		mg/L	0.10	0.098	98	85 - 115	2/27/01
M,P.O-Xylenc		mg/L	0.30	0.261	87	85 - 115	2/27/01

CCV (2) QC Batch: QC09403

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/L	0.10	0.116	116	85 - 115	2/27/01
Benzenc		m mg/L	0.10	0.11	110	85 - 115	2/27/01
Tolucne		mg/L	0.10	0.112	112	85 - 115	2/27/01
Ethylbenzene		m mg/L	0.10	0.11	110	85 - 115	2/27/01
M,P.O-Xylene		mg/L	0.30	0.331	110	85 - 115	2/27/01

ICV (1) QC Batch: QC09403

			CCVs Truc	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/L	0.10	0.109	109	85 - 115	2/27/01
Benzene		mg/L	0.10	0.098	98	85 - 115	2/27/01
Toluene		mg/L	0.10	0.1	100	85 - 115	2/27/01

Continued ...

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Report Date: Ma P/6494/1AC	rch 2, 2001			Number: A010 nergy Field Sc		-	lumber: 9 of 9 Lee Gas Plant
Continued			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Ethylbenzene	·····	mg/L	0.10	0.1	100	85 - 115	2/27/01
M,P.O-Xylene		mg/L	0.30	0.297	99	85 - 115	2/27/01

CCV (1) QC Batch: QC09404

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE	- <u></u>	mg/L	0.10	0.092	92	85 - 115	2/27/01
Benzene		$\mathrm{mg/L}$	0.10	0.086	86	85 - 115	2/27/01
Toluene		mg/L	0.10	0.089	89	85 - 115	2/27/01
Ethylbenzene		mg/L	0.10	0.091	91	85 - 115	2/27/01
M,P.O-Xylene		mg/L	0.30	0.259	86	85 - 115	2/27/01

CCV (2) QC Batch: QC09404

			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/L	0.10	0.089	89	85 - 115	2/27/01
Benzene		mg/L	0.10	0.087	87	85 - 115	2/27/01
Toluene		mg/L	0.10	0.091	91	85 - 115	2/27/01
Ethylbenzene		mg/L	0.10	0.091	91	85 - 115	2/27/01
M,P.O-Xylene		mg/L	0.30	0.267	89	85 - 115	2/27/01

ICV(1) QC Batch: QC09404

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Pcrcent Recovery Límits	Date Analyzed
MTBE		mg/L	0.10	0.103	103	85 - 115	2/27/01
Benzene		mg/L	0.10	0.092	92	85 - 115	2/27/01
Toluene		mg/L	0.10	0.093	93	85 - 115	2/27/01
Ethylbenzene		mg/L	0.10	0.103	103	85 - 115	2/27/01
M,P,O-Xylene		mg/L	0.30	0.254	84	85 - 115	2/27/01

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	- amol - Amol	Lab Name: Address:	Telephone:		Samplers (SIGNATURES)	L	Sample	MW-20 0	C	4	1 en 1 -		MN OF	Wu - 3		Ww.2			roiect Name:		Jeu Luuaiui. L			O No.	ecial Instruction:		17

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Appendix B

Well Sampling Data Forms

	CLIENT:	DUKE ENE	RGY FIELD S	ERVICES		WELL ID:	MW-3
Sľ	TE NAME:	LE	E GAS PLAN	т		DATE:	2/16/01
PRO	JECT NO.		P/6494/1AC		S	AMPLER:	DALE LITTLEJOHN
URGING	METHOD:		I Hand Bail	ed 🗌 Pur	mp If Pun	np, Type:	
							rge Hose Other:
DESCRIB	E EQUIPMI			ON METHO	DD BEFO	RE SAMPL	ING THE WELL:
고 Glove:	s 🗹 Alcono	x 🗹 Distill	ed Water Rii	nse 🗌 O	ther:		
				<u> </u>	-		
JISPOSA	LMETHOD	OF PURG	E WATER:		e Discharg	e 🗌 Drur	ns 🖸 Disposal Facility
			<u>109.61</u> 106.07				
HEIGHT (O WATER.	COLUMN:	3.54	Feet X	0.163	X 3 (Well \	Minimum Gallor (olumes) = <u>1.73</u> To Purge
NELL DIA	METER:	🗹 2-Inch	4-Inch		0.163 (2"	'), 0.653 (4'	'), or 1.47 (6'')
TIME	VOLUME		COND. <i>m</i> S/cm	ρH	DO ma/L	Turb	PHYSICAL APPEARANCE AND REMARKS
	2	10.6	1030	7.52	5.33	82	
					0.00		
•••••	<u>+</u>						
					+		
					1		
					+		
	1						
		{		1	- <u>+</u> -		
	+	 	<u> </u>	<u> </u>	+		
				+	+	<u> </u>	
	1						
					1	1	
			1			1	
COMME		Collected	Sample #01	021608301	for BTFX	8021B	

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	CLIENT:	DUKE ENE	RGY FIELD S	ERVICES		WELL ID:	MW-11
SI		LE	E GAS PLAN	Г		DATE:	2/16/01
PRO	JECT NO.		P/6494/1AC		S		JOHN FERGERSON
PURGING	METHOD:	į	 Hand Bail	ed 🗹 Pur	mp If Pun	пр, Туре:	3" Grundfos Pump
SAMPLIN	G METHOD): (🖸 Disposabl	le Bailer [] Direct fr	om Discha	rge Hose Other:
DESCRIB			NTAMINATIO		DD BEFOI	RE SAMPL	ING THE WELL:
Gloves	s 🗹 Alcono:	x 🗹 Distill	ed Water Rir	nse 🗌 Of	ther:		
TOTAL DI DEPTH T HEIGHT (EPTH OF W O WATER: OF WATER	ÆLL: COLUMN:	<u>118.03</u> 105.21 12.82	Feet Feet Feet X	0.653	X 3 (Well V	ns ⊡isposal Facility Minimum Gallons ′olumes) = <u>25.11</u> To Purge), or 1.47 (6")
TIME	VOLUME	TEMP. °C / °F	COND. mS/cm	рН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
0735	0	•	-	-	-	-	Pump On!
0737	5	18.7	2300	7.04	6.62	539	
0740	10	19.4	2340	7.08	5.12	309	
0743	15	19.8	2350	7.16	4.66	246	
0745	20	19.9	2310	7.21	5.75	174	
0748	25	20.0	2290	7.24	5.78	138	
0750	30	20.1	2250	7.26	5.71	122	
0752	35	20.1	2210	7.29	6.03	120	
0755	40	20.2	2190	7.31	5.60	114	Pump Off!
							Flow Rate = 2.00 gal/min
]
				<u> </u>			
				1			
COMME	NTS:	Collected	Sample #010	02160900 f	or BTEX 8	8021B.	

C:/FORMS/SAMPLING DATA FORM

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	CLIENT:	DUKE ENE	RGY FIELD S	ERVICES			MW-12
SI	TE NAME:	LE	E GAS PLAN	<u>r</u>		DATE:	2/15/01
PRO	JECT NO.		P/6494/1AC				JOHN FERGERSON/DALE LITTLEJOHN
PURGING	METHOD:	{	Hand Bail	ed 🖸 Pur	np If Pun	np, Type: _	3" Grundfos Pump
SAMPLIN	G METHOD): [🖸 Disposab	le Bailer	Direct fr	om Dischai	rge Hose
DESCRIB	E EQUIPME	ENT DECO	TAMINATI	ON METHO	DD BEFOI	RE SAMPLI	ING THE WELL:
Glove:	s 🗹 Alcono:	x 🗹 Distill	ed Water Rii	nse 🗌 Ol	ther:	<u> </u>	
DISPOSA	L METHOD	OF PURG	E WATER:	Surface	Discharg	e 🗌 Drum	ns 🗵 Disposal Facility
DEPTH T HEIGHT (O WATER: DF WATER	COLUMN:		Feet Feet X			Minimum Gallons olumes) = <u>23.33</u> To Purge), or 1.47 (6")
TIME	VOLUME PURGED	TEMP. ° C / °F	COND. <i>m</i> S/cm	pН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
1742	0				-		Pump On!
1757	5	20.0	1070	7.63	7.07	999	
1800	10	20.3	1030	7.62	6.67	385	
1802	15	20.4	1010	7.61	5.56	167	
1805	20	20.4	1000	7.60	3.89	112	
1808	25	20.5	990	7.6	5.22	109	
1810	30	20.5	990	7.60	4.77	101	Pump Off!
	ļ						Flow Rate = 1.07 gal/min
	<u></u>						
ļ	ļ			ļ	<u> </u>		
ļ	<u> </u>			ļ	<u> </u>		
		 		<u> </u>		 	
				<u> </u>			
ļ							
			}		<u> </u>		<u> </u>
COMME	NTS:	Collected	Sample #01	02151925 f	or BTEX 8	8021B. Coll	ected Rinsate Sample #0102151935 for
		BTEX 802	1B.				

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C:/FORMS/SAMPLING DATA FORM

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	CLIENT: DUKE ENERGY FIELD SERVICES						MW-13	
Sľ		LE	E GAS PLAN	т		DATE:	2/15/01	
PRO	JECT NO.		P/6494/1AC		S	AMPLER:	JOHN FERGERSON/DALE LITTLEJOHN	
PURGING		1	- Hand Bail	ed 🗸 Pu	mp if Pun	n Type	3" Grundfos Pump	
						_	rge Hose Other:	
			•				ING THE WELL:	
C Giove:	s 🕑 Alcono.	x 🕑 Distili	ed Water Ri		iner:			
DI S POSA	L METHOD	OF PURG	E WATER:	🗌 Surface	Discharg	e 🗌 Drun	ns 🖸 Disposal Facility	
DEPTH T HEIGHT (O WATER: DF WATER	COLUMN:	The state of the second second second second second second second second second second second second second se	Feet Feet X		•	Minimum Gallons olumes) =22.94 To Purge), or 1.47 (6'')	
TIME	VOLUME	TEMP. °C / °F	COND. <i>m</i> S/cm	ρН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS	
1648	0	-	_	_	-	-	Pump On!	
1700	5	19.9	1460	7.06	4.61	95		
1702	10	20.1	1320	7.10	3.02	64		
1706	15	20.7	1430	7.09	7.23	24		
1710	20	20.8	1500	7.12	6.57	113		
1715	25	20.8	1540	7.14	6.58	59		
1750	30	20.9	1560	7.16	6.55	63		
1725	35	20.9	1590	7.17	6.34	141		
1730	40	20.9	1600	7.18	5.99	92	Pump Off!	
							Flow Rate = 0.95 gal/min	
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	CLIENT: DUKE ENERGY FIELD SERVICES					WELL ID:	MW-19	
SI		LE	E GAS PLAN	<u>T</u>		DATE:	2/15/01	
PRO	JECT NO.		P/6494/1AC		S	AMPLER:	JOHN FERGERSON/DALE LITTLEJOHN	
PURCING			- Tilland Pail	od 🔽 Bur	nn lf Dun		3" Grundfos Pump	
			-				rge Hose Other:	
						RE SAMPL	ING THE WELL:	
Glove:	s 🖂 Alcono	x 🗹 Distill	ed Water Ri	nse ∐Ot	ther:			
DISPOSA	L METHOD	OF PURG	E WATER:	🗌 Surface	Discharg	e 🗌 Drun	ns 🗇 Disposal Facility	
DEPTH T HEIGHT (O WATER: DF WATER	COLUMN:		Feet Feet X			Minimum Gallons olumes) = <u>35.01</u> To Purge), or 1.47 (6")	
TIME	VOLUME PURGED	TEMP. °C/°F	COND. <i>m</i> S/cm	pН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS	
1736	0	-	-	-	-		Pump On!	
1738	5	20.4	1340	6.79	0.72	59		
1740	10	20.4	1340	6.75	0.80	45		
1742	15	20.4	1320	6.73	0.90	49		
1744	20	20.4	1330	6.72	1.22	41		
1746	25	20.4	1340	6.71	1.37	43		
1748	30	20.4	1340	6.70	1.33	41	Pump Off!	
							Flow Rate = 2.5 gal/min	
				1				
	1							
COMME	NTS	Collected	Sample #01	 02151800 f				

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CLIENT: DUKE ENERGY FIELD SERVICES					WELL ID: _		MW-20	
SI	TE NAME:	LE	E GAS PLAN	τ		DATE:	2/15/01	
PRC	JECT NO.		P/6494/1AC		S	AMPLER:	JOHN FERGERSON/DALE LITTLEJOHN	
PURGING		i	Hand Bail	ed 🖸 Pur	mp If Pun	np, Type:	3" Grundfos Pump	
SAMPLIN	G METHOD):	🖸 Disposabl	le Bailer] Direct fr	om Discha	rge Hose Other:	
DESCRIB		ENT DECO				RE SAMPL	ING THE WELL:	
⊡ Glove	s 🗹 Alcono	x 🗹 Distill	ed Water Rin	nse 🗍O	ther:			
					Dischar			
					Discharg		ns ⊡Disposal Facility	
			128.05				Minimum Colleg	
HEIGHT	OF WATER	COLUMN:	<u>111.47</u> 16.58	Feet X	0.653	X 3 (Well V	Minimum Gallon olumes) = <u>32.48</u> To Purge	
), or 1.47 (6")	
	VOLUME	TEMP.	COND.					
TIME	PURGED		<i>m</i> S/cm	рН	mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS	
0822	0		-	-	-		Pump On!	
0824	5	18.4	608	6.81	5.81	128		
0826	10	19.0	603	6.88	6.34	178		
0828	15	19.8	586	6.92	6.40	89		
0901	20	21.3	567	7.23	6.05	381	Pump shut down after pumping 15 gallons of purg water.	
0903	25	20.7	573	7.26	3.74	290		
0903								
0905	30	20.9	570	7.26	31	185		
		20.9 20.9	570 569	7.26 7.29	31 2.87	185 121	Pump Off!	
0905	30		1	1	1		Pump Off! Flow Rate = 2.5 gal/min	
0905	30		1	1	1			
0905	30		1	1	1			
0905	30		1	1	1			
0905	30		1	1	1			
0905	30		1	1	1			

Collected Sample #0102151013 for BTEX 8021B.

CLIENT: DUKE ENERGY FIELD SERVICES SITE NAME: LEE GAS PLANT				ERVICES	WELL ID:		MW-21	
				г		DATE:	2/16/01	
PROJE	CT NO	F	P/6494/1AC		S	AMPLER:	DALE LITTLEJOHN	
PURGING M	ETHOD:	C	✓ Hand Bail	ed 🗌 Pur	np If Pur	np, Type:		
SAMPLING I	METHOD	: [🖸 Disposabl	e Bailer] Direct fr	om Discha	rge Hose	
DESCRIBE E	EQUIPME				D BEFO	RE SAMPL	ING THE WELL:	
Gloves 🖸	Alcono	< 🗹 Distille	ed Water Rin	nse 🗌 Ol	ther:			
DISPOSAL N	METHOD	OF PURGE	E WATER:	Surface	Discharg	e 🗌 Drur	ns 🖸 Disposal Facility	
TOTAL DEP DEPTH TO \ HEIGHT OF WELL DIAM	NATER: WATER	COLUMN:	107.2 16.28	Feet Feet X	<u>0.163</u> 0.163 (2"	X 3 (Well \), 0.653 (4'	Minimum Gallor /olumes) = <u>7.96</u> To Purge '), or 1.47 (6'')	
וואמו ו	1	TEMP. ° C / °F	COND. <i>m</i> S/cm	рН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS	
	8	16.5	475	7.87	1040	241		
			·			··· <u>_</u>		
				<u> </u>				
						<u> </u>		
	<u> </u>	 			+			
	S:	Collected S	Sample #01	D2161015 f	or BTEX 8	1 3021B. Co	Ilected Duplicate Sample #010216000 for	
		BTEX 802	·····			<u> </u>		

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	CLIENT:	DUKE ENE	RGY FIELD S	ERVICES			MW-3	
SITE NAME: LEE GAS PLANT						DATE:	8/1/01	
PRC	JECT NO.		V-101		S	AMPLER:	Fergerson / Van Deventer	
PURGING	G METHOD:	[I Hand Bail	ied 🔲 Pu	mp If Pun	ıp, Type:		
SAMPLIN	G METHOD	: [🖸 Disposab	le Bailer [] Direct fr	om Discha	arge Hose 🔲 Other:	
DESCRIB		ENT DECO	NTAMINATI	ON METH	DD BEFOI	RE SAMPL	ING THE WELL:	
🖸 Glove	s 🗹 Alcono:	x 📝 Distill	ed Water Ri	nse 🗍 O	ther:			
					- Dischard		ms ⊡Dísposal Facility	
					Discharg			
	EPTH OF W		400 47	—				
HEIGHT	OF WATER	COLUMN:	3.14	Feet	-	1.5	_Minimum Gallons to purge 3 well volume	
WELL DI	AMETER:	2.0	Inch				(Water Column Height x 1.96)	
TIME	VOLUME PURGED		COND. <i>m</i> S/cm	pН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARK	
	1.5		-		-			
				<u> </u>				
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	CLIENT:	DUKE ENE	RGY FIELD S	ERVICES		WELL ID:	MW-7
SI	TE NAME:	LE	E GAS PLAN	r		DATE:	8/1/01
PRC	JECT NO		V-101		S	AMPLER	Fergerson / Van Deventer
PURGING	METHOD:	[✓ Hand Bail	ed 🗌 Pur	mp If Pun	ıp, Type:	
							rge Hose Other:
DESCRIB		ENT DECO		ON METHO		RE SAMPL	ING THE WELL:
J Glove	s 🗹 Alcono	x 🗹 Distill	ed Water Rir	nse 🗌 Of	ther:		
DISPOSA		OF PURG	E WATER:	🗌 Surface	Discharg	e 🗌 Drur	ns Disposal Facility
DEPTH T HEIGHT (O WATER:	COLUMN:	111.65 105.07 6.58 Inch	Feet		3.2	Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)
TIME	VOLUME PURGED	TEMP. ° C / °F	COND. <i>m</i> S/cm	pН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
1112	0		-		-		
1130	3	24.8	1600	7.20	0.85	55	
1136	6	26.1	1350	7.36	1.73	163	
1200	9	27.9	1150	7.49	3.10	115	
1214	12	29.8	1100	7.45	2.70	139	
	+	 	+	<u> </u>			
		<u>+</u>					
		 -	+	<u> </u>	+		
COMME			L Sample #010			J	

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GAMPLING METHOD: Disposable Bailer Direct from Discharge Hose Other: DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL: Gloves Alconox Distilled Water Rinse Other: DISPOSAL METHOD OF PURGE WATER: Surface Discharge Drums Disposal Facility TOTAL DEPTH OF WELL: 117.02 Feet DEPTH TO WATER: HEIGHT OF WATER COLUMN: 10.27 Feet WELL DIAMETER: Inch DO Inch 		CLIENT:	DUKE ENE	RGY FIELD S	ERVICES		WELL ID:	MW-9
PURGING METHOD: Hand Bailed Pump If Pump, Type: 3" Grundfos Pump SAMPLING METHOD: Disposable Bailer Direct from Discharge Hose Other: DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL: Gloves Other: Gloves Alconox Distilled Water Rinse Other: DISPOSAL METHOD OF PURGE WATER: Surface Discharge Drums Disposal Facility TOTAL DEPTH OF WELL: 117.02 Feet 20.1 Minimum Gallons to purge 3 well volume: DEPTH TO WATER: 106.75 Feet 20.1 Minimum Gallons to purge 3 well volume: VELL DIAMETER: 4.0 Inch Inch (Water Column Height x 1.96) TIME VOLUME TEMP. COND. pH DO mg/L Turb PHYSICAL APPEARANCE AND REMARK 1514 0 - - - Pump On! 1518 5 23.0 1290 7.08 1.97 9 1520 10 22.2 1170 7.10 1.21 4 - - - - - Pump On! 1523 15 22.0 1170 <t< td=""><td>SI</td><td>TE NAME:</td><td>LE</td><td>E GAS PLAN</td><td><u>r</u></td><td></td><td>DATE:</td><td>8/1/01</td></t<>	SI	TE NAME:	LE	E GAS PLAN	<u>r</u>		DATE:	8/1/01
SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other:	PRO	JECT NO.		V-101		S	AMPLER	Fergerson / Van Deventer
WELL DIAMETER: 4.0 Inch (Water Column Height x 1.96) TIME VOLUME PURGED TEMP °C / °F COND mS/cm pH DO mg/L Turb PHYSICAL APPEARANCE AND REMARK 1514 0 - - - - PHYSICAL APPEARANCE AND REMARK 1514 0 - - - - PHYSICAL APPEARANCE AND REMARK 1514 0 - - - - PHYSICAL APPEARANCE AND REMARK 1514 0 - - - - Pump On! 1518 5 23.0 1290 7.08 1.97 9 1520 10 22.2 1220 7.11 1.40 7 1523 15 22.0 1170 7.10 1.21 4 1526 20 21.8 1170 7.12 1.19 11 1529 25 21.9 1180 7.11 1.17 13 1532 30 22.0 1180 7.11 1.23 11 1537 40 21.9 1210	SAMPLIN	G METHOD): [✓ Disposabl	e Bailer [] Direct fr	om Discha	rge Hose
DISPOSAL METHOD OF PURGE WATER: Surface Discharge Drums Disposal Facility TOTAL DEPTH OF WELL: 117.02 Feet DEPTH TO WATER: 106.75 Feet DISPOSAL METHOD OF WATER: 102.7 Feet DISPOSAL METHOD OF WATER: 102.7 Feet DISPOSAL METHOD OF WATER: 102.7 Feet DISPOSAL METHOD OF WATER: 102.7 Feet DISPOSAL METHOD OF WATER: 102.7 Feet UNDER TER: 4.0 Inch DO TIME VOLUME TEMP: COND. pH DO Mg/L Turb PHYSICAL APPEARANCE AND REMARK 1514 0 - - - - PH PH Mg/L Turb PHYSICAL APPEARANCE AND REMARK 1514 0 - - - - PH PH Mg/L Turb PHYSICAL APPEARANCE AND REMARK 1518 5 23.0 1290 7.08 1.97 9 1520 10 22.2 1170 7.10 1.21 4 1526 20 21.8 1170 7.12 1.19 11 1529 25 21.9<	· · · · · · · · · ·	s 🗹 Alcono	x 🗹 Distill	ed Water Rir	nse 🗌 Ot	ther:		
IME PURGED °C / °F m S/cm PH mg/L IUrb PHYSICAL APPEARANCE AND REMARK 1514 0 - - - - Pump On! 1518 5 23.0 1290 7.08 1.97 9 1520 10 22.2 1220 7.11 1.40 7 1523 15 22.0 1170 7.10 1.21 4 1526 20 21.8 1170 7.12 1.19 11 1529 25 21.9 1180 7.12 1.48 12 1532 30 22.0 1180 7.11 1.17 13 1532 30 22.0 1180 7.11 1.17 13 1535 35 21.9 1190 7.09 1.24 4 Pump Off!	TOTAL DI DEPTH TO HEIGHT (EPTH OF W O WATER: DF WATER METER:	VELL: COLUMN: 4.0	117.02 106.75 10.27 Inch	Feet Feet	Discharg		Minimum Gallons to purge 3 well volumes
1518 5 23.0 1290 7.08 1.97 9 1520 10 22.2 1220 7.11 1.40 7 1523 15 22.0 1170 7.10 1.21 4 1526 20 21.8 1170 7.12 1.19 11 1529 25 21.9 1180 7.12 1.48 12 1532 30 22.0 1180 7.11 1.17 13 1535 35 21.9 1190 7.10 1.23 11 1537 40 21.9 1210 7.09 1.24 4 Pump Off!	TIME	1			pН	1 1	Turb	PHYSICAL APPEARANCE AND REMARKS
1520 10 22.2 1220 7.11 1.40 7 1523 15 22.0 1170 7.10 1.21 4 1526 20 21.8 1170 7.12 1.19 11 1529 25 21.9 1180 7.12 1.48 12 1532 30 22.0 1180 7.11 1.17 13 1535 35 21.9 1190 7.10 1.23 11 1537 40 21.9 1210 7.09 1.24 4 Pump Off!	1514	0	-			-		Pump On!
1523 15 22.0 1170 7.10 1.21 4 1526 20 21.8 1170 7.12 1.19 11 1529 25 21.9 1180 7.12 1.48 12 1532 30 22.0 1180 7.11 1.17 13 1535 35 21.9 1190 7.10 1.23 11 1537 40 21.9 1210 7.09 1.24 4 Pump Off!	1518	5	23.0	1290	7.08	1.97	9	
1526 20 21.8 1170 7.12 1.19 11 1529 25 21.9 1180 7.12 1.48 12 1532 30 22.0 1180 7.11 1.17 13 1535 35 21.9 1190 7.10 1.23 11 1537 40 21.9 1210 7.09 1.24 4 Pump Off!	1520	10	22.2	1220	7.11	1.40	7	
1529 25 21.9 1180 7.12 1.48 12 1532 30 22.0 1180 7.11 1.17 13 1535 35 21.9 1190 7.10 1.23 11 1537 40 21.9 1210 7.09 1.24 4 Pump Off!	1523	15	22.0	1170	7.10	1.21	4	<u> </u>
1532 30 22.0 1180 7.11 1.17 13 1535 35 21.9 1190 7.10 1.23 11 1537 40 21.9 1210 7.09 1.24 4 Pump Off!	1526	20	21.8	1170	7.12	1.19	11	
1535 35 21.9 1190 7.10 1.23 11 1537 40 21.9 1210 7.09 1.24 4 Pump Off!	1529	25	21.9	1180	7.12	1.48	12	
1537 40 21.9 1210 7.09 1.24 4 Pump Off!	1532	30	22.0	1180	7.11	1.17	13	
	1535	35	21.9	1190	7.10	1.23	11	
Flow Rate = 1.74 gal/min	1537	40	21.9	1210	7.09	1.24	4	Pump Off!
								Flow Rate = 1.74 gal/min

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	CLIENT:	DUKE ENE	RGY FIELD S	ERVICES		WELL ID:	MW-10
SI		LE	E GAS PLAN	Г		DATE:	8/1/01
PRO	JECT NO		V-101		S	AMPLER:	Fergerson / Van Deventer
							3" Grundfos Pump
							rge Hose Other:
						RE SAMPL	ING THE WELL:
J Gloves	s 🗹 Alcono:	x 🗹 Distill	ed Water Rir	ise 🗍 O	ther: -		
DISPOSA	L METHOD	OF PURG	E WATER:	Surface	e Discharg	e 🗌 Drur	ns 🖸 Disposal Facility
DEPTH TO HEIGHT (O WATER:	COLUMN:	117.50 106.48 11.02 Inch	Feet	-	21.6	Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)
TIME	VOLUME PURGED		COND. <i>m</i> S/cm	рН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
1611	0			<u>-</u>	-		Pump On!
1616	5	23.1	2360	7.17	1.87	31	
1621	10	22.5	2180	7.27	1.48	26	
		22.2	2220	7.22	1.16	44	
1626	14					75	
1626 1637	14 17	23.5	2230	7.24	2.30	75	
	1	23.5 22.3	2230 2230	7.24 7.19	2.30 1.59	27	
1637	17				1		Pump Off!
1637 1641	17 20	22.3	2230	7.19	1.59	27	Pump Off! Flow Rate = 0.68 gal/min
1637 1641	17 20	22.3	2230	7.19	1.59	27	
1637 1641	17 20	22.3	2230	7.19	1.59	27	
1637 1641	17 20	22.3	2230	7.19	1.59	27	
1637 1641	17 20	22.3	2230	7.19	1.59	27	
1637 1641	17 20	22.3	2230	7.19	1.59	27	
1637 1641	17 20	22.3	2230	7.19	1.59	27	

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	CLIENT: _	DUKE ENEI	RGY FIELD S	ERVICES		WELL ID:	MW-11
SI	ΓΕ NAME: _	LE	E GAS PLAN	<u>r</u>		DATE:	7/31/01
PRO	JECT NO.	<u></u>	V-101		S		Fergerson / Van Deventer
PURGING	METHOD:	(Hand Bail	ed 🗹 Pur	np If Purr	np, Type:	3" Grundfos Pump
SAMPLIN	3 METHOD): (✓ Disposabl	e Bailer] Direct fr	om Discha	rge Hose
DESCRIB	E EQUIPME			ON METHO		RE SAMPL	ING THE WELL:
Gloves	s 🗹 Alconox	x 🗹 Distill	ed Water Rir	nse 🗌 O	ther:		
				Curfood	Discharg		ns 🗵 Disposal Facility
					Discharg		
TOTAL DE	EPTH OF W O WATER:	/ELL:	<u> </u>	Feet Feet			
HEIGHT (OF WATER	COLUMN:	12.56	Feet	-	24.6	Minimum Gallons to purge 3 well volume
WELL DIA	METER:	4.0	Inch				(Water Column Height x 1.96)
TIME	VOLUME PURGED		COND. <i>m</i> S/cm	рН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARK
1619	0		-		-		Pump On!
1622	5	22.3	2520	7.24	1.33	125	
1625	10	21.6	2200	7.24	0.89	20	
1627	15	21.3	2110	7.27	0.97	4	
		21.2	2070	7.30	1.10	3	
1630	20		÷				L
1630 1633	20	21.1	2000	7.31	1.37	1	
			2000 1990	7.31 7.33	1.37 1.57	1 0	
1633	25	21.1					
1633 1636	25 30	21.1 21.1	1990	7.33	1.57	0	Pump Off!
1633 1636 1639	25 30 35	21.1 21.1 21.0	1990 1970	7.33 7.34	1.57 1.84	0	Pump Off! Flow Rate = 1.74 gal/min
1633 1636 1639	25 30 35	21.1 21.1 21.0	1990 1970	7.33 7.34	1.57 1.84	0	
1633 1636 1639	25 30 35	21.1 21.1 21.0	1990 1970	7.33 7.34	1.57 1.84	0	
1633 1636 1639	25 30 35	21.1 21.1 21.0	1990 1970	7.33 7.34	1.57 1.84	0	
1633 1636 1639	25 30 35	21.1 21.1 21.0	1990 1970	7.33 7.34	1.57 1.84	0	

	CLIENT:	DUKE ENER	RGY FIELD SI	ERVICES		WELL ID:	MW-12
SI	ΓΕ NAME: _	LEI	E GAS PLAN	Г		DATE:	7/31/01
PRO	JECT NO		V-101		S	AMPLER	Fergerson / Van Deventer
PURGING	METHOD:	[Hand Bail	ed 🗹 Pur	np If Pum	ip, Type:	3" Grundfos Pump
SAMPLING	G METHOD): [🖸 Disposabl	e Bailer [] Direct fr	om Discha	rge Hose 🔲 Other:
DESCRIBI	E EQUIPME	ENT DECO		ON METHO	D BEFOR	RE SAMPL	ING THE WELL:
Gloves	s 🗹 Alcono:	x 🗹 Distille	ed Water Rir	ise 🗌 Ot	her:		
					Discharg		
DISPUSA		OF PURG	= WATER:	Sunace	Discharg	e 🗋 Drur	ns Disposal Facility
DEPTH TO HEIGHT (O WATER: OF WATER	COLUMN:	<u>117.60</u> <u>105.95</u> <u>11.65</u>	Feet	-	22.8	Minimum Gallons to purge 3 well volume (Water Column Height x 1.96)
		4.0	Inch				
TIME	VOLUME PURGED		COND. mS/cm	рН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARK
1510	0	-	-	·-	-		Pump On!
1513	5	24.0	950	7.20	1.08	87	
1516	10	22.6	940	7.32	-	18	
1519	15	22.0	930	7.32	0.76	3	
	20	21.5	920	7.31	1.17	0	
1522			1				
1522 1525	25	21.5	920	7.37	1.27	3	
	25 30	21.5 21.4	920 910	7.37	1.27 1.06	<u> </u>	
1525				· · · · · · · · · · · · · · · · · · ·		······································	Pump Off!
1525 1528	30	21.4	910	7.36	1.06	0	Pump Off! Flow Rate = 1.67 gal/min
1525 1528	30	21.4	910	7.36	1.06	0	
1525 1528	30	21.4	910	7.36	1.06	0	
1525 1528	30	21.4	910	7.36	1.06	0	
1525 1528	30	21.4	910	7.36	1.06	0	
1525 1528	30	21.4	910	7.36	1.06	0	

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	CLIENT:	DUKE ENE	RGY FIELD S	ERVICES		WELL ID:	MW-13
SI	TE NAME:	LE	E GAS PLAN	<u>r</u>		DATE:	7/31/01
PRO	JECT NO.		V-101		S	AMPLER:	Fergerson / Van Deventer
SAMPLIN DESCRIB	g method E Equipme		⊡ Disposabl NTAMINATIC	e Bailer] Direct fr	om Discha RE SAMPL	3" Grundfos Pump rge Hose Other: ING THE WELL:
DISPOSA	L METHOD		E WATER:	Surface	Discharg	e 🗌 Drur	ns 🖸 Disposal Facility
DEPTH T HEIGHT (O WATER: OF WATER METER:	COLUMN: 4.0		Feet		18.8	Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)
TIME	VOLUME PURGED	TEMP. <u>°C / °F</u>	COND. <i>m</i> S/cm	pН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
1223	0	<u> </u>			-		Pump On!
1227	5	22.5	1620	7.23	0.86	5	
1231	10	22.0	1370	7.28	1.00	3	
1236	15	21.9	1420	7.26	1.48	0	
1240	20	21.8	1490	7.21	2.32	0	
1244	25	21.8	1530	7.19	2.97	0	
1249	30	21.8	1570	7.18	3.48	3	
1253	35	21.9	1590	7.18	3.97	0	
1258	40	22.1	1600	7.17	4.80	0	Pump Off!
							Flow Rate = 1.14 gal/min
	<u> </u>						
COMME	NTS:	Collected	Sample #010	07131300 f	or BTEX	3021B.	

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	CLIENT:	DUKE ENER	RGY FIELD S	ERVICES		WELL ID:	MW-14
SI		LE	E GAS PLAN	Г		DATE:	8/1/01
PRO	JECT NO.		V-101		S	AMPLER	Fergerson / Van Deventer
URGING	METHOD:	(Hand Bail	ed 🗹 Pur	np If Purr	пр, Туре:	3" Grundfos Pump
SAMPLIN): [⊡ Disposabl	e Bailer 🗌] Direct fr	om Discha	rge Hose
DESCRIB		ENT DECO		ON METHO	D BEFOR	RE SAMPL	ING THE WELL:
Glove:	s 🗹 Alcono	x 🖸 Distill	ed Water Rir	nse 🗌 Ot	ther:		
DISPOSA	L METHOD	OF PURGI	E WATER:	Surface	Discharg	e 🗌 Drun	ns Disposal Facility
DEPTH T HEIGHT (O WATER: DF WATER METER:	COLUMN: 4.0	118.49 109.19 9.30 Inch	Feet	-	18.2	Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)
TIME	VOLUME PURGED		COND. <i>m</i> S/cm	pН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
1416	0	-	-		-		Pump On!
1419	5	23.6	1560	7.04	1.62	90	
1422	10	22.6	1490	6.99	1.66	28	
1425	15	21.9	1580	7.01	2.18	28	
1428	20	21.7	1640	6.96	2.33	12	
1431	25	21.8	1640	6.93	2.45	2	
1433	30	21.5	1630	6.92	2.58	2	
1436	35	21.2	1640	6.90	2.39	11	
1439	40	21.2	1640	6.90	2.39	1	Pump Off!
							Flow Rate = 1.74 gal/min
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	CLIENT:	DUKE ENE		ERVICES		WELL ID:	MW-16
SI	TE NAME:	LE	E GAS PLAN	T		DATE:	8/1/01
PRO	JECT NO.		V-101		S	AMPLER:	Fergerson / Van Deventer
PURGING	METHOD:	ſ	Hand Bail	ed 🖸 Pur	np If Purr	ір, Туре:	3" Grundfos Pump
SAMPLIN	G METHOD): [🖸 Disposabl	le Bailer 🛛] Direct fr	om Discha	arge Hose Other:
DESCRIB	E EQUIPME	ENT DECO				RE SAMPL	ING THE WELL:
Glove:	s 🗹 Alcono	x 🗹 Distill	ed Water Rir	nse 🗌 Ol	ther:		
DISPOSA	L METHOD	OF PURGI	E WATER:	Surface	Discharg	e 🗌 Drur	ms 🗵 Disposal Facility
DEPTH TO HEIGHT (O WATER:	COLUMN:	125.15 104.67 20.48 Inch	Feet	-	40.1	Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)
TIME	VOLUME PURGED		COND. <i>m</i> S/cm	pН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
1017	0	-	-		-		Pump On!
1020	5	21.2	826	7.12	0.79	71	
1023	10	20.9	782	6.93	1.08	35	
1026	15	20.9	766	7.06	2.79	44	
1029	20	20.8	749	7.26	3.93	29	
1032	25	20.7	732	7.35	4.35	24	
1035	30	20.7	738	7.36	4.55	27	
1038	35	20.7	723	7.41	4.98	11	
1041	40	20.7	721	7.40	5.03	10	Pump Off!
							Flow Rate = 1.7 gal/min
COMME	NTS:	Collected	Sample #010	- 08011100 f	or BTEX 8	3021B.	

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	CLIENT:	DUKE ENE	RGY FIELD S	ERVICES		WELL ID:	MW-17
SI	TE NAME: _	LE	E GAS PLAN	<u>г</u>		DATE:	8/1/01
PRO	JECT NO	·····	V-101 -		S		Fergerson / Van Deventer
PURGING	METHOD:	[Hand Bail	ed 🗹 Pur	np If Purr	ip, Type:	3" Grundfos Pump
SAMPLIN	G METHOD	: [🖸 Disposabl	e Bailer 🗌] Direct fr	om Discha	rge Hose
DESCRIB	E EQUIPME			ON METHO	D BEFOR	RE SAMPL	ING THE WELL:
Gloves	s 🗹 Alconox	x 🖸 Distill	ed Water Rir	nse 🗌 Ot	ther:		
				<u> </u>			
DISPOSA	L METHOD	OF PURG	E WATER:	Surface	Discharg	e 🗋 Drur	ns 🗹 isposal Facility
		/ELL:	124.09	Feet			
			<u> </u>			32.7	Minimum Gallons to purge 3 well volume
	METER:				-		(Water Column Height x 1.96)
TIME	VOLUME		COND. mS/cm	рH	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARK
0926	0	-	-	-		-	Pump On!
0929	5	21.2	906	6.99	0.83	20	
0000	10	20.9	900	7.00	0.76	11	
0932				7.01	0.71	12	
0935	15	20.9	891	1.01			
	15 20	20.9 20.9	891 883	7.07	0.60	6	
0935			· · · · · · · · · · · · · · · · · · ·		1		
0935 0938	20	20.9	883	7.07	0.60	6	
0935 0938 0941	20 25	20.9 20.8	883 866	7.07	0.60 0.55	6 4	
0935 0938 0941 0943	20 25 30	20.9 20.8 20.8	883 866 860	7.07 7.12 7.18	0.60 0.55 0.52	6 4 2	Pump Off!
0935 0938 0941 0943 0946	20 25 30 35	20.9 20.8 20.8 20.8 20.8	883 866 860 855	7.07 7.12 7.18 7.18	0.60 0.55 0.52 0.52	6 4 2 3	Pump Off! Flow Rate = 1.7 gal/min
0935 0938 0941 0943 0946	20 25 30 35	20.9 20.8 20.8 20.8 20.8	883 866 860 855	7.07 7.12 7.18 7.18	0.60 0.55 0.52 0.52	6 4 2 3	
0935 0938 0941 0943 0946	20 25 30 35	20.9 20.8 20.8 20.8 20.8	883 866 860 855	7.07 7.12 7.18 7.18	0.60 0.55 0.52 0.52	6 4 2 3	
0935 0938 0941 0943 0946	20 25 30 35	20.9 20.8 20.8 20.8 20.8	883 866 860 855	7.07 7.12 7.18 7.18	0.60 0.55 0.52 0.52	6 4 2 3	
0935 0938 0941 0943 0946	20 25 30 35	20.9 20.8 20.8 20.8 20.8	883 866 860 855	7.07 7.12 7.18 7.18	0.60 0.55 0.52 0.52	6 4 2 3	

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I.

	CLIENT:	DUKE ENE	RGY FIELD S	ERVICES		WELL ID:	MW-18
Sľ		LE	E GAS PLAN	r		DATE:	8/1/01
PRO	JECT NO.		V-101		S	AMPLER:	Fergerson / Van Deventer
SAMPLIN DESCRIB	g method E equipme	: ENT DECOI	⊡ Disposabl NTAMINATIC	e Bailer] Direct fr DD BEFOR	om Discha	3" Grundfos Pump arge Hose Other: ING THE WELL:
DISPOSA TOTAL D DEPTH T HEIGHT (L METHOD EPTH OF W O WATER:	OF PURG /ELL: COLUMN:	130.02 108.78 21.24	☐ Surface Feet Feet	. –	e 🗌 Drur 41.6	ns ⊡isposal Facility Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)
TIME	VOLUME PURGED		COND. <i>m</i> S/cm	рН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
0815	0		-		-		Pump On!
0819	5	20.3	566	6.81	1.71	69	
0822	10	20.2	544	7.01	0.93	35	
0825	15	20.2	578	7.30	1.22	38	
0828	20	20.2	547	7.49	1.02	42	
0830	25	20.1	529	7.59	0.96	22	
0833	30	20.1	523	7.63	1.05	12	
0837	35	20.1	522	7.64	1.00	8	
0839	40	20.1	521	7.63	1.00	4	Pump Off!
							Flow Rate = 1.7 gal/min
COMME	NTS:	Collected	Sample #010	09010900 f	or BTEX 8	3021B.	

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I.

	CLIENT:	DUKE ENE	RGY FIELD S	ERVICES		WELL ID:	MW-19
SI	TE NAME: _	LE	E GAS PLAN	<u>г</u>		DATE:	7/31/01
PRO.	JECT NO.		V-101		S		Fergerson / Van Deventer
URGING	METHOD:	[Hand Bail	ed 🗹 Pur	np If Pun	np, Type:	3" Grundfos Pump
	G METHOD	:: {	🖸 Disposabl	e Bailer 🗌] Direct fr	om Discha	rge Hose
ESCRIBI		ENT DECO		ON METHO	D BEFOI	RE SAMPL	ING THE WELL:
Gloves	s 🗹 Alconox	x 🗹 Distill	ed Water Rir	nse 🗌 Ot	ther:		
					Discharg	e 🗍 Drur	ns 🗇isposal Facility
EPTH TO	O WATER:	COLUMN:	17.69	Feet	-	34.6	Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)
TIME	VOLUME PURGED	TEMP. ° C / °F	COND. <i>m</i> S/cm	pН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
1131	0	-	-	-	-		Pump On!
1134	5	21.7	1280	6.83	1.38	115	
1137	10	20.7	1290	6.82	1.22	20	
1140	15	20.5	1290	6.80	1.15	0	
1143	20	20.5	1300	6.80	1.28	0	
1146	25	20.5	1300	6.80	1.20	0	
1149	30	20.5	1300	6.81	1.33	0	
1153	35	20.4	1300	6.82	1.19	0	
1156	40	20.5	1300	6.78	1.07	1	Pump Off!
	<u> </u>				<u> </u>		Flow Rate = 1.6 gal/min
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	CLIENT:	DUKE ENE	RGY FIELD S	ERVICES		WELL ID:	MW-20
SI	TE NAME:	LE	E GAS PLAN	<u>т</u>		DATE:	7/31/01
PRO	JECT NO.		V-101		S	AMPLER	Fergerson / Van Deventer
URGING	METHOD:	ĺ	Hand Bail	ed 🗹 Pu	mp If Pun	np, Type:	3" Grundfos Pump
AMPLIN	G METHOD	:	🖸 Disposabl	le Bailer [] Direct fr	om Discha	irge Hose
ESCRIB			NTAMINATIO			RE SAMPL	ING THE WELL:
Gloves	s 🗹 Alcono:	x 🗹 Distill	ed Water Rir	nse 🗍 O	ther:		
	EPTH OF W	/ELL:	E WATER: <u>128.05</u> 111.63	Feet	e Discharg	e 🗌 Drur	ns 🗹 Disposal Facility
IEIGHT (COLUMN:	16.42		-	32.2	Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)
TIME	VOLUME PURGED	TEMP. °C / °F	COND. <i>m</i> S/cm	pН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
1028	0		-	-	-		Pump On!
1032	5	24.0	8 58	7.41	3.11		
1037	10	22.0	673	7.48	2.69		
1041	15	21.7	660	7.44	1.91		
1045	20	22.0	647	7.30	1.55	-	
1049	25	21.4	640	7.49	1.44	0	
1054	30	21.3	633	7.50	1.41	-	
1057	35	21.3	636	7.49	1.27	0	
1102	40	21.2	635	7.47	1.17	0	Pump Off!
							Flow Rate = 1.2 gal/min
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CLIENT:DUKE ENERGY FIELD SERVICES					WELL ID:		MW-21						
SF	SITE NAME: LEE GAS PLANT				DATE: _		7/31/01						
PROJECT NOV-			V-101				Fergerson / Van Deventer						
			-										
PURGING	URGING METHOD: If Hand Bailed Dump If Pump, Type:												
SAMPLING	G METHOD	: [⊡ Disposabl	e Bailer [Direct fr	om Discha	arge Hose 🔲 Other:						
DESCRIB	E EQUIPME	ENT DECO	TAMINATIO	ON METHO	D BEFOR	RE SAMPL	ING THE WELL:						
Gloves	s 🗹 Alconox	x 🗹 Distill	ed Water Rir	nse 🗌 Of	her:								
DISPOSAL METHOD OF PURGE WATER: 🔲 Surface Discharge 🔲 Drums 🖾 isposal Facility													
			123.48										
	DEPTH TO WATER: 108 Feet HEIGHT OF WATER COLUMN: 15.48 Feet 7.6 Minimum Gallons to purge 3 well volume												
	METER:				•		(Water Column Height x 0.49)						
TIME	VOLUME	TEMP. °C / °F	COND. <i>m</i> S/cm	рН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS						
1822	0	-	-	_	-	-							
1825	3	22.9	469	8.09	11.26	457							
1827	6	22.7	450	8.08	11.05	26	\						
1830	9	22.4	446	8.15	11.22	22							
1832	12	22.4	441	8.08	11.07	12							
1835	15	22.3	440	8.02	11.10	5							
1837	18	22.2	439	8.06	11.18	3							
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	CLIENT: DUKE ENERGY FIELD SERVICES			WELL ID:		MW-22	
SIT	SITE NAME: LEE GAS PLANT			DATE:		7/31/01	
PROJECT NO. V-101			V-101		SAMPLER:		Fergerson / Van Deventer
VRGING	METHOD:	[I Hand Bail	ed 🗌 Pur	np If Pum	пр, Туре:	
SAMPLING	S METHOD	: {	🖸 Disposabl	e Bailer [] Direct fr	om Discha	rge Hose
DESCRIBE	E EQUIPME	ENT DECO		ON METHO	D BEFOR	RE SAMPL	ING THE WELL:
⊡ Gloves		x 🗹 Distill	ed Water Rir	nse 🗌 Ot	her:		
	METHOD				Discharg		ns ⊡Disposal Facility
					Discharg		
			<u>148.58</u> 107				
HEIGHT O	F WATER	COLUMN:	41.58	Feet	-	20.4	Minimum Gallons to purge 3 well volumes
NELL DIA	METER:	2.0	Inch				(Water Column Height x 0.49)
	VOLUME	TEMP. °C / °F	COND. mS/cm	рН	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
1722	0	-	-	_	-	-	
1724	3	22.6	623	8.04	12.21	880	
1727	6	22.0	586	7.95	14.01	387	
1729	9	21.9	573	7.87	15.22	199	
1732	12	21.8	574	7.86	16.09	84	
1734	15	21.7	565	7.79	15.62	50	
1737	18	21.7	567	7.84	15.52	36	
1740	21	21.7	560	7.82	15.70	29	
1742	24	21.6	557	7.80	15.61	23	
1745	27	21.6	557	7.81	15.25	24	

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