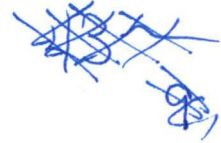


Received 03/09/99
Binyotu



Roy F. Weston, Inc.
Suite 400
3 Hawthorn Parkway
Vernon Hills, Illinois 60061-1450
847-918-4000 • Fax 847-918-4055

241378280
05-41-11841
8 March 1999 SF



Mr. Russell D. Hart (HSRW-6J)
Remedial Project Manager
U. S. Environmental Protection Agency
Region V
77 West Jackson Boulevard
Chicago, IL 60604

Work Order No. 02687-007-003

Re: Quarterly Groundwater Monitoring Report, 4th Quarter
Moss-American Site, Milwaukee, Wisconsin

Dear Mr. Hart:

On behalf of the Kerr-McGee Chemical LLC (KMC), Roy F. Weston, Inc. (WESTON®) is submitting this report summarizing the results of the fourth quarterly groundwater monitoring event completed at the above referenced project in December 1998. A description of the groundwater monitoring program and the results obtained during this monitoring period are presented in the following sections. Also included is a discussion of the laboratory analytical results that have exceeded the Preventive Action Limits (PAL) and Enforcement Standards (ES) promulgated by Wisconsin Department of Natural Resources (WDNR) in NR140.10, Public Health Groundwater Quality Standards.

The groundwater analytical results reported for fourth quarter 1998 reflect conditions at the site after the free-product recovery system was off for approximately two months.

1.0 BACKGROUND

In accordance with paragraph 4a of the Remedial Design and Remedial Action Statement of Work (RD/RA SOW), KMC is required to implement a groundwater monitoring program capable of detecting changes in chemical concentrations in the groundwater. As previously agreed, the monitoring network includes 23 groundwater monitoring wells—MW-3S, MW-3I, MW-4S, MW-4I, MW-5S, MW-6S, MW-7S, MW-7I, MW-8S, MW-8I, MW-9S, MW-9I, MW-10S, MW-13S, MW-20S, MW-20I, MW-25S, MW-26S, MW-27S, MW-28S, MW-29S, TW-05, and TW-09.

In accordance with paragraph 4a (i) of the RD/RA SOW, the field measurement and analysis of groundwater samples includes groundwater elevation, pH, temperature, turbidity, specific conductance, redox potential, dissolved oxygen. Laboratory analyses include BTEX compounds (benzene, toluene, ethylbenzene, and xylene) and polynuclear aromatic hydrocarbon (PAH)





Mr. Russell D. Hart
U.S. EPA

-2-

8 March 1999

compounds (acenaphthylene, acenaphthene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)-anthracene, fluorene, fluoranthene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, and pyrene).

2.0 GROUNDWATER MONITORING RESULTS

The fourth quarterly groundwater monitoring event at the Moss-American site was completed between 28 December and 30 December 1998. Tasks completed during the field effort for this event included the collection of groundwater elevation data from all the shallow monitoring wells and the collection of groundwater samples from 15 of the 17 shallow monitoring wells. Groundwater sample was not collected from well MW-8S because this well had approximately 2.14 feet of free-product. Therefore, as with any well observed to contain free-product, MW-8S is assumed to be contaminated. Groundwater sample was also not collected from well MW-7S because of compressed riser. The results of these efforts are described in the following subsections.

2.1 GROUNDWATER ELEVATION MEASUREMENTS

The depth to water was measured in each of the monitoring wells mentioned in Section 1.0 of this report. The measurements were conducted on 28 December 1998, prior to the beginning of groundwater sampling. These measurements were used to determine the elevation of the potentiometric surface of the shallow groundwater-bearing zone underlying the site. The water level measurements and resulting elevations are presented in Table 1. Figure 1 presents a groundwater elevation contour map that shows the potentiometric surface of the shallow groundwater-bearing zone. An evaluation of these results is presented in the following paragraphs.

As Figure 1 shows, the groundwater within the shallow groundwater-bearing zone generally flows northeastward toward the Little Menomonee River. In the topographically higher, western portion of the site, the horizontal hydraulic gradient of the potentiometric surface is relatively steep at approximately 0.021 feet per foot (ft/ft). The gradient flattens near the river, as does the ground surface, with an average of approximately 0.011 ft/ft.

The average velocity of groundwater flow within the shallow water-bearing zone can be calculated using the hydraulic gradients presented above, the average hydraulic conductivity used for the shallow water-bearing zone (1.2 feet per day [ft/day]), and the assumed effective porosity of 30 percent. In the western portion of the site the groundwater flow velocity is calculated to be



Mr. Russell D. Hart
U.S. EPA

-3-

8 March 1999

approximately 0.08 ft/day. Near the river, the velocity of groundwater flow is calculated to be approximately 0.044 ft/day.

2.2 GROUNDWATER SAMPLE ANALYSES RESULTS

Groundwater samples were collected from 15 shallow monitoring wells (MW-3S, MW-4S, MW-5S, MW-6S, MW-9S, MW-10S, MW-13S, MW-20S, MW-25S, MW-26S, MW-27S, MW-28S, MW-29S, TW-05, and TW-09) screened within the shallow groundwater-bearing zone. In addition, for quality assurance/quality control (QA/QC) purposes, two sample duplicates (identified by a FD prefix), one matrix spike/matrix spike duplicate (MS/MSD), and two field blanks were collected. Trip blanks accompanied each cooler of sample bottles from the laboratory to the site and were shipped back to the laboratory within each cooler full of samples.

Each groundwater sample was measured for the field parameters discussed in Section 1 and analyzed for BTEX and PAH compounds. The results of these measurements and analyses are discussed in the following subsections.

2.2.1 Field-Measured Parameters

The groundwater samples were measured in the field for pH, specific conductance, temperature, redox potential, dissolved oxygen, and turbidity. The results of these measurements are provided in Table 2. As shown in Table 2, the groundwater pH ranged from 6.89 to 8.09 standard pH units (S.U.) in the shallow groundwater samples. The specific conductivity ranges from 0.49 to 0.93 mΩ/cm in the shallow groundwater samples. Groundwater temperatures ranged from 6.1 to 10.1° C in the shallow groundwater. The redox potentials of the groundwater ranged from -134 to 296 millivolts (mV) in shallow groundwater samples. Dissolved oxygen levels ranged from 2.6 to 7.0 mg/L. Turbidity ranged from 54.3 to 1,207 nephelometric turbidity units (NTU) in the shallow groundwater samples.

2.2.2 Laboratory Analyses

Each groundwater sample collected during the fourth quarter 1998 monitoring period was analyzed for BTEX and PAH compounds. The results of these analyses are presented in Table 3. Table 3 also indicates those parameters that were detected at concentrations that exceed their respective PALs (shown as bold values). Parameters having concentrations exceeding both PALs and ESs are presented as bold and/or shaded values in Table 3. These results are summarized in the following paragraphs. The laboratory reports are presented in Attachment A.



Mr. Russell D. Hart
U.S. EPA

-4-

8 March 1999

Groundwater Sample Results

As Table 3 shows, primarily benzene, naphthalene, fluorene, and benzo(a)pyrene were detected at concentrations that exceed their respective PALs and/or ES in the groundwater samples collected from shallow wells. They are as follows:

PAL Exceedances:

- Benzene was detected at concentrations exceeding the WDNR PAL of 0.5 µg/L in groundwater samples collected from monitoring wells MW-4S, and FD-01 (field duplicate of MW-4S).
- Naphthalene was detected at concentrations exceeding the WDNR PAL of 8 µg/L in groundwater samples collected from monitoring wells MW-4S, MW-28S, TW-05, TW-09, FD-01 (field duplicate of MW-4S), and FD-02 (field duplicate of TW-05).
- Fluorene was detected at concentrations exceeding WDNR PAL of 80 µg/L in groundwater sample collected from MW-4S, TW-09, and FD-01 (field duplicate of MW-4S).
- Benzo(a)pyrene was detected at concentrations exceeding the WDNR PAL of 0.02 µg/L in groundwater samples collected from monitoring wells MW-4S, MW-9S, MW-13S, MW-28S, MW-29S, TW-05, TW-09, FD-01 (field duplicate of MW-4S), and FD-02 (field duplicate of TW-05).

ES Exceedances:

- Benzene was detected at concentrations exceeding the WDNR PAL of 5 µg/L in groundwater sample FD-01 (field duplicate of MW-4S).
- Naphthalene was detected at concentrations exceeding the WDNR ES of 40 µg/L in groundwater samples collected from monitoring wells MW-4S, TW-09, and FD-01 (field duplicate of MW-4S).
- Fluorene was detected at concentrations exceeding the WDNR ES of 400 µg/L in groundwater sample collected from monitoring well TW-09.



Mr. Russell D. Hart
U.S. EPA

-5-

8 March 1999

- Benzo(a)pyrene was detected at concentrations exceeding the WDNR ES of 0.2 µg/L in groundwater samples collected from monitoring wells MW-4S, MW-28S, TW-05, TW-09, FD-01 (field duplicate of MW-4S), and FD-02 (field duplicate of TW-05).

These results show that the width of the contaminant plume boundaries (shown in Figure 1) has increased in the middle portion of the plume since groundwater samples collected from wells MW-27S, MW-28S and MW-29S indicate detectable levels of PAH compounds similar to the second quarter groundwater sampling results.

A summary of the concentration of contaminants at wells that have regularly exceeded PALs and/or ES during the four quarters of 1998 are presented in Table 4. Levels of naphthalene, fluorene, and benzo(a)pyrene fluctuate over wide ranges in these wells without a common pattern. A more accurate trend may be illustrated as additional data becomes available for these wells during 1999.

If you have any questions or require additional information, please do not hesitate to call me at (847) 918-4142.

Very truly yours,

ROY F. WESTON, INC.

A handwritten signature in cursive script that reads "Thomas P. Graan".

Thomas P. Graan, Ph.D.
Principal Project Manager

TPG/slr
Attachments

cc: G. Edelstein, WDNR
B. Felix, WDNR

Table 1

**Groundwater Elevation Measurements
Fourth Quarter 1998
Moss-American Site
Milwaukee, Wisconsin**

Well	Ground Elevation (ft. MSL)	TOC Elevation (ft. MSL)	Depth to Water (ft.)	Groundwater Elevation (ft. MSL)	Product Thickness (ft.)
MW-3S	729.00	731.50	7.90	723.60	ND
MW-4S	731.00	732.86	5.60	727.26	ND
MW-5S	723.00	724.70	5.29	719.41	ND
MW-6S	727.00	724.28	4.92	719.36	ND
MW-7S	720.00	721.70	1.1	720.60	ND
MW-8S	718.00	721.73	7.95	713.78	2.14
MW-9S	720.00	721.71	7.10	714.61	ND
MW-10S	723.00	726.58	7.31	719.27	ND
MW-13S	737.00	738.68	3.93	734.75	ND
MW-20S	716.00	719.94	5.64	714.30	ND
MW-25S	736.83	739.24	4.31	734.93	ND
MW-26S	732.31	731.66	5.71	725.95	ND
MW-27S	720.59	723.15	4.45	718.70	ND
MW-28S	720.04	722.65	3.81	718.84	ND
MW-29S	720.01	722.39	4.59	717.80	ND
TW-05	721.76	724.16	3.51	720.65	0
TW-09	717.61	719.96	4.45	715.51	trace

NM - Not measured.

ND - Not detected.

Table 2**Field-Measured Parameters
Fourth Quarter 1998
Moss-American Site
Kerr-McGee Corporation**

Well Number	PH (Standard Units)	Specific Conductance (mΩ/cm)	Temperature (°C)	Redox Potential (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)
MW-3S	7.41	0.81	9.9	165	3.5	709
MW-4S	8.09	0.71	10.1	-134	2.9	54.3
MW-5S	7.32	0.71	9.9	163	2.8	636
MW-6S	7.9	0.49	8.8	218	5.0	1,207
MW-7S	NM	NM	NM	NM	NM	NM
MW-8S	NM	NM	NM	NM	NM	NM
MW-9S	6.89	0.74	10.1	20	2.6	985
MW-10S	6.98	0.60	6.1	296	7.0	109
MW-13S	7.19	0.93	7.6	99	5.1	338
MW-20S	7.49	0.79	5.7	134	6.2	2.53
MW-25S	7.07	0.68	7.6	263	4.6	560
MW-26S	7.42	0.62	9.6	178	3.5	1,136
MW-27S	7.11	0.74	7.9	-50	3.8	510
MW-28S	7.42	0.50	9.2	277	2.6	1,090
MW-29S	7.26	0.54	9.2	265	2.8	903
TW-05	7.32	0.56	6.9	-29	2.6	240
TW-09	NM	NM	NM	NM	NM	NM

NM - Not measured.

Table 3

Groundwater Sample Analytical Results
Fourth Quarter 1998
Moss-American Site
Milwaukee, Wisconsin

Sample ID:	MW-3S-04		MW-4S-04		MW-5S-04		MW-6S-04		WDNR PAL ug/L	WDNR ES ug/L
Sample Matrix:	Groundwater		Groundwater		Groundwater		Groundwater			
Sample Date:	12/29/98		12/29/98		12/29/98		12/29/98			
Units of Measure:	ug/L		ug/L		ug/L		ug/L			
Parameters										
VOCs										
Benzene	0.2	U	3	J	0.2	U	0.2	U	0.5	5
Toluene	0.2	U	5	J	0.2	U	0.2	U	68.6	343
Ethylbenzene	0.2	U	7		0.2	U	0.2	U	140	700
Total Xylenes	0.6	U	20		0.6	U	0.6	U	124	620
PAHs										
Naphthalene	0.78	U	1,760		0.78	U	0.79	U	8.0	40
Acenaphthalylene	0.78	U	115		0.78	U	0.79	U	NA	NA
Acenaphthene	0.78	U	630		0.78	U	0.79	U	NA	NA
Fluorene	0.17	U	316		0.17	U	0.17	U	80	400
Phenanthrene	0.045	U	50		0.045	U	0.047	J	NA	NA
Anthracene	0.030	U	36.3		0.030	U	0.030	U	NA	NA
Fluoranthene	0.038	J	159		0.020	U	0.134	J	NA	NA
Pyrene	0.18	U	154		0.18	U	0.20	J	NA	NA
Benzo(a)anthracene	0.018	U	23.6		0.018	U	0.046	J	NA	NA
Chrysene	0.057	U	19.6		0.058	U	0.082	J	NA	NA
Benzo(b)fluoranthene	0.034	U	7.71		0.034	U	0.052	J	NA	NA
Benzo(k)fluoranthene	0.026	U	4.56		0.026	U	0.027	U	NA	NA
Benzo(a)pyrene	0.023	J	8.95		0.021	U	0.058	J	0.02	0.2
Dibenzo(a,h)anthracene	0.045	U	0.79	J	0.046	U	0.046	U	NA	NA
Benzo(g,h,i)perylene	0.096	U	2.6	J	0.097	U	0.132	J	NA	NA
Indeno(1,2,3-cd)pyrene	0.062	U	4.6		0.062	U	0.088	J	NA	NA

VOC - Volatile Organic Compound.

PAH - Polynuclear Aromatic Hydrocarbon.

PAL - Wisconsin Department of Natural Resources (WDNR) Preventative Action Limit.

NA - PAL or ES not available for this parameter.

ES = Enforcement Standard (WDNR)

Table 3 (Cont.)

**Groundwater Sample Analytical Results
Fourth Quarter 1998
Moss-American Site
Milwaukee, Wisconsin**

Sample ID:	MW-9S-04		MW-10S-04		MW-13S-04		MW-20S-04		MW-25S-04		MW-26S-04		WDNR PAL ug/L	WDNR ES ug/L
Sample Matrix:	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater			
Sample Date:	12/29/98		12/29/98		12/28/98		12/28/98		12/29/98		12/29/98			
Units of Measure:	ug/L		ug/L		ug/L		ug/L		ug/L		ug/L			
Parameters														
VOCs														
Benzene	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.5	5
Toluene	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	68.6	343
Ethylbenzene	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	140	700
Total Xylenes	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	124	620
PAHs														
Naphthalene	0.77	U	0.77	U	0.77	UJ	0.80	U	0.76	U	0.79	U	8.0	40
Acenaphthalylene	0.77	U	0.77	U	0.77	UJ	0.80	U	0.76	U	0.79	U	NA	NA
Acenaphthene	0.77	U	0.77	U	0.77	UJ	0.80	U	0.76	U	0.79	U	NA	NA
Fluorene	0.16	U	0.16	U	0.16	UJ	0.17	U	0.16	U	0.17	U	80	400
Phenanthrene	0.045	U	0.045	U	0.189	J	0.046	U	0.073	J	0.046	U	NA	NA
Anthracene	0.030	U	0.030	U	0.030	UJ	0.031	U	0.030	U	0.031	U	NA	NA
Fluoranthene	0.068	J	0.019	U	0.021	UJ	0.020	U	0.019	U	0.023	JU	NA	NA
Pyrene	0.17	U	0.17	U	0.17	UJ	0.18	U	0.17	U	0.18	U	NA	NA
Benzo(a)anthracene	0.027	J	0.017	U	0.048	J	0.018	U	0.017	U	0.018	U	NA	NA
Chrysene	0.071	J	0.057	U	0.081	J	0.059	U	0.056	U	0.059	U	NA	NA
Benzo(b)fluoranthene	0.087	U	0.034	U	0.057	J	0.035	U	0.033	U	0.035	U	NA	NA
Benzo(k)fluoranthene	0.027	J	0.026	U	0.030	J	0.027	U	0.026	U	0.027	U	NA	NA
Benzo(a)pyrene	0.104		0.021	U	0.055	J	0.022	U	0.021	U	0.022	U	0.02	0.2
Dibenzo(a,h)anthracene	0.046	U	0.046	U	0.045	UJ	0.047	U	0.045	U	0.047	U	NA	NA
Benzo(g,h,i)perylene	0.264	J	0.096	U	0.095	UJ	0.099	U	0.094	U	0.098	U	NA	NA
Indeno(1,2,3-cd)pyrene	0.197	J	0.062	U	0.074	J	0.064	U	0.061	U	0.064	U	NA	NA

VOC - Volatile Organic Compound.

PAH - Polynuclear Aromatic Hydrocarbon.

PAL - Wisconsin Department of Natural Resources (WDNR) Preventative Action Limit.

NA - PAL or ES not available for this parameter.

ES = Enforcement Standard (WDNR)

Table 3 (Cont.)

Groundwater Sample Analytical Results
 Fourth Quarter 1998
 Moss-American Site
 Milwaukee, Wisconsin

Sample ID:	MW-27S-04		MW-28S-04		MW-29S-04		TW-05-04		TW-09-04		FD-01-04		FD-02-04		FB-01-04		WDNR PAL ug/L	WDNR ES ug/L
Sample Matrix:	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater					
Sample Date:	12/30/98		12/29/98		12/30/98		12/30/98		12/30/98		12/29/98		12/29/98					
Units of Measure:	ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L					
Parameters																		
VOCs																		
Benzene	0.2	U	0.2	U	0.2	U	0.2	U	2	U	6		0.2	U	0.2	U	0.5	
Toluene	0.2	U	0.2	U	1.0	U	0.2	U	6	J	11		0.2	U	0.2	U	68.6	
Ethylbenzene	0.2	U	0.2	U	1.0	U	0.2	U	20		14		0.2	U	0.2	U	140	
Total Xylenes	0.6	U	0.6	U	3.0	U	0.6	U	60		50	U	0.6	U	0.6	U	124	
PAHs																		
Naphthalene	1.01	J	9.5	J	0.81	U	9.3	J	14,900	J	1,060		10.6	J	0.77	U	8.0	
Acenaphthalylene	0.80	U	7.6	U	0.81	U	15.2	J	640	UJ	105	J	19.2	J	0.77	U	NA	
Acenaphthene	0.80	U	7.6	U	0.81	U	110		4,500	J	660		130		0.77	U	NA	
Fluorene	0.17	U	7.6	U	0.17	U	62.3		4,120	J	330		74.8		0.16	U	80	
Phenanthrene	0.046	J	1.04	J	0.046	U	2.38	J	10,500	J	41.1		2.4		0.045	U	NA	
Anthracene	0.031	U	0.42	J	0.033	J	4.8		1,100	J	38.5		5.1		0.030	U	NA	
Fluoranthene	0.027	J	5.0		0.21		23.3		4,630	J	156		24.8		0.019	U	NA	
Pyrene	0.18	U	0.48	J	0.22	J	23.8		5,090	J	151		24.6		0.17	U	NA	
Benzo(a)anthracene	0.018	U	1.47		0.040	J	4.09		741	J	22.5		3.85		0.017	U	NA	
Chrysene	0.059	U	3.2	U	0.073	J	3.8		750	J	18.5		4.1		0.057	U	NA	
Benzo(b)fluoranthene	0.035	U	5.88		0.045	J	1.42		201	J	7.3		1.32		0.034	U	NA	
Benzo(k)fluoranthene	0.027	U	2.27		0.027	U	0.87		121	J	4.3		0.81		0.026	U	NA	
Benzo(a)pyrene	0.022	U	4.77	U	0.044	J	1.72		228	J	8.5		1.59		0.021	U	0.02	
Dibenzo(a,h)anthracene	0.047	U	0.74	J	0.047	U	0.46	U	38	UJ	0.93	U	0.23	U	0.046	U	NA	
Benzo(g,h,i)perylene	0.099	U	6.9	U	0.10	U	1.0	U	79	UJ	2.0	U	0.49	U	0.096	U	NA	
Indeno(1,2,3-cd)pyrene	0.064	U	7.4	U	0.065	U	0.97	J	136	UJ	4.2	J	0.87	J	0.062	U	NA	

VOC - Volatile Organic Compound.

FD-01-04 is MW-4S-04

PAL - Wisconsin Department of Natural Resources (WDNR) Preventative Action Limit.

ES = Enforcement Standard (WDNR)

PAH - Polynuclear Aromatic Hydrocarbon.

FD-02-04 is TW-05-04

NA - PAL or ES not available for this parameter.

Table 3 (Cont.)

**Groundwater Sample Analytical Results
Fourth Quarter 1998
Moss-American Site
Milwaukee, Wisconsin**

Sample ID:	FB-02-04			
Sample Matrix:	Groundwater			WDNR
Sample Date:	12/30/98			PAL
Units of Measure:	ug/L			ES
Parameters				
VOCs				
Benzene	0.2	U	0.5	5
Toluene	0.2	U	68.6	343
Ethylbenzene	0.2	U	140	700
Total Xylenes	0.6	U	124	620
PAHs				
Naphthalene	0.76	U	8.0	40
Acenaphthalene	0.76	U	NA	NA
Acenaphthene	0.76	U	NA	NA
Fluorene	0.16	U	80	400
Phenanthrene	0.044	U	NA	NA
Anthracene	0.029	U	NA	NA
Fluoranthene	0.019	U	NA	NA
Pyrene	0.17	U	NA	NA
Benzo(a)anthracene	0.017	U	NA	NA
Chrysene	0.056	U	NA	NA
Benzo(b)fluoranthene	0.033	U	NA	NA
Benzo(k)fluoranthene	0.026	U	NA	NA
Benzo(a)pyrene	0.021	U	0.02	0.2
Dibenzo(a,h)anthracene	0.045	U	NA	NA
Benzo(g,h,i)perylene	0.094	U	NA	NA
Indeno(1,2,3-cd)pyrene	0.061	U	NA	NA

VOC - Volatile Organic Compound.

PAH - Polynuclear Aromatic Hydrocarbon.

Bold Values indicate concentrations exceeding PAL.

PAL - Wisconsin Department of Natural Resources Preventative Action Limit.

NA - PAL not established for this parameter.

Bold and shaded values indicate concentrations exceeding both PAL and ES.

Table 4

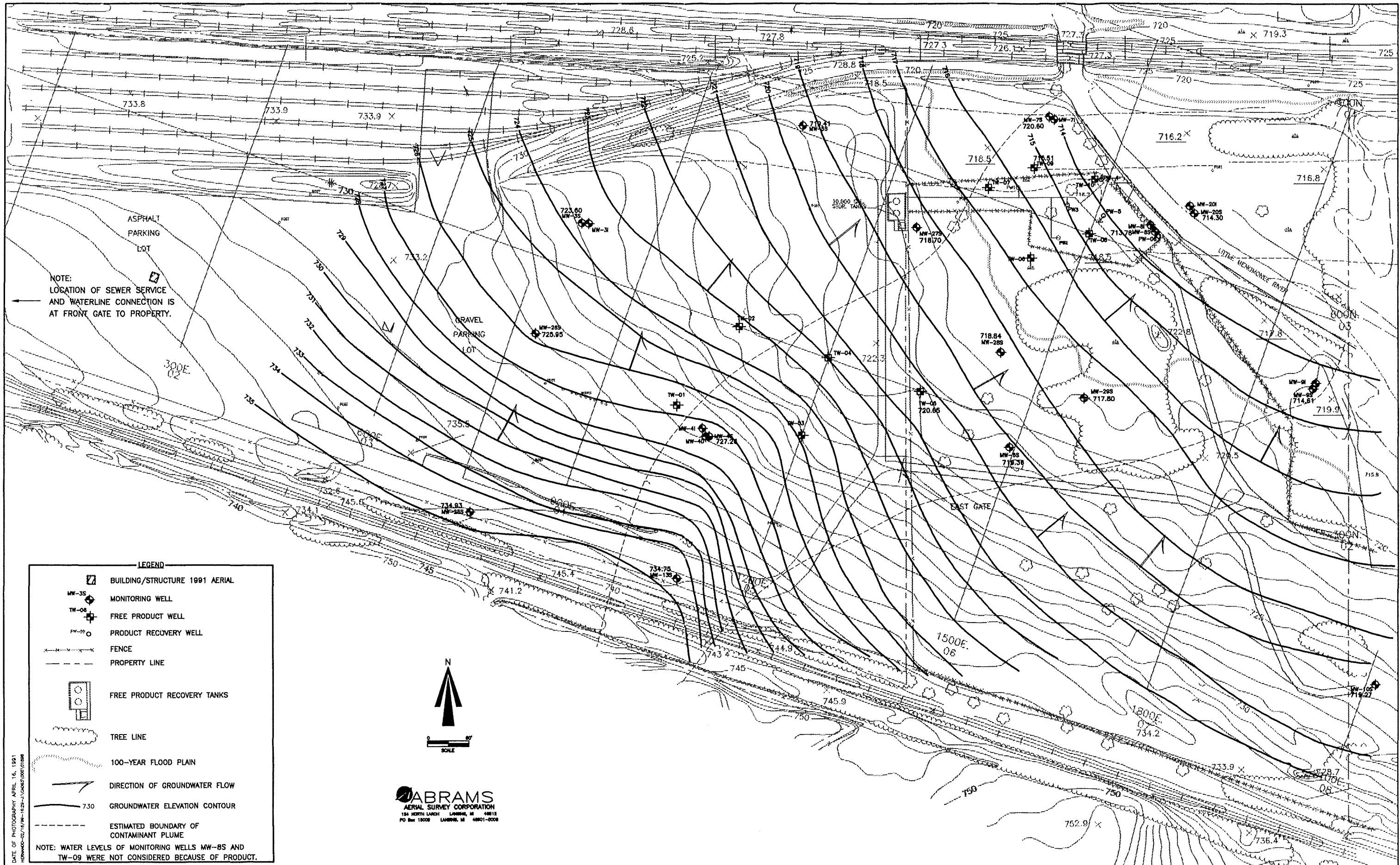
**Concentration Trends in Groundwater Samples - 1998
Moss-American Site
Milwaukee, Wisconsin**

	MW-4S	MW-7S	TW-05	TW-09
<u>Benzene</u>				
First Quarter (March '98)	10	5	0.2 U	2 J
Second Quarter (June '98)	8	5	0.2 U	0.5 J
Third Quarter (September '98)	3	8 J	0.2 U	2 U
Fourth Quarter (December '98)	3 J	NS	0.2 U	2 U
<u>Naphthalene</u>				
First Quarter (March '98)	2,080	6,470	3.51J	3,080
Second Quarter (June '98)	172 J	16.1	15.1J	11,800
Third Quarter (September '98)	863 J	7,140	19.0 J	580 J
Fourth Quarter (December '98)	1,760	NS	9.3 J	14,900
<u>Fluorene</u>				
First Quarter (March '98)	368	3.3 U	3.3 U	21 U
Second Quarter (June '98)	50	3.6 J	105	3,590
Third Quarter (September '98)	323 J	30	90	3.3 UJ
Fourth Quarter (December '98)	316	NS	62.3	4,120
<u>Benzo(a) pyrene</u>				
First Quarter (March '98)	25.3	0.021 U	2.04	20.3
Second Quarter (June '98)	112	25.3	1.63	226
Third Quarter (September '98)	7.45 J	0.42	3.4	4.4 J
Fourth Quarter (December '98)	8.95	NS	1.72	228

NS = Not Sampled

U = Constituent not detected; method detection limit (MDL) of the analysis reported

J = Estimated Concentration



NOTE:
LOCATION OF SEWER SERVICE
AND WATERLINE CONNECTION IS
AT FRONT GATE TO PROPERTY.

LEGEND

- BUILDING/STRUCTURE 1991 AERIAL
- MW-35 MONITORING WELL
- TW-06 FREE PRODUCT WELL
- MW-08 PRODUCT RECOVERY WELL
- FENCE
- PROPERTY LINE
- FREE PRODUCT RECOVERY TANKS
- TREE LINE
- 100-YEAR FLOOD PLAIN
- DIRECTION OF GROUNDWATER FLOW
- 730 GROUNDWATER ELEVATION CONTOUR
- ESTIMATED BOUNDARY OF CONTAMINANT PLUME

NOTE: WATER LEVELS OF MONITORING WELLS MW-BS AND TW-09 WERE NOT CONSIDERED BECAUSE OF PRODUCT.



ABRAMS
AERIAL SURVEY CORPORATION
134 NORTH LARCH LAMONA, WI 53012
PO Box 19008 LAMONA, WI 48001-0008

DATE OF PHOTOGRAPHY APRIL 16, 1991
HORNADO-02/10/91-1628-10280/028/028

2/98	100% DESIGN SUBMITTAL								
NO.	DATE	APPR.	NO.	DATE	APPR.	NO.	DATE	APPR.	NO.

MOSS - AMERICAN SITE
Milwaukee, Wisconsin

WESTON
WISCONSIN CONSULTANTS

DESIGNED	DATE	CLIENT APPROVALS	DATE
DRAWN			
CHECKED			
APPROVED			

GROUNDWATER ELEVATION CONTOUR MAP
4TH QUARTER 1998

DRWN	D.C.H.	DATE	FEB 98	FIGURE		REV. NO.	
SCALE	1" = 80'	S.A. NO.	02887007003000200	DATE			

ATTACHMENT A

LABORATORY REPORTS

12 February 1999

Dr. Thomas Graan
Project manager
Roy F. Weston, Inc.
3 Hawthorn Parkway – Suite 400
Vernon Hills, Illinois 60061

RE: Data Validation of BTEX and Polynuclear Aromatic Hydrocarbons performed by Lancaster Laboratories, Lancaster, Pennsylvania for the Moss America Site.

Dear Mr. Graan:

I have reviewed the analytical data provided by Lancaster Laboratories of Lancaster, Pennsylvania for the Moss America Site. The analysis performed and the validated results are summarized below:

23 water samples – BTEX **SDG# MOS06**

1. Holding Times:

<u>Lab ID</u>	<u>Client ID</u>	<u>Sample Date</u>	<u>Analysis Date</u>
3063732	MW13S-04	12/22/98	1/2/99
3063733	MW25S-04	12/28/98	1/2/99
3063734	Trip Blank	12/17/98	12/30/98
3064360	MW28S-04	12/29/98	1/3/99
3064361	MW09S-04	12/29/98	1/4/99
3064362	MW6S-04	12/29/98	1/3/99
3064363	MW29S-04	12/29/98	1/3/99
3064364	FB01-04	12/29/98	1/3/99
3064365	MW05S-04	12/29/98	1/3/99
3064368	MW03S-04	12/29/98	1/3/99
3064369	MW10S-04	12/29/98	1/3/99
3064370	Trip Blank	12/17/98	12/31/98*
3064371	MW04S-04	12/29/98	1/5/99
3064372	MW26S-04	12/29/98	1/4/99
3064373	FD01-04	12/29/98	1/5/99
3065182	TW05-04	12/30/98	1/5/99
3065183	TW09-04	12/30/98	1/5/99
3065184	FD02-04	12/30/98	1/5/99
3065185	Trip Blank	12/17/98	1/4/99*
3065186	MW27S-04	12/30/98	1/5/99
3065187	MW20S-04	12/30/98	1/5/99
3065188	FB02-04	12/30/98	1/5/99
3065189	Trip Blank	12/17/98	1/4/99*

*Samples analyzed or extracted outside the required holding times.

Moss America
SDG # MOS05

BTEX

1. Holding Times (Continued):

Three of the four trip blanks were analyzed outside the 14 day holding time. All non-detects and detects in the corresponding samples are flagged as estimated, J. All other samples were analyzed and extracted within the required holding times.

2. Method Blank:

Nine method blanks were associated with the BTEX samples (BLK6505, BLK6506, BLK5192, BLK6801, BLK6802, BLK6803, BLK6804, BLK6805, and BLK6806. All nine blanks were free of contamination.

3. Initial and Continuing Calibration:

For the BTEX samples, all initial and continuing calibration criteria appears to have been achieved. No deficiencies were noted in the laboratory narrative.

4. Surrogate Recovery-:

The surrogate recoveries for the BTEX surrogate (TFT) were all within the required QC limits.

5. Matrix Spike/Matrix Spike Duplicate (MS/MSD):

Sample MW05S-04 was used for the MS/MSD audit. All MS and MSD recoveries were acceptable.

6. Laboratory Control Sample:

All laboratory control sample results were acceptable.

7. Trip Blank

All trip blank results were non-detect. All results are acceptable.

**Moss America
SDG # MOS05**

BTEX

8. Field Blanks:

FB01-04 and FB02-04 were field blanks. All BTEX results were non-detect. All results are acceptable.

9. Field Duplicates:

Samples MW04S-04 and FD01-04 are field duplicates. Samples TW05-04 and FD02-04 are also field duplicate samples. Samples MW04 and FD01 show poor field correlation. All sample results for TW05 and FD02 were non-detect, showing good correlation. No qualifications are applied based on this criterion.

19 Water Samples – Polynuclear Aromatic Hydrocarbons (PAHs by HPLC) SDG#MOS06

1. Holding Times:

<u>Lab ID</u>	<u>Client ID</u>	<u>Sample Date</u>	<u>Extraction Date</u>	<u>Analysis Date</u>
3063732	MW13S-04	12/22/98	12/31/98*	1/13/99
3063733	MW25S-04	12/28/98	12/31/98	1/13/99
3064360	MW28S-04	12/29/98	12/31/98	1/12/99
3064361	MW09S-04	12/29/98	12/31/98	1/13/99
3064362	MW6S-04	12/29/98	12/31/98	1/13/99
3064363	MW29S-04	12/29/98	12/31/98	1/14/99
3064364	FB01-04	12/29/98	12/31/98	1/14/99
3064365	MW05S-04	12/29/98	12/31/98	1/13/99
3064368	MW03S-04	12/29/98	12/31/98	1/14/99
3064369	MW10S-04	12/29/98	12/31/98	1/14/99
3064371	MW04S-04	12/29/98	12/31/98	1/12/99
3064372	MW26S-04	12/29/98	12/31/98	1/14/99
3064373	FD01-04	12/29/98	12/31/98	1/12/99
3065182	TW05-04	12/30/98	1/4/99	1/16/99
3065183	TW09-04	12/30/98	1/6/99*	1/14/99
3065184	FD02-04	12/30/98	1/4/99	1/16/99
3065186	MW27S-04	12/30/98	1/4/99	1/16/99
3065187	MW20S-04	12/30/98	1/4/99	1/16/99
3065188	FB02-04	12/30/98	1/4/99	1/16/99

*Samples analyzed or extracted outside the required holding times.

Moss America
SDG # MOS05

Polynuclear Aromatic Hydrocarbons (PAHs by HPLC)

1. Holding Times (Continued):

MW13S-04 and TW09-04 were extracted outside the seven-day holding time. All non-detects and detects in the corresponding samples are flagged as estimated, J. All other samples were analyzed and extracted within the required holding times.

2. Method Blank:

There are three method blanks associated with the PAH fraction (PBLK81, PBLK8N, and PLBKQ9). All three method blanks were free of contamination. However, the method blank summaries and corresponding analysis sheets were all labeled as pesticide organics. The compounds match the PAH list and this just appears to be a laboratory form error.

3. Initial and Continuing Calibration:

For the PAH samples, initial and continuing calibration criteria was in accordance with the January 1999 QAPP.

4. Surrogate Recovery:

The surrogates for PAHs include nitrobenzene and triphenylene. All nitrobenzene results on the primary column were acceptable. All nitrobenzene results on the secondary column indicated a reduced sensitivity (zero percent recovery or diluted out). However, secondary confirmation is not a requirement. The following samples were associated with diluted triphenylene recoveries on both columns: FD01-04, FD02-04, TW05-04, TW09-04 and MW04S-04. Triphenylene was diluted out on the secondary column for sample MW28S-04, but ok on the primary column. The triphenylene recovery for MW6S-04 on the secondary column was high outside QC limits. However, for the associated sample the primary column recovery was acceptable. The diluted triphenylene results indicate a matrix interference. Since the Moss America January 1999 QAPP only requires nitrobenzene as the surrogate, no qualifications are required.

**Moss America
SDG # MOS05**

Polynuclear Aromatic Hydrocarbons (PAHs by HPLC)

5. Matrix Spike/Matrix Spike Duplicate:

Sample MW05S-04 was used for the MS/MSD audit. All MS and MSD recoveries were acceptable.

6. Laboratory Control Sample:

No laboratory control sample was analyzed correlating to this group of samples.

7. Field Blanks:

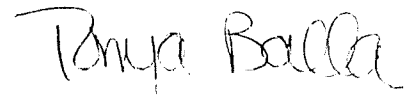
FB01-04 and FB02-04 were field blanks. All PAH results were non-detect. All results are acceptable.

8. Field Duplicates:

Samples MW04S-04 and FD01-04 are field duplicates. Samples TW05-04 and FD02-04 are also field duplicate samples. All sample results show good field correlation.

If you have any questions regarding this report, feel free to contact me at your convenience at (847) 918 – 4094.

Very truly yours,



Tonya Balla

Project Engineer



Lancaster Laboratories

A division of Thermo Analytical Inc.

LLI Sample No. WW 3064368

Collected: 12/29/98 at 10:30 by JC

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

MW-03S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W03S- SDG#: MOS06-10

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED	
		RESULTS	METHOD DETECTION LIMIT UNITS
1861	PAH's in Water		See Page 2
8213	BTEX (8021)		See Page 3

1 COPY TO Kerr-McGee Corporation
1 COPY TO Roy F. Weston
1 COPY TO Data Package Group

ATTN: Garet Van de Steeg, PhD
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
12:54:22 D 0003 14 128410 646714
232 0.00 00021753 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681





LLI Sample No. WW 3064368

Collected: 12/29/98 at 10:30 by JC

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

MW-03S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W03S- SDG#: MOS06-10

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Re1.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD	DETECTION LIMIT UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.78	ug/l
3281	Acenaphthylene	N.D.	0.78	ug/l
3282	Acenaphthene	N.D.	0.78	ug/l
3283	Fluorene	N.D.	0.17	ug/l
3284	Phenanthrene	N.D.	0.045	ug/l
3285	Anthracene	N.D.	0.030	ug/l
3286	Fluoranthene	0.038 J	0.019	ug/l
3287	Pyrene	N.D.	0.18	ug/l
3288	Benzo(a)anthracene	N.D.	0.018	ug/l
3289	Chrysene	N.D.	0.057	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.034	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	0.023 J	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.046	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.096	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.062	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 3064368

Collected: 12/29/98 at 10:30 by JC

Submitted: 12/30/98 Reported: 1/15/99
Discard: 2/15/99

MW-03S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W03S- SDG#: MOS06-10

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	METHOD DETECTION LIMIT	UNITS
------------	---------------	------------------------	---------------------------	-------

BTEX (8021)

0776	Benzene	N.D.	0.2	ug/l
0777	Toluene	N.D.	0.2	ug/l
0778	Ethylbenzene	N.D.	0.2	ug/l
0779	Total Xylenes	N.D.	0.6	ug/l

The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt.

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Michele Turner, B.A.
Manager, Volatiles



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 3064368

Collected: 12/29/98 at 10:30 by JC

Submitted: 12/30/98

MW-03S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W03S- SDG#: MOS06-10

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	01/14/99 0050	Michelle J. Kolodziejski
3337	PAH Water Extraction	SW-846 3510C	1	12/31/98 0845	Joseph S. Feister
8213	BTEX (8021)	SW-846 8021B	1	01/03/99 0343	Barry R. Shoemaker



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681





LLI Sample No. 3064368

MW-03S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646714
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH

1861 PAH's in Water		Batch: 983640007A									

3280	Naphthalene 0.78 ug/l	N.D.		81	82	1	66			37	120
3281	Acenaphthylene 0.78 ug/l	N.D.		86	89	1	71			41	135
3282	Acenaphthene 0.78 ug/l	N.D.		86	89	1	71			38	135
3283	Fluorene 0.17 ug/l	N.D.		89	93	2	75			41	140
3284	Phenanthrene 0.045 ug/l	N.D.		88	93	2	75			48	152
3285	Anthracene 0.030 ug/l	N.D.		84	89	3	73			42	143
3286	Fluoranthene 0.019 ug/l	N.D.		89	94	3	76			48	155
3287	Pyrene 0.18 ug/l	N.D.		91	96	2	78			51	146
3288	Benzo(a)anthracene 0.018 ug/l	N.D.		87	91	2	74			52	146
3289	Chrysene 0.057 ug/l	N.D.		88	91	1	75			56	145
3290	Benzo(b)fluoranthene 0.034 ug/l	N.D.		88	92	1	76			59	141
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.		89	92	1	76			60	137
3292	Benzo(a)pyrene 0.021 ug/l	N.D.		85	89	2	72			42	158
3293	Dibenzo(a,h)anthracene 0.046 ug/l	N.D.		87	91	2	75			49	142
3294	Benzo(g,h,i)perylene 0.096 ug/l	N.D.		90	93	1	77			46	148
3295	Indeno(1,2,3-cd)pyrene 0.062 ug/l	N.D.		89	92	1	75			64	134

8213 BTEX (8021)		Batch: 99002A68									

0776	Benzene 0.2 ug/l	N.D.		97	96	1	95			81	124
0777	Toluene 0.2 ug/l	N.D.		94	93	1	93			84	119
0778	Ethylbenzene 0.2 ug/l	N.D.		92	91	1	91			82	118
0779	Total Xylenes 0.6 ug/l	N.D.		90	89	0	90			81	120



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. 3064368

MW-03S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646714
Kerr-McGee Corporation

TRIAL ID	SURROGATE SUMMARY		SURROGATE LIMITS	
	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water	Nitrobenz	70	22	131
	Triphenyle	72	60	120
8213 BTEX (8021)	TFT	100	77	125



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 3064371

Collected: 12/29/98 at 08:30 by JC

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

MW-04S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W04S- SDG#: MOS06-13

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	METHOD DETECTION LIMIT UNITS	
1861	PAH's in Water			See Page 2
8213	BTEX (8021)			See Page 3

1 COPY TO Kerr-McGee Corporation
1 COPY TO Roy F. Weston
1 COPY TO Data Package Group

ATTN: Garet Van de Steeg, PhD
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
12:56:43 D 0003 14 128410 646714
232 0.00 00021753 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681





LLI Sample No. WW 3064371

Collected: 12/29/98 at 08:30 by JC

Submitted: 12/30/98 Reported: 1/15/99
Discard: 2/15/99

MW-04S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W04S- SDG#: MOS06-13

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	1,760.	7.9	ug/l
3281	Acenaphthylene	115.	7.9	ug/l
3282	Acenaphthene	630.	7.9	ug/l
3283	Fluorene	316.	1.7	ug/l
3284	Phenanthrene	50.0	0.45	ug/l
3285	Anthracene	36.3	0.31	ug/l
3286	Fluoranthene	159.	0.20	ug/l
3287	Pyrene	154.	1.8	ug/l
3288	Benzo(a)anthracene	23.6	0.18	ug/l
3289	Chrysene	19.6	0.58	ug/l
3290	Benzo(b)fluoranthene	7.71	0.35	ug/l
3291	Benzo(k)fluoranthene	4.56	0.27	ug/l
3292	Benzo(a)pyrene	8.95	0.22	ug/l
3293	Dibenzo(a,h)anthracene	0.79	J 0.46	ug/l
3294	Benzo(g,h,i)perylene	2.6	J 1.0	ug/l
3295	Indeno(1,2,3-cd)pyrene	4.6	0.63	ug/l

The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/4/97





LLI Sample No. WW 3064371

Collected: 12/29/98 at 08:30 by JC

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

MW-04S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W04S- SDG#: MOS06-13

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
------------	---------------	---------	--------	-----------------	-------

BTEX (8021)

0776	Benzene	3.	J	1.	ug/l
0777	Toluene	5.	J	1.	ug/l
0778	Ethylbenzene	7.		1.	ug/l
0779	Total Xylenes	20.		3.	ug/l

Due to the nature of the sample matrix, normal reporting limits were not attained.

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Michele Turner, B.A.
Manager, Volatiles



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 3064371

Collected: 12/29/98 at 08:30 by JC

Submitted: 12/30/98

MW-04S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W04S- SDG#: MOS06-13

Account No: 07802 Kerr-McGee Corporation P.O. Box 25861 Oklahoma City OK 73125

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS		ANALYST
				ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1		01/12/99 1608	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1		12/31/98 0845	Joseph S. Feister
8213	BTEX (8021)	SW-846 8021B	1		01/05/99 1730	Jodie L. Buckwalter



Lancaster Laboratories
 2425 New Holland Pike
 PO Box 12425
 Lancaster, PA 17605-2425
 717-656-2300 Fax 717-656-2681





LLI Sample No. 3064371

MW-04S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646714
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH

1861 PAH's in Water		Batch: 983640007A									

3280	Naphthalene 7.9 ug/l	N.D.		81	82	1	66			37	120
3281	Acenaphthylene 7.9 ug/l	N.D.		86	89	1	71			41	135
3282	Acenaphthene 7.9 ug/l	N.D.		86	89	1	71			38	135
3283	Fluorene 1.7 ug/l	N.D.		89	93	2	75			41	140
3284	Phenanthrene 0.45 ug/l	N.D.		88	93	2	75			48	152
3285	Anthracene 0.31 ug/l	N.D.		84	89	3	73			42	143
3286	Fluoranthene 0.20 ug/l	N.D.		89	94	3	76			48	155
3287	Pyrene 1.8 ug/l	N.D.		91	96	2	78			51	146
3288	Benzo(a)anthracene 0.18 ug/l	N.D.		87	91	2	74			52	146
3289	Chrysene 0.58 ug/l	N.D.		88	91	1	75			56	145
3290	Benzo(b)fluoranthene 0.35 ug/l	N.D.		88	92	1	76			59	141
3291	Benzo(k)fluoranthene 0.27 ug/l	N.D.		89	92	1	76			60	137
3292	Benzo(a)pyrene 0.22 ug/l	N.D.		85	89	2	72			42	158
3293	Dibenzo(a,h)anthracene 0.46 ug/l	N.D.		87	91	2	75			49	142
3294	Benzo(g,h,i)perylene 1.0 ug/l	N.D.		90	93	1	77			46	148
3295	Indeno(1,2,3-cd)pyrene 0.63 ug/l	N.D.		89	92	1	75			64	134

8213 BTEX (8021)		Batch: 99004A68									

0776	Benzene 1. ug/l	N.D.		103	102	2	98			81	124
0777	Toluene 1. ug/l	N.D.		97	96	1	95			84	119
0778	Ethylbenzene 1. ug/l	N.D.		96	95	1	93			82	118
0779	Total Xylenes 3. ug/l	N.D.		94	94	0	91			81	120



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. 3064371

MW-04S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646714
Kerr-McGee Corporation

TRIAL ID	SURROGATE SUMMARY		SURROGATE LIMITS	
	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water	Nitrobenz	78	22	131
	Triphenyle	707	60	120
8213 BTEX (8021)	TFT	100	77	125



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 3064365

Collected: 12/29/98 at 11:00 by JC

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

MW-05S-04 Unspiked Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W05S- SDG#: MOS06-09BKG

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED	
		RESULTS	METHOD DETECTION LIMIT UNITS
1861	PAH's in Water		See Page 2
8213	BTEX (8021)		See Page 3

1 COPY TO Kerr-McGee Corporation
1 COPY TO Roy F. Weston
1 COPY TO Data Package Group

ATTN: Garet Van de Steeg, PhD
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
12:51:35 D 0003 14 128410 646714
232 0.00 00021753 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12-125
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681





LLI Sample No. WW 3064365

Collected: 12/29/98 at 11:00 by JC

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

MW-05S-04 Unspiked Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W05S- SDG#: MOS06-09BKG

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.78	ug/l
3281	Acenaphthylene	N.D.	0.78	ug/l
3282	Acenaphthene	N.D.	0.78	ug/l
3283	Fluorene	N.D.	0.17	ug/l
3284	Phenanthrene	N.D.	0.045	ug/l
3285	Anthracene	N.D.	0.030	ug/l
3286	Fluoranthene	N.D.	0.020	ug/l
3287	Pyrene	N.D.	0.18	ug/l
3288	Benzo(a)anthracene	N.D.	0.018	ug/l
3289	Chrysene	N.D.	0.058	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.034	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.046	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.097	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.062	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681





LLI Sample No. WW 3064365

Collected: 12/29/98 at 11:00 by JC

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

MW-05S-04 Unspiked Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W05S- SDG#: MOS06-09BKG

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.2	ug/l
0777	Toluene	N.D.	0.2	ug/l
0778	Ethylbenzene	N.D.	0.2	ug/l
0779	Total Xylenes	N.D.	0.6	ug/l

The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt.

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Michele Turner, B.A.
Manager, Volatiles



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681





LLI Sample No. WW 3064365

Collected: 12/29/98 at 11:00 by JC

Submitted: 12/30/98

MW-05S-04 Unspiked Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W05S- SDG#: MOS06-09BKG

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	01/13/99 2115	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	12/31/98 0845	Joseph S. Feister
8213	BTEX (8021)	SW-846 8021B	1	01/03/99 1633	Jodie L. Buckwalter



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681





LLI Sample No. 3064365

MW-05S-04 Unspiked Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646714
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH
-----		Batch: 983640007A									
1861 PAH's in Water											

3280	Naphthalene										
	0.78 ug/l	N.D.		81	82	1	66			37	120
3281	Acenaphthylene										
	0.78 ug/l	N.D.		86	89	1	71			41	135
3282	Acenaphthene										
	0.78 ug/l	N.D.		86	89	1	71			38	135
3283	Fluorene										
	0.17 ug/l	N.D.		89	93	2	75			41	140
3284	Phenanthrene										
	0.045 ug/l	N.D.		88	93	2	75			48	152
3285	Anthracene										
	0.030 ug/l	N.D.		84	89	3	73			42	143
3286	Fluoranthene										
	0.020 ug/l	N.D.		89	94	3	76			48	155
3287	Pyrene										
	0.18 ug/l	N.D.		91	96	2	78			51	146
3288	Benzo(a)anthracene										
	0.018 ug/l	N.D.		87	91	2	74			52	146
3289	Chrysene										
	0.058 ug/l	N.D.		88	91	1	75			56	145
3290	Benzo(b)fluoranthene										
	0.034 ug/l	N.D.		88	92	1	76			59	141
3291	Benzo(k)fluoranthene										
	0.026 ug/l	N.D.		89	92	1	76			60	137
3292	Benzo(a)pyrene										
	0.021 ug/l	N.D.		85	89	2	72			42	158
3293	Dibenzo(a,h)anthracene										
	0.046 ug/l	N.D.		87	91	2	75			49	142
3294	Benzo(g,h,i)perylene										
	0.097 ug/l	N.D.		90	93	1	77			46	148
3295	Indeno(1,2,3-cd)pyrene										
	0.062 ug/l	N.D.		89	92	1	75			64	134
-----		Batch: 99003A68									
8213 BTEX (8021)											

0776	Benzene										
	0.2 ug/l	N.D.		100	101	1	97			81	124
0777	Toluene										
	0.2 ug/l	N.D.		97	98	1	94			84	119
0778	Ethylbenzene										
	0.2 ug/l	N.D.		95	96	1	92			82	118
0779	Total Xylenes										
	0.6 ug/l	N.D.		93	93	1	91			81	120



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. 3064365

MW-05S-04 Unspiked Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646714
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	75	22	131
		Triphenyle	75	60	120
8213 BTEX (8021)		TFT	100	77	125



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 3064366

Collected: 12/29/98 at 11:00 by JC

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

MW-05S-04 Matrix Spike Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W05S- SDG#: MOS06-09MS

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		LIMIT UNITS
		RESULTS	METHOD DETECTION	
1861	PAH's in Water			See Page 2
8213	BTEX (8021)			See Page 3

1 COPY TO Kerr-McGee Corporation
1 COPY TO Roy F. Weston
1 COPY TO Data Package Group

ATTN: Garet Van de Steeg, PhD
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
12:52:28 D 0003 14 128410 646714
232 0.00 00021753 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681





Lancaster Laboratories
A division of Thermo Analytical Inc.

Page: 2 of 6

LLI Sample No. WW 3064366

Collected: 12/29/98 at 11:00 by JC

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

MW-05S-04 Matrix Spike Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W05S- SDG#: MOS06-09MS

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		UNITS
		RESULTS	METHOD DETECTION LIMIT	
PAH's in Water				
3280	Naphthalene	162.	0.80	ug/l
3281	Acenaphthylene	172.	0.80	ug/l
3282	Acenaphthene	170.	0.80	ug/l
3283	Fluorene	17.8	0.17	ug/l
3284	Phenanthrene	5.30	0.046	ug/l
3285	Anthracene	2.54	0.031	ug/l
3286	Fluoranthene	2.67	0.020	ug/l
3287	Pyrene	18.3	0.18	ug/l
3288	Benzo(a)anthracene	1.31	0.018	ug/l
3289	Chrysene	5.30	0.059	ug/l
3290	Benzo(b)fluoranthene	1.07	0.035	ug/l
3291	Benzo(k)fluoranthene	1.07	0.027	ug/l
3292	Benzo(a)pyrene	1.28	0.022	ug/l
3293	Dibenzo(a,h)anthracene	2.63	0.047	ug/l
3294	Benzo(g,h,i)perylene	10.8	0.099	ug/l
3295	Indeno(1,2,3-cd)pyrene	5.36	0.064	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 3064366

Collected: 12/29/98 at 11:00 by JC

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

MW-05S-04 Matrix Spike Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W05S- SDG#: MOS06-09MS

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	20.	0.2	ug/l
0777	Toluene	19.	0.2	ug/l
0778	Ethylbenzene	19.	0.2	ug/l
0779	Total Xylenes	56.	0.6	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Michele Turner, B.A.
Manager, Volatiles



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev 8/4/97





LLI Sample No. WW 3064366

Collected: 12/29/98 at 11:00 by JC

Submitted: 12/30/98

Account No: 07802 Kerr-McGee Corporation P.O. Box 25861 Oklahoma City OK 73125

MW-05S-04 Matrix Spike Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W05S- SDG#: MOS06-09MS

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	01/13/99 2136	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	12/31/98 0845	Joseph S. Feister
8213	BTEX (8021)	SW-846 8021B	1	01/03/98 1708	Jodie L. Buckwalter



Lancaster Laboratories
 2425 New Holland Pike
 PO Box 12425
 Lancaster, PA 17605-2425
 717-656-2300 Fax: 717-656-2681





LLI Sample No. 3064366

MW-05S-04 Matrix Spike Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646714
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH

1861 PAH's in Water		Batch: 983640007A									

3280	Naphthalene 0.80 ug/l	N.D.		81	82	1	66			37	120
3281	Acenaphthylene 0.80 ug/l	N.D.		86	89	1	71			41	135
3282	Acenaphthene 0.80 ug/l	N.D.		86	89	1	71			38	135
3283	Fluorene 0.17 ug/l	N.D.		89	93	2	75			41	140
3284	Phenanthrene 0.046 ug/l	N.D.		88	93	2	75			48	152
3285	Anthracene 0.031 ug/l	N.D.		84	89	3	73			42	143
3286	Fluoranthene 0.020 ug/l	N.D.		89	94	3	76			48	155
3287	Pyrene 0.18 ug/l	N.D.		91	96	2	78			51	146
3288	Benzo(a)anthracene 0.018 ug/l	N.D.		87	91	2	74			52	146
3289	Chrysene 0.059 ug/l	N.D.		88	91	1	75			56	145
3290	Benzo(b)fluoranthene 0.035 ug/l	N.D.		88	92	1	76			59	141
3291	Benzo(k)fluoranthene 0.027 ug/l	N.D.		89	92	1	76			60	137
3292	Benzo(a)pyrene 0.022 ug/l	N.D.		85	89	2	72			42	158
3293	Dibenzo(a,h)anthracene 0.047 ug/l	N.D.		87	91	2	75			49	142
3294	Benzo(g,h,i)perylene 0.099 ug/l	N.D.		90	93	1	77			46	148
3295	Indeno(1,2,3-cd)pyrene 0.064 ug/l	N.D.		89	92	1	75			64	134

8213 BTEX (8021)		Batch: 99003A68									

0776	Benzene 0.2 ug/l	N.D.		100	101	1	97			81	124
0777	Toluene 0.2 ug/l	N.D.		97	98	1	94			84	119
0778	Ethylbenzene 0.2 ug/l	N.D.		95	96	1	92			82	118
0779	Total Xylenes 0.6 ug/l	N.D.		93	93	1	91			81	120



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. 3064366

MW-05S-04 Matrix Spike Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646714
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	78	22	131
		Triphenyle	78	60	120
8213 BTEX (8021)		TFT	101	77	125



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 3064367

Collected: 12/29/98 at 11:00 by JC

Submitted: 12/30/98 Reported: 1/15/99
Discard: 2/15/99

MW-05S-04 Matrix Spike Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W05S- SDG#: MOS06-09MSD

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED	
		RESULTS	METHOD DETECTION LIMIT UNITS
1861	PAH's in Water		See Page 2
8213	BTEX (8021)		See Page 3

1 COPY TO Kerr-McGee Corporation
1 COPY TO Roy F. Weston
1 COPY TO Data Package Group

ATTN: Garet Van de Steeg, PhD
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
12:53:24 D 0003 14 128410 646714
232 0.00 00021753 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681





LLI Sample No. WW 3064367
Collected: 12/29/98 at 11:00 by JC

Submitted: 12/30/98 Reported: 1/15/99
Discard: 2/15/99

MW-05S-04 Matrix Spike Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W05S- SDG#: MOS06-09MSD

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	161.	0.28	ug/l
3281	Acenaphthylene	174.	0.78	ug/l
3282	Acenaphthene	170.	0.78	ug/l
3283	Fluorene	18.1	0.17	ug/l
3284	Phenanthrene	5.43	0.045	ug/l
3285	Anthracene	2.61	0.030	ug/l
3286	Fluoranthene	2.75	0.019	ug/l
3287	Pyrene	18.7	0.18	ug/l
3288	Benzo(a)anthracene	1.33	0.018	ug/l
3289	Chrysene	5.34	0.057	ug/l
3290	Benzo(b)fluoranthene	1.08	0.034	ug/l
3291	Benzo(k)fluoranthene	1.08	0.026	ug/l
3292	Benzo(a)pyrene	1.30	0.021	ug/l
3293	Dibenzo(a,h)anthracene	2.68	0.046	ug/l
3294	Benzo(g,h,i)perylene	11.0	0.096	ug/l
3295	Indeno(1,2,3-cd)pyrene	5.40	0.062	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

MEMBER
ACIL
Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax. 717-656-2681

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/4/97





LLI Sample No. WW 3064367

Collected: 12/29/98 at 11:00 by JC

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

MW-05S-04 Matrix Spike Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W05S- SDG#: MOS06-09MSD

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	20.	0.2	ug/l
0777	Toluene	20.	0.2	ug/l
0778	Ethylbenzene	19.	0.2	ug/l
0779	Total Xylenes	56.	0.6	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Michele Turner, B.A.
Manager, Volatiles



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681





LLI Sample No. WW 3064367

Collected: 12/29/98 at 11:00 by JC

Submitted: 12/30/98

Account No: 07802 Kerr-McGee Corporation P.O. Box 25861 Oklahoma City OK 73125

MW-05S-04 Matrix Spike Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W05S- SDG#: MOS06-09MSD

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	01/13/99 2158	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	12/31/98 0845	Joseph S. Feister
8213	BTEX (8021)	SW-846 8021B	1	01/03/98 1742	Jodie L. Buckwalter



Lancaster Laboratories
 2425 New Holland Pike
 PO Box 12425
 Lancaster, PA 17605-2425
 717-656-2300 Fax: 717-656-2681





LLI Sample No. 3064367
 MW-05S-04 Matrix Spike Duplicate Grab Water Sample
 Moss-American Superfund Site - Milwaukee, WI

Group No. 646714
 Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH

1861 PAH's in Water		Batch: 983640007A									
3280	Naphthalene 0.78 ug/l	N.D.		81	82	1	66			37	120
3281	Acenaphthylene 0.78 ug/l	N.D.		86	89	1	71			41	135
3282	Acenaphthene 0.78 ug/l	N.D.		86	89	1	71			38	135
3283	Fluorene 0.17 ug/l	N.D.		89	93	2	75			41	140
3284	Phenanthrene 0.045 ug/l	N.D.		88	93	2	75			48	152
3285	Anthracene 0.030 ug/l	N.D.		84	89	3	73			42	143
3286	Fluoranthene 0.019 ug/l	N.D.		89	94	3	76			48	155
3287	Pyrene 0.18 ug/l	N.D.		91	96	2	78			51	146
3288	Benzo(a)anthracene 0.018 ug/l	N.D.		87	91	2	74			52	146
3289	Chrysene 0.057 ug/l	N.D.		88	91	1	75			56	145
3290	Benzo(b)fluoranthene 0.034 ug/l	N.D.		88	92	1	76			59	141
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.		89	92	1	76			60	137
3292	Benzo(a)pyrene 0.021 ug/l	N.D.		85	89	2	72			42	158
3293	Dibenzo(a,h)anthracene 0.046 ug/l	N.D.		87	91	2	75			49	142
3294	Benzo(g,h,i)perylene 0.096 ug/l	N.D.		90	93	1	77			46	148
3295	Indeno(1,2,3-cd)pyrene 0.062 ug/l	N.D.		89	92	1	75			64	134

8213 BTEX (8021)		Batch: 99003A68									
0776	Benzene 0.2 ug/l	N.D.		100	101	1	97			81	124
0777	Toluene 0.2 ug/l	N.D.		97	98	1	94			84	119
0778	Ethylbenzene 0.2 ug/l	N.D.		95	96	1	92			82	118
0779	Total Xylenes 0.6 ug/l	N.D.		93	93	1	91			81	120



Lancaster Laboratories
 2425 New Holland Pike
 P.O. Box 12425
 Lancaster, PA 17609-2425
 717-656-2300 Fax: 717-656-2681





LLI Sample No. 3064367
 MW-05S-04 Matrix Spike Duplicate Grab Water Sample
 Moss-American Superfund Site - Milwaukee, WI

Group No. 646714
 Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	80	22	131
		Triphenyle	80	60	120
8213 BTEX (8021)		TFT	102	77	125



Lancaster Laboratories
 2425 New Holland Pike
 PO Box 12425
 Lancaster, PA 17605-2425
 717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 3064362

Collected: 12/29/98 at 16:20 by JC

Submitted: 12/30/98 Reported: 1/15/99
Discard: 2/15/99

MW-6S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W6S-- SDG#: MOS06-06

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		LIMIT UNITS
		RESULTS	METHOD DETECTION	
1861	PAH's in Water			See Page 2
8213	BTEX (8021)			See Page 3

1 COPY TO Kerr-McGee Corporation
1 COPY TO Roy F. Weston
1 COPY TO Data Package Group

ATTN: Garet Van de Steeg, PhD
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
12:48:20 D 0003 14 128410 646714
232 0.00 00021753 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681





LLI Sample No. **WW 3064362**

Collected: 12/29/98 at 16:20 by JC

Submitted: 12/30/98 Reported: 1/15/99
Discard: 2/15/99

MW-6S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W6S-- SDG#: MOS06-06

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		DETECTION LIMIT	UNITS
		RESULTS	METHOD		
PAH's in Water					
3280	Naphthalene	N.D.		0.79	ug/l
3281	Acenaphthylene	N.D.		0.79	ug/l
3282	Acenaphthene	N.D.		0.79	ug/l
3283	Fluorene	N.D.		0.17	ug/l
3284	Phenanthrene	0.047	J	0.045	ug/l
3285	Anthracene	N.D.		0.030	ug/l
3286	Fluoranthene	0.134	J	0.020	ug/l
3287	Pyrene	0.20	J	0.18	ug/l
3288	Benzo(a)anthracene	0.046	J	0.018	ug/l
3289	Chrysene	0.082	J	0.058	ug/l
3290	Benzo(b)fluoranthene	0.052	J	0.034	ug/l
3291	Benzo(k)fluoranthene	N.D.		0.027	ug/l
3292	Benzo(a)pyrene	0.058	J	0.022	ug/l
3293	Dibenzo(a,h)anthracene	N.D.		0.046	ug/l
3294	Benzo(g,h,i)perylene	0.132	J	0.097	ug/l
3295	Indeno(1,2,3-cd)pyrene	0.088	J	0.063	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 3064362

Collected: 12/29/98 at 16:20 by JC

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

MW-6S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W6S-- SDG#: MOS06-06

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.2	ug/l
0777	Toluene	N.D.	0.2	ug/l
0778	Ethylbenzene	N.D.	0.2	ug/l
0779	Total Xylenes	N.D.	0.6	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Michele Turner, B.A.
Manager, Volatiles



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681





LLI Sample No. WW 3064362

Collected: 12/29/98 at 16:20 by JC

Submitted: 12/30/98

MW-6S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W6S-- SDG#: MOS06-06

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS		ANALYST
				ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1		01/13/99 2324	Michelle J. Kolodziejewski
3337	PAH Water Extraction	SW-846 3510C	1		12/31/98 0845	Joseph S. Feister
8213	BTEX (8021)	SW-846 8021B	1		01/03/99 1817	Jodie L. Buckwalter



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681





LLI Sample No. 3064362
 MW-6S-04 Grab Water Sample
 Moss-American Superfund Site - Milwaukee, WI

Group No. 646714
 Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH

1861 PAH's in Water		Batch: 983640007A									

3280	Naphthalene 0.79 ug/l	N.D.		81	82	1	66			37	120
3281	Acenaphthylene 0.79 ug/l	N.D.		86	89	1	71			41	135
3282	Acenaphthene 0.79 ug/l	N.D.		86	89	1	71			38	135
3283	Fluorene 0.17 ug/l	N.D.		89	93	2	75			41	140
3284	Phenanthrene 0.045 ug/l	N.D.		88	93	2	75			48	152
3285	Anthracene 0.030 ug/l	N.D.		84	89	3	73			42	143
3286	Fluoranthene 0.020 ug/l	N.D.		89	94	3	76			48	155
3287	Pyrene 0.18 ug/l	N.D.		91	96	2	78			51	146
3288	Benzo(a)anthracene 0.018 ug/l	N.D.		87	91	2	74			52	146
3289	Chrysene 0.058 ug/l	N.D.		88	91	1	75			56	145
3290	Benzo(b)fluoranthene 0.034 ug/l	N.D.		88	92	1	76			59	141
3291	Benzo(k)fluoranthene 0.027 ug/l	N.D.		89	92	1	76			60	137
3292	Benzo(a)pyrene 0.022 ug/l	N.D.		85	89	2	72			42	158
3293	Dibenzo(a,h)anthracene 0.046 ug/l	N.D.		87	91	2	75			49	142
3294	Benzo(g,h,i)perylene 0.097 ug/l	N.D.		90	93	1	77			46	148
3295	Indeno(1,2,3-cd)pyrene 0.063 ug/l	N.D.		89	92	1	75			64	134

8213 BTEX (8021)		Batch: 99003A68									

0776	Benzene 0.2 ug/l	N.D.		100	101	1	97			81	124
0777	Toluene 0.2 ug/l	N.D.		97	98	1	94			84	119
0778	Ethylbenzene 0.2 ug/l	N.D.		95	96	1	92			82	118
0779	Total Xylenes 0.6 ug/l	N.D.		93	93	1	91			81	120





LLI Sample No. 3064362

MW-6S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646714
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	74	22	131
		Triphenyle	68	60	120
8213 BTEX (8021)		TFT	101	77	125



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 3064361

Collected: 12/29/98 at 14:15 by JC

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

MW-09S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W09S- SDG#: MOS06-05

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		UNITS
		RESULTS	METHOD DETECTION LIMIT	
1861	PAH's in Water			See Page 2
8213	BTEX (8021)			See Page 3

1 COPY TO Kerr-McGee Corporation
1 COPY TO Roy F. Weston
1 COPY TO Data Package Group

ATTN: Garet Van de Steeg, PhD
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
12:47:10 D 0003 14 128410 646714
232 0.00 00021753 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681





LLI Sample No. WW **3064361**
Collected: 12/29/98 at 14:15 by JC

Submitted: 12/30/98 Reported: 1/15/99
Discard: 2/15/99

MW-09S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W09S- SDG#: MOS06-05

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.77	ug/l
3281	Acenaphthylene	N.D.	0.77	ug/l
3282	Acenaphthene	N.D.	0.77	ug/l
3283	Fluorene	N.D.	0.16	ug/l
3284	Phenanthrene	N.D.	0.045	ug/l
3285	Anthracene	N.D.	0.030	ug/l
3286	Fluoranthene	0.068 J	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	0.027 J	0.017	ug/l
3289	Chrysene	0.071 J	0.057	ug/l
3290	Benzo(b)fluoranthene	0.087	0.034	ug/l
3291	Benzo(k)fluoranthene	0.027 J	0.026	ug/l
3292	Benzo(a)pyrene	0.104	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.046	ug/l
3294	Benzo(g,h,i)perylene	0.264 J	0.096	ug/l
3295	Indeno(1,2,3-cd)pyrene	0.197 J	0.062	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/4/97





LLI Sample No. WW 3064361

Collected: 12/29/98 at 14:15 by JC

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

MW-09S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W09S- SDG#: MOS06-05

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	METHOD DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.2	ug/l
0777	Toluene	N.D.	0.2	ug/l
0778	Ethylbenzene	N.D.	0.2	ug/l
0779	Total Xylenes	N.D.	0.6	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Michele Turner, B.A.
Manager, Volatiles



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 3064361

Collected: 12/29/98 at 14:15 by JC

Submitted: 12/30/98

MW-09S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W09S- SDG#: MOS06-05

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	01/13/99 2302	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	12/31/98 0845	Joseph S. Feister
8213	BTEX (8021)	SW-846 8021B	1	01/04/99 1722	Jodie L. Buckwalter



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681





LLI Sample No. 3064361
MW-09S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646714
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LIMITS HIGH

1861 PAH's in Water		Batch: 983640007A									

3280	Naphthalene										
	0.77 ug/l	N.D.		81	82	1	66			37	120
3281	Acenaphthylene										
	0.77 ug/l	N.D.		86	89	1	71			41	135
3282	Acenaphthene										
	0.77 ug/l	N.D.		86	89	1	71			38	135
3283	Fluorene										
	0.16 ug/l	N.D.		89	93	2	75			41	140
3284	Phenanthrene										
	0.045 ug/l	N.D.		88	93	2	75			48	152
3285	Anthracene										
	0.030 ug/l	N.D.		84	89	3	73			42	143
3286	Fluoranthene										
	0.019 ug/l	N.D.		89	94	3	76			48	155
3287	Pyrene										
	0.17 ug/l	N.D.		91	96	2	78			51	146
3288	Benzo(a)anthracene										
	0.017 ug/l	N.D.		87	91	2	74			52	146
3289	Chrysene										
	0.057 ug/l	N.D.		88	91	1	75			56	145
3290	Benzo(b)fluoranthene										
	0.034 ug/l	N.D.		88	92	1	76			59	141
3291	Benzo(k)fluoranthene										
	0.026 ug/l	N.D.		89	92	1	76			60	137
3292	Benzo(a)pyrene										
	0.021 ug/l	N.D.		85	89	2	72			42	158
3293	Dibenzo(a,h)anthracene										
	0.046 ug/l	N.D.		87	91	2	75			49	142
3294	Benzo(g,h,i)perylene										
	0.096 ug/l	N.D.		90	93	1	77			46	148
3295	Indeno(1,2,3-cd)pyrene										
	0.062 ug/l	N.D.		89	92	1	75			64	134

8213 BTEX (8021)		Batch: 99003A68									

0776	Benzene										
	0.2 ug/l	N.D.		100	101	1	97			81	124
0777	Toluene										
	0.2 ug/l	N.D.		97	98	1	94			84	119
0778	Ethylbenzene										
	0.2 ug/l	N.D.		95	96	1	92			82	118
0779	Total Xylenes										
	0.6 ug/l	N.D.		93	93	1	91			81	120



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. 3064361
MW-09S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646714
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	73	22	131
		Triphenyle	73	60	120
8213 BTEX (8021)		TFT	100	77	125



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 3064369

Collected: 12/29/98 at 12:00 by JC

Submitted: 12/30/98 Reported: 1/15/99
Discard: 2/15/99

MW-10S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W10S- SDG#: MOS06-11

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED	
		RESULTS	METHOD DETECTION LIMIT UNITS
1861	PAH's in Water		See Page 2
8213	BTEX (8021)		See Page 3

1 COPY TO Kerr-McGee Corporation
1 COPY TO Roy F. Weston
1 COPY TO Data Package Group

ATTN: Garet Van de Steeg, PhD
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
12:55:16 D 0003 14 128410 646714
232 0.00 00021753 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681





LLI Sample No. WW 3064369

Collected: 12/29/98 at 12:00 by JC

Submitted: 12/30/98 Reported: 1/15/99
Discard: 2/15/99

MW-10S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W10S- SDG#: MOS06-11

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.77	ug/l
3281	Acenaphthylene	N.D.	0.77	ug/l
3282	Acenaphthene	N.D.	0.77	ug/l
3283	Fluorene	N.D.	0.16	ug/l
3284	Phenanthrene	N.D.	0.045	ug/l
3285	Anthracene	N.D.	0.030	ug/l
3286	Fluoranthene	N.D.	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	N.D.	0.057	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.034	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.046	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.096	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.062	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681





LLI Sample No. WW 3064369

Collected: 12/29/98 at 12:00 by JC

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

MW-10S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W10S- SDG#: MOS06-11

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION	LIMIT UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.2	ug/l
0777	Toluene	N.D.	0.2	ug/l
0778	Ethylbenzene	N.D.	0.2	ug/l
0779	Total Xylenes	N.D.	0.6	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Michele Turner, B.A.
Manager, Volatiles



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681





LLI Sample No. WW 3064369

Collected: 12/29/98 at 12:00 by JC

Submitted: 12/30/98

Account No: 07802 Kerr-McGee Corporation P.O. Box 25861 Oklahoma City OK 73125

MW-10S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W10S- SDG#: MOS06-11

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL	ID DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	01/14/99 0111	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	12/31/98 0845	Joseph S. Feister
8213	BTEX (8021)	SW-846 8021B	1	01/03/99 2002	Jodie L. Buckwalter



Lancaster Laboratories
 2425 New Holland Pike
 PO Box 12425
 Lancaster, PA 17605-2425
 717-656-2300 Fax: 717-656-2681





LLI Sample No. 3064369

MW-10S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646714
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH

1861 PAH's in Water		Batch: 983640007A									

3280	Naphthalene 0.77 ug/l	N.D.		81	82	1	66			37	120
3281	Acenaphthylene 0.77 ug/l	N.D.		86	89	1	71			41	135
3282	Acenaphthene 0.77 ug/l	N.D.		86	89	1	71			38	135
3283	Fluorene 0.16 ug/l	N.D.		89	93	2	75			41	140
3284	Phenanthrene 0.045 ug/l	N.D.		88	93	2	75			48	152
3285	Anthracene 0.030 ug/l	N.D.		84	89	3	73			42	143
3286	Fluoranthene 0.019 ug/l	N.D.		89	94	3	76			48	155
3287	Pyrene 0.17 ug/l	N.D.		91	96	2	78			51	146
3288	Benzo(a)anthracene 0.017 ug/l	N.D.		87	91	2	74			52	146
3289	Chrysene 0.057 ug/l	N.D.		88	91	1	75			56	145
3290	Benzo(b)fluoranthene 0.034 ug/l	N.D.		88	92	1	76			59	141
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.		89	92	1	76			60	137
3292	Benzo(a)pyrene 0.021 ug/l	N.D.		85	89	2	72			42	158
3293	Dibenzo(a,h)anthracene 0.046 ug/l	N.D.		87	91	2	75			49	142
3294	Benzo(g,h,i)perylene 0.096 ug/l	N.D.		90	93	1	77			46	148
3295	Indeno(1,2,3-cd)pyrene 0.062 ug/l	N.D.		89	92	1	75			64	134

8213 BTEX (8021)		Batch: 99003A68									

0776	Benzene 0.2 ug/l	N.D.		100	101	1	97			81	124
0777	Toluene 0.2 ug/l	N.D.		97	98	1	94			84	119
0778	Ethylbenzene 0.2 ug/l	N.D.		95	96	1	92			82	118
0779	Total Xylenes 0.6 ug/l	N.D.		93	93	1	91			81	120



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681





LLI Sample No. **3064369**

MW-10S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646714
Kerr-McGee Corporation

SURROGATE SUMMARY

	TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
				LOW	HIGH
1861 PAH's in Water		Nitrobenz	74	22	131
		Triphenyle	75	60	120
8213 BTEX (8021)		TFT	100	77	125



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 3063732

Collected: 12/28/98 at 15:00 by JC

Submitted: 12/29/98 Reported: 1/15/99
Discard: 2/15/99

MW-13S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
MW13S SDG#: MOS06-01

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

AS RECEIVED
METHOD
RESULTS DETECTION LIMIT UNITS

PAH's in Water

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
3280	Naphthalene	N.D.	J	0.77	ug/l
3281	Acenaphthylene	N.D.	J	0.77	ug/l
3282	Acenaphthene	N.D.	J	0.77	ug/l
3283	Fluorene	N.D.	J	0.16	ug/l
3284	Phenanthrene	0.189	J	0.044	ug/l
3285	Anthracene	N.D.	J	0.030	ug/l
3286	Fluoranthene	0.21	J	0.019	ug/l
3287	Pyrene	N.D.	J	0.17	ug/l
3288	Benzo(a)anthracene	0.048	J	0.017	ug/l
3289	Chrysene	0.081	J	0.057	ug/l
3290	Benzo(b)fluoranthene	0.057	J	0.034	ug/l
3291	Benzo(k)fluoranthene	0.030	J	0.026	ug/l
3292	Benzo(a)pyrene	0.055	J	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	J	0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.	J	0.095	ug/l
3295	Indeno(1,2,3-cd)pyrene	0.074	J	0.062	ug/l

T. Bullock
12 Feb 99

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 3063732

Collected: 12/28/98 at 15:00 by JC

Submitted: 12/29/98 Reported: 1/15/99

Discard: 2/15/99

MW-13S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
MW13S SDG#: MOS06-01

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.2	ug/l
0777	Toluene	N.D.	0.2	ug/l
0778	Ethylbenzene	N.D.	0.2	ug/l
0779	Total Xylenes	N.D.	0.6	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Michele Turner, B.A.
Manager, Volatiles



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681





LLI Sample No. WW 3063732

Collected: 12/28/98 at 15:00 by JC

Submitted: 12/29/98

MW-13S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
MW13S SDG#: MOS06-01

Account No: 07802 Kerr-McGee Corporation P.O. Box 25861 Oklahoma City OK 73125

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS		ANALYST
				ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1		01/13/99 2219	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1		12/31/98 0845	Joseph S. Feister
8213	BTEX (8021)	SW-846 8021B	1		01/02/99 1539	Barry R. Shoemaker



Lancaster Laboratories
 2425 New Holland Pike
 PO Box 12425
 Lancaster, PA 17605-2425
 717-656-2300 Fax: 717-656-2681





LLI Sample No. 3063732

MW-13S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646570
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH

1861 PAH's in Water		Batch: 983640007A									

3280	Naphthalene										
	0.77 ug/l	N.D.		81	82	1	66			37	120
3281	Acenaphthylene										
	0.77 ug/l	N.D.		86	89	1	71			41	135
3282	Acenaphthene										
	0.77 ug/l	N.D.		86	89	1	71			38	135
3283	Fluorene										
	0.16 ug/l	N.D.		89	93	2	75			41	140
3284	Phenanthrene										
	0.044 ug/l	N.D.		88	93	2	75			48	152
3285	Anthracene										
	0.030 ug/l	N.D.		84	89	3	73			42	143
3286	Fluoranthene										
	0.019 ug/l	N.D.		89	94	3	76			48	155
3287	Pyrene										
	0.17 ug/l	N.D.		91	96	2	78			51	146
3288	Benzo(a)anthracene										
	0.017 ug/l	N.D.		87	91	2	74			52	146
3289	Chrysene										
	0.057 ug/l	N.D.		88	91	1	75			56	145
3290	Benzo(b)fluoranthene										
	0.034 ug/l	N.D.		88	92	1	76			59	141
3291	Benzo(k)fluoranthene										
	0.026 ug/l	N.D.		89	92	1	76			60	137
3292	Benzo(a)pyrene										
	0.021 ug/l	N.D.		85	89	2	72			42	158
3293	Dibenzo(a,h)anthracene										
	0.045 ug/l	N.D.		87	91	2	75			49	142
3294	Benzo(g,h,i)perylene										
	0.095 ug/l	N.D.		90	93	1	77			46	148
3295	Indeno(1,2,3-cd)pyrene										
	0.062 ug/l	N.D.		89	92	1	75			64	134

8213 BTEX (8021)		Batch: 99002A68									

0776	Benzene										
	0.2 ug/l	N.D.		97	96	1	95			81	124
0777	Toluene										
	0.2 ug/l	N.D.		94	93	1	93			84	119
0778	Ethylbenzene										
	0.2 ug/l	N.D.		92	91	1	91			82	118
0779	Total Xylenes										
	0.6 ug/l	N.D.		90	89	0	90			81	120



Lancaster Laboratories
2425 Rev. Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681





LLI Sample No. 3063732

MW-13S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646570
Kerr-McGee Corporation

SURROGATE SUMMARY

	TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
				LOW	HIGH
1861 PAH's in Water		Nitrobenz	70	22	131
		Triphenyle	74	60	120
8213 BTEX (8021)		TFT	100	77	125



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax. 717-656-2681

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/4/97





LLI Sample No. WW 3065187

Collected: 12/30/98 at 15:00 by JC

Submitted: 12/31/98 Reported: 1/19/99

Discard: 2/19/99

MW-20S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
20S04 SDG#: MOS06-21

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		UNITS
		RESULTS	METHOD DETECTION LIMIT	
1861	PAH's in Water			See Page 2
8213	BTEX (8021)			See Page 3

1 COPY TO Kerr-McGee Corporation
1 COPY TO Roy F. Weston
1 COPY TO Data Package Group

ATTN: Garet Van de Steeg, PhD
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
19:51:26 D 0003 8 128410 646933
232 0.00 00021753 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681





LLI Sample No. WW 3065187

Collected: 12/30/98 at 15:00 by JC

Submitted: 12/31/98 Reported: 1/19/99

Discard: 2/19/99

MW-20S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
20S04 SDG#: MOS06-21

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Re1.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.80	ug/l
3281	Acenaphthylene	N.D.	0.80	ug/l
3282	Acenaphthene	N.D.	0.80	ug/l
3283	Fluorene	N.D.	0.17	ug/l
3284	Phenanthrene	N.D.	0.046	ug/l
3285	Anthracene	N.D.	0.031	ug/l
3286	Fluoranthene	N.D.	0.020	ug/l
3287	Pyrene	N.D.	0.18	ug/l
3288	Benzo(a)anthracene	N.D.	0.018	ug/l
3289	Chrysene	N.D.	0.059	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.035	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.027	ug/l
3292	Benzo(a)pyrene	N.D.	0.022	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.047	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.099	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.064	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

see reverse side for explanation of symbols and abbreviations

2216 Rev 8/4/97





LLI Sample No. WW 3065187

Collected: 12/30/98 at 15:00 by JC

Submitted: 12/31/98 Reported: 1/19/99

Discard: 2/19/99

MW-20S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
20S04 SDG#: MOS06-21

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.2	ug/l
0777	Toluene	N.D.	0.2	ug/l
0778	Ethylbenzene	N.D.	0.2	ug/l
0779	Total Xylenes	N.D.	0.6	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Michele Turner, B.A.
Manager, Volatiles



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 3065187

Collected: 12/30/98 at 15:00 by JC

Submitted: 12/31/98

MW-20S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
20S04 SDG#: MOS06-21

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS		ANALYST
				ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1		01/16/99 0841	Michelle J. Kolodziejewski
3337	PAH Water Extraction	SW-846 3510C	1		01/04/99 0700	Nathaniel R. Kurtz
8213	BTEX (8021)	SW-846 8021B	1		01/05/99 0336	Jodie L. Buckwalter



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681





LLI Sample No. 3065187

MW-20S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646933
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH

1861 PAH's in Water		Batch: 990020000A									

3280	Naphthalene 0.80 ug/l	N.D.		83	82	0	80			37	120
3281	Acenaphthylene 0.80 ug/l	N.D.		86	86	0	84			41	135
3282	Acenaphthene 0.80 ug/l	N.D.		86	84	1	82			38	135
3283	Fluorene 0.17 ug/l	N.D.		96	91	3	87			41	140
3284	Phenanthrene 0.046 ug/l	N.D.		87	85	2	86			48	152
3285	Anthracene 0.031 ug/l	N.D.		68	67	1	78			42	143
3286	Fluoranthene 0.020 ug/l	N.D.		-8	12	10	90			48	155
3287	Pyrene 0.18 ug/l	N.D.		80	81	1	97			51	146
3288	Benzo(a)anthracene 0.018 ug/l	N.D.		30	43	13	92			52	146
3289	Chrysene 0.059 ug/l	N.D.		80	81	1	93			56	145
3290	Benzo(b)fluoranthene 0.035 ug/l	N.D.		67	69	2	94			59	141
3291	Benzo(k)fluoranthene 0.027 ug/l	N.D.		78	80	3	94			60	137
3292	Benzo(a)pyrene 0.022 ug/l	N.D.		67	70	3	92			42	158
3293	Dibenzo(a,h)anthracene 0.047 ug/l	N.D.		96	95	1	95			49	142
3294	Benzo(g,h,i)perylene 0.099 ug/l	N.D.		102	100	1	99			46	148
3295	Indeno(1,2,3-cd)pyrene 0.064 ug/l	N.D.		90	90	0	91			64	134

8213 BTEX (8021)		Batch: 99004A68									

0776	Benzene 0.2 ug/l	N.D.		103	102	2	98			81	124
0777	Toluene 0.2 ug/l	N.D.		97	96	1	95			84	119
0778	Ethylbenzene 0.2 ug/l	N.D.		96	95	1	93			82	118
0779	Total Xylenes 0.6 ug/l	N.D.		94	94	0	91			81	120



Lancaster Laboratories
2425 New Holland Pkwy
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev 8/4/97





LLI Sample No. 3065187

MW-20S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646933
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	79	22	131
	Triphenyle	80	60	120
8213 BTEX (8021)	TFT	99	77	125



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/4/97





LLI Sample No. WW 3063733

Collected: 12/28/98 at 16:00 by JC

Submitted: 12/29/98 Reported: 1/15/99

Discard: 2/15/99

MW-25S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
25S04 SDG#: MOS06-02

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Re1.

CAT NO.	ANALYSIS NAME	AS RECEIVED	
		RESULTS	METHOD DETECTION LIMIT UNITS
1861	PAH's in Water		See Page 2
8213	BTEX (8021)		See Page 3

1 COPY TO Kerr-McGee Corporation
1 COPY TO Data Package Group
1 COPY TO Roy F. Weston

ATTN: Garet Van de Sterg, PhD

ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
12:23:23 D 0003 3 128410 646570
232 0.00 00021753 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2661





LLI Sample No. **WW 3063733**

Collected: 12/28/98 at 16:00 by JC

Submitted: 12/29/98 Reported: 1/15/99
Discard: 2/15/99

MW-25S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
25S04 SDG#: MOS06-02

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Re1.

CAT NO.	ANALYSIS NAME	AS RECEIVED		UNITS
		RESULTS	METHOD DETECTION LIMIT	
PAH's in Water				
3280	Naphthalene	N.D.	0.76	ug/l
3281	Acenaphthylene	N.D.	0.76	ug/l
3282	Acenaphthene	N.D.	0.76	ug/l
3283	Fluorene	N.D.	0.16	ug/l
3284	Phenanthrene	0.073 J	0.044	ug/l
3285	Anthracene	N.D.	0.030	ug/l
3286	Fluoranthene	N.D.	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	N.D.	0.056	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.033	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.094	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.061	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 3063733

Collected: 12/28/98 at 16:00 by JC

Submitted: 12/29/98 Reported: 1/15/99

Discard: 2/15/99

MW-25S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
25S04 SDG#: MOS06-02

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.2	ug/l
0777	Toluene	N.D.	0.2	ug/l
0778	Ethylbenzene	N.D.	0.2	ug/l
0779	Total Xylenes	N.D.	0.6	ug/l

The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt.

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Michele Turner, B.A.
Manager, Volatiles



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681





LLI Sample No. WW 3063733

Collected: 12/28/98 at 16:00 by JC

Submitted: 12/29/98

MW-25S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
25S04 SDG#: MOS06-02

Account No: 07802 Kerr-McGee Corporation P.O. Box 25861 Oklahoma City OK 73125

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS		ANALYST
				ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1		01/13/99 2241	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1		12/31/98 0845	Joseph S. Feister
8213	BTEX (8021)	SW-846 8021B	1		01/02/99 1504	Barry R. Shoemaker



Lancaster Laboratories
 2425 New Holland Pike
 PO Box 12425
 Lancaster, PA 17605-2425
 717-656-2300 Fax: 717-656-2681





LLI Sample No. 3063733
 MW-25S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646570
 Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH

1861 PAH's in Water		Batch: 983640007A									

3280	Naphthalene 0.76 ug/l	N.D.		81	82	1	66			37	120
3281	Acenaphthylene 0.76 ug/l	N.D.		86	89	1	71			41	135
3282	Acenaphthene 0.76 ug/l	N.D.		86	89	1	71			38	135
3283	Fluorene 0.16 ug/l	N.D.		89	93	2	75			41	140
3284	Phenanthrene 0.044 ug/l	N.D.		88	93	2	75			48	152
3285	Anthracene 0.030 ug/l	N.D.		84	89	3	73			42	143
3286	Fluoranthene 0.019 ug/l	N.D.		89	94	3	76			48	155
3287	Pyrene 0.17 ug/l	N.D.		91	96	2	78			51	146
3288	Benzo(a)anthracene 0.017 ug/l	N.D.		87	91	2	74			52	146
3289	Chrysene 0.056 ug/l	N.D.		88	91	1	75			56	145
3290	Benzo(b)fluoranthene 0.033 ug/l	N.D.		88	92	1	76			59	141
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.		89	92	1	76			60	137
3292	Benzo(a)pyrene 0.021 ug/l	N.D.		85	89	2	72			42	158
3293	Dibenzo(a,h)anthracene 0.045 ug/l	N.D.		87	91	2	75			49	142
3294	Benzo(g,h,i)perylene 0.094 ug/l	N.D.		90	93	1	77			46	148
3295	Indeno(1,2,3-cd)pyrene 0.061 ug/l	N.D.		89	92	1	75			64	134

8213 BTEX (8021)		Batch: 99002A68									

0776	Benzene 0.2 ug/l	N.D.		97	96	1	95			81	124
0777	Toluene 0.2 ug/l	N.D.		94	93	1	93			84	119
0778	Ethylbenzene 0.2 ug/l	N.D.		92	91	1	91			82	118
0779	Total Xylenes 0.6 ug/l	N.D.		90	89	0	90			81	120





LLI Sample No. 3063733

MW-25S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646570
Kerr-McGee Corporation

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	75	22	131
	Triphenyle	75	60	120
8213 BTEX (8021)	TFT	105	77	125



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 3064372

Collected: 12/29/98 at 09:30 by JC

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

MW-26S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W26S- SDG#: MOS06-14

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED	
		RESULTS	METHOD DETECTION LIMIT UNITS
1861	PAH's in Water		See Page 2
8213	BTEX (8021)		See Page 3

1 COPY TO Kerr-McGee Corporation
1 COPY TO Roy F. Weston
1 COPY TO Data Package Group

ATTN: Garet Van de Steeg, PhD
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
12:57:32 D 0003 14 128410 646714
232 0.00 00021753 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681





LLI Sample No. WW 3064372

Collected: 12/29/98 at 09:30 by JC

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

MW-26S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W26S- SDG#: MOS06-14

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.79	ug/l
3281	Acenaphthylene	N.D.	0.79	ug/l
3282	Acenaphthene	N.D.	0.79	ug/l
3283	Fluorene	N.D.	0.17	ug/l
3284	Phenanthrene	N.D.	0.046	ug/l
3285	Anthracene	N.D.	0.031	ug/l
3286	Fluoranthene	0.023 J	0.020	ug/l
3287	Pyrene	N.D.	0.18	ug/l
3288	Benzo(a)anthracene	N.D.	0.018	ug/l
3289	Chrysene	N.D.	0.059	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.035	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.027	ug/l
3292	Benzo(a)pyrene	N.D.	0.022	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.047	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.098	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.064	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev 8/4/97





LLI Sample No. WW 3064372

Collected: 12/29/98 at 09:30 by JC

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

MW-26S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W26S- SDG#: MOS06-14

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	METHOD DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.2	ug/l
0777	Toluene	N.D.	0.2	ug/l
0778	Ethylbenzene	N.D.	0.2	ug/l
0779	Total Xylenes	N.D.	0.6	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Michele Turner, B.A.
Manager, Volatiles



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 3064372

Collected: 12/29/98 at 09:30 by JC

Submitted: 12/30/98

MW-26S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W26S- SDG#: MOS06-14

Account No: 07802 Kerr-McGee Corporation P.O. Box 25861 Oklahoma City OK 73125

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS		ANALYST
				ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1		01/14/99 0133	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1		12/31/98 0845	Joseph S. Feister
8213	BTEX (8021)	SW-846 8021B	1		01/04/99 0115	Jodie L. Buckwalter



Lancaster Laboratories
 2425 New Holland Pike
 PO Box 12425
 Lancaster, PA 17605-2425
 717-656-2300 Fax 717-656-2681





LLI Sample No. 3064372

MW-26S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646714
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH

1861	PAH's in Water										
		Batch: 983640007A									
3280	Naphthalene 0.79 ug/l	N.D.		81	82	1	66			37	120
3281	Acenaphthylene 0.79 ug/l	N.D.		86	89	1	71			41	135
3282	Acenaphthene 0.79 ug/l	N.D.		86	89	1	71			38	135
3283	Fluorene 0.17 ug/l	N.D.		89	93	2	75			41	140
3284	Phenanthrene 0.046 ug/l	N.D.		88	93	2	75			48	152
3285	Anthracene 0.031 ug/l	N.D.		84	89	3	73			42	143
3286	Fluoranthene 0.020 ug/l	N.D.		89	94	3	76			48	155
3287	Pyrene 0.18 ug/l	N.D.		91	96	2	78			51	146
3288	Benzo(a)anthracene 0.018 ug/l	N.D.		87	91	2	74			52	146
3289	Chrysene 0.059 ug/l	N.D.		88	91	1	75			56	145
3290	Benzo(b)fluoranthene 0.035 ug/l	N.D.		88	92	1	76			59	141
3291	Benzo(k)fluoranthene 0.027 ug/l	N.D.		89	92	1	76			60	137
3292	Benzo(a)pyrene 0.022 ug/l	N.D.		85	89	2	72			42	158
3293	Dibenzo(a,h)anthracene 0.047 ug/l	N.D.		87	91	2	75			49	142
3294	Benzo(g,h,i)perylene 0.098 ug/l	N.D.		90	93	1	77			46	148
3295	Indeno(1,2,3-cd)pyrene 0.064 ug/l	N.D.		89	92	1	75			64	134

8213	BTEX (8021)										
		Batch: 99003A68									
0776	Benzene 0.2 ug/l	N.D.		100	101	1	97			81	124
0777	Toluene 0.2 ug/l	N.D.		97	98	1	94			84	119
0778	Ethylbenzene 0.2 ug/l	N.D.		95	96	1	92			82	118
0779	Total Xylenes 0.6 ug/l	N.D.		93	93	1	91			81	120



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. 3064372

MW-26S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646714
Kerr-McGee Corporation

TRIAL ID	SURROGATE	SUMMARY	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	72	22	131
	Triphenyle	72	60	120
8213 BTEX (8021)	TFT	100	77	125



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 3065186

Collected: 12/30/98 at 11:30 by JC

Submitted: 12/31/98 Reported: 1/19/99

Discard: 2/19/99

MW-27S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
27S04 SDG#: MOS06-20

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED	
		RESULTS	METHOD DETECTION LIMIT UNITS
1861	PAH's in Water		See Page 2
8213	BTEX (8021)		See Page 3

1 COPY TO Kerr-McGee Corporation
1 COPY TO Roy F. Weston
1 COPY TO Data Package Group

ATTN: Garet Van de Steeg, PhD
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
19:50:38 D 0003 8 128410 646933
232 0.00 00021753 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2581





LLI Sample No. WW 3065186

Collected: 12/30/98 at 11:30 by JC

Submitted: 12/31/98 Reported: 1/19/99
Discard: 2/19/99

MW-27S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
27S04 SDG#: MOS06-20

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		METHOD	
		RESULTS		DETECTION LIMIT	UNITS
PAH's in Water					
3280	Naphthalene	1.01	J	0.80	ug/l
3281	Acenaphthylene	N.D.		0.80	ug/l
3282	Acenaphthene	N.D.		0.80	ug/l
3283	Fluorene	N.D.		0.17	ug/l
3284	Phenanthrene	N.D.		0.046	ug/l
3285	Anthracene	N.D.		0.031	ug/l
3286	Fluoranthene	0.027	J	0.020	ug/l
3287	Pyrene	N.D.		0.18	ug/l
3288	Benzo(a)anthracene	N.D.		0.018	ug/l
3289	Chrysene	N.D.		0.059	ug/l
3290	Benzo(b)fluoranthene	N.D.		0.035	ug/l
3291	Benzo(k)fluoranthene	N.D.		0.027	ug/l
3292	Benzo(a)pyrene	N.D.		0.022	ug/l
3293	Dibenzo(a,h)anthracene	N.D.		0.047	ug/l
3294	Benzo(g,h,i)perylene	N.D.		0.099	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.		0.064	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/4/97





LLI Sample No. WW 3065186

Collected: 12/30/98 at 11:30 by JC

Submitted: 12/31/98 Reported: 1/19/99

Discard: 2/19/99

MW-27S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
27S04 SDG#: MOS06-20

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.2	ug/l
0777	Toluene	N.D.	0.2	ug/l
0778	Ethylbenzene	N.D.	0.2	ug/l
0779	Total Xylenes	N.D.	0.6	ug/l

The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt.

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Michele Turner, B.A.
Manager, Volatiles



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681





LLI Sample No. WW 3065186

Collected: 12/30/98 at 11:30 by JC

Submitted: 12/31/98

MW-27S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
27S04 SDG#: MOS06-20

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS		ANALYST
				ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1		01/16/99 0820	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1		01/04/99 0700	Nathaniel R. Kurtz
8213	BTEX (8021)	SW-846 8021B	1		01/05/99 0301	Jodie L. Buckwalter



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681





LLI Sample No. 3065186

MW-27S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646933
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH

1861 PAH's in Water		Batch: 990020000A									

3280	Naphthalene 0.80 ug/l	N.D.		83	82	0	80			37	120
3281	Acenaphthylene 0.80 ug/l	N.D.		86	86	0	84			41	135
3282	Acenaphthene 0.80 ug/l	N.D.		86	84	1	82			38	135
3283	Fluorene 0.17 ug/l	N.D.		96	91	3	87			41	140
3284	Phenanthrene 0.046 ug/l	N.D.		87	85	2	86			48	152
3285	Anthracene 0.031 ug/l	N.D.		68	67	1	78			42	143
3286	Fluoranthene 0.020 ug/l	N.D.		-8	12	10	90			48	155
3287	Pyrene 0.18 ug/l	N.D.		80	81	1	97			51	146
3288	Benzo(a)anthracene 0.018 ug/l	N.D.		30	43	13	92			52	146
3289	Chrysene 0.059 ug/l	N.D.		80	81	1	93			56	145
3290	Benzo(b)fluoranthene 0.035 ug/l	N.D.		67	69	2	94			59	141
3291	Benzo(k)fluoranthene 0.027 ug/l	N.D.		78	80	3	94			60	137
3292	Benzo(a)pyrene 0.022 ug/l	N.D.		67	70	3	92			42	158
3293	Dibenzo(a,h)anthracene 0.047 ug/l	N.D.		96	95	1	95			49	142
3294	Benzo(g,h,i)perylene 0.099 ug/l	N.D.		102	100	1	99			46	148
3295	Indeno(1,2,3-cd)pyrene 0.064 ug/l	N.D.		90	90	0	91			64	134

8213 BTEX (8021)		Batch: 99004A68									

0776	Benzene 0.2 ug/l	N.D.		103	102	2	98			81	124
0777	Toluene 0.2 ug/l	N.D.		97	96	1	95			84	119
0778	Ethylbenzene 0.2 ug/l	N.D.		96	95	1	93			82	118
0779	Total Xylenes 0.6 ug/l	N.D.		94	94	0	91			81	120



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/4/97





LLI Sample No. 3065186
 MW-27S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646933
 Kerr-McGee Corporation

SURROGATE SUMMARY

	TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
				LOW	HIGH
1861 PAH's in Water		Nitrobenz	75	22	131
		Triphenyle	76	60	120
8213 BTEX (8021)		TFT	100	77	125



Lancaster Laboratories
 2425 New Holland Pike
 PO Box 12425
 Lancaster, PA 17605-2425
 717-656-2300 Fax: 717-656-2681





LLI Sample No. WW 3064360

Collected: 12/29/98 at 16:10 by JC

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

MW-28S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W28S- SDG#: MOS06-04

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED	
		RESULTS	METHOD DETECTION LIMIT UNITS
1861	PAH's in Water		See Page 2
8213	BTEX (8021)		See Page 3

1 COPY TO Kerr-McGee Corporation
1 COPY TO Roy F. Weston
1 COPY TO Data Package Group

ATTN: Garet Van de Steeg, PhD
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
12:46:06 D 0003 14 128410 646714
232 0.00 00021753 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681





LLI Sample No. WW 3064360

Collected: 12/29/98 at 16:10 by JC

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

MW-28S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W28S- SDG#: MOS06-04

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION	LIMIT UNITS
PAH's in Water				
3280	Naphthalene	9.5	J	7.6 ug/l
3281	Acenaphthylene	N.D.		7.6 ug/l
3282	Acenaphthene	N.D.		7.6 ug/l
3283	Fluorene	N.D.		1.6 ug/l
3284	Phenanthrene	1.04	J	0.44 ug/l
3285	Anthracene	0.42	J	0.30 ug/l
3286	Fluoranthene	5.0		0.19 ug/l
3287	Pyrene	4.8	J	1.7 ug/l
3288	Benzo(a)anthracene	1.47		0.17 ug/l
3289	Chrysene	3.2		0.56 ug/l
3290	Benzo(b)fluoranthene	5.88		0.33 ug/l
3291	Benzo(k)fluoranthene	2.27		0.26 ug/l
3292	Benzo(a)pyrene	4.77		0.21 ug/l
3293	Dibenzo(a,h)anthracene	0.74	J	0.45 ug/l
3294	Benzo(g,h,i)perylene	6.9		0.94 ug/l
3295	Indeno(1,2,3-cd)pyrene	7.4		0.61 ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 3064360

Collected: 12/29/98 at 16:10 by JC

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

MW-28S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W28S- SDG#: MOS06-04

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD	DETECTION LIMIT UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.2	ug/l
0777	Toluene	N.D.	0.2	ug/l
0778	Ethylbenzene	N.D.	0.2	ug/l
0779	Total Xylenes	N.D.	0.6	ug/l

The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt.

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Michele Turner, B.A.
Manager, Volatiles



Lancaster Laboratories
2425 N. Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681





LLI Sample No. WW 3064360

Collected: 12/29/98 at 16:10 by JC

Submitted: 12/30/98

MW-28S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W28S- SDG#: MOS06-04

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	01/12/99 1542	Michelle J. Kolodziejwski
3337	PAH Water Extraction	SW-846 3510C	1	12/31/98 0845	Joseph S. Feister
8213	BTEX (8021)	SW-846 8021B	1	01/03/99 0234	Barry R. Shoemaker



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681





LLI Sample No. 3064360

MW-28S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646714
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH

1861 PAH's in Water											

3280	Naphthalene										
	7.6 ug/l	N.D.		81	82	1	66			37	120
3281	Acenaphthylene										
	7.6 ug/l	N.D.		86	89	1	71			41	135
3282	Acenaphthene										
	7.6 ug/l	N.D.		86	89	1	71			38	135
3283	Fluorene										
	1.6 ug/l	N.D.		89	93	2	75			41	140
3284	Phenanthrene										
	0.44 ug/l	N.D.		88	93	2	75			48	152
3285	Anthracene										
	0.30 ug/l	N.D.		84	89	3	73			42	143
3286	Fluoranthene										
	0.19 ug/l	N.D.		89	94	3	76			48	155
3287	Pyrene										
	1.7 ug/l	N.D.		91	96	2	78			51	146
3288	Benzo(a)anthracene										
	0.17 ug/l	N.D.		87	91	2	74			52	146
3289	Chrysene										
	0.56 ug/l	N.D.		88	91	1	75			56	145
3290	Benzo(b)fluoranthene										
	0.33 ug/l	N.D.		88	92	1	76			59	141
3291	Benzo(k)fluoranthene										
	0.26 ug/l	N.D.		89	92	1	76			60	137
3292	Benzo(a)pyrene										
	0.21 ug/l	N.D.		85	89	2	72			42	158
3293	Dibenzo(a,h)anthracene										
	0.45 ug/l	N.D.		87	91	2	75			49	142
3294	Benzo(g,h,i)perylene										
	0.94 ug/l	N.D.		90	93	1	77			46	148
3295	Indeno(1,2,3-cd)pyrene										
	0.61 ug/l	N.D.		89	92	1	75			64	134

8213 BTEX (8021)											

0776	Benzene										
	0.2 ug/l	N.D.		97	96	1	95			81	124
0777	Toluene										
	0.2 ug/l	N.D.		94	93	1	93			84	119
0778	Ethylbenzene										
	0.2 ug/l	N.D.		92	91	1	91			82	118
0779	Total Xylenes										
	0.6 ug/l	N.D.		90	89	0	90			81	120

Batch: 983640007A

Batch: 99002A68



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681





LLI Sample No. 3064360

MW-28S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646714
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	60	22	131
	Triphenyle	110	60	120
8213 BTEX (8021)	TFT	100	77	125



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 3064363

Collected: 12/29/98 at 14:50 by JC

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

MW-29S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W29S- SDG#: MOS06-07

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED	
		RESULTS	METHOD DETECTION LIMIT UNITS
1861	PAH's in Water		See Page 2
8213	BTEX (8021)		See Page 3

1 COPY TO Kerr-McGee Corporation
1 COPY TO Roy F. Weston
1 COPY TO Data Package Group

ATTN: Garet Van de Steeg, PhD
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
12:49:36 D 0003 14 128410 646714
232 0.00 00021753 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681





LLI Sample No. WW **3064363**

Collected: 12/29/98 at 14:50 by JC

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

MW-29S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W29S- SDG#: MOS06-07

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.81	ug/l
3281	Acenaphthylene	N.D.	0.81	ug/l
3282	Acenaphthene	N.D.	0.81	ug/l
3283	Fluorene	N.D.	0.17	ug/l
3284	Phenanthrene	N.D.	0.046	ug/l
3285	Anthracene	0.033 J	0.031	ug/l
3286	Fluoranthene	0.21	0.020	ug/l
3287	Pyrene	0.22 J	0.18	ug/l
3288	Benzo(a)anthracene	0.040 J	0.018	ug/l
3289	Chrysene	0.073 J	0.060	ug/l
3290	Benzo(b)fluoranthene	0.045 J	0.035	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.027	ug/l
3292	Benzo(a)pyrene	0.044 J	0.022	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.047	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.10	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.065	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Jennifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 3064363

Collected: 12/29/98 at 14:50 by JC

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

MW-29S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W29S- SDG#: MOS06-07

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.2	ug/l
0777	Toluene	N.D.	0.2	ug/l
0778	Ethylbenzene	N.D.	0.2	ug/l
0779	Total Xylenes	N.D.	0.6	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Michele Turner, B.A.
Manager, Volatiles



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 3064363

Collected: 12/29/98 at 14:50 by JC

Submitted: 12/30/98

MW-29S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
W29S- SDG#: MOS06-07

Account No: 07802
 Kerr-McGee Corporation
 P.O. Box 25861
 Oklahoma City OK 73125

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	01/14/99 0007	Michelle J. Kolodziejski
3337	PAH Water Extraction	SW-846 3510C	1	12/31/98 0845	Joseph S. Feister
8213	BTEX (8021)	SW-846 8021B	1	01/03/99 1852	Jodie L. Buckwalter



Lancaster Laboratories
 2425 New Holland Pike
 PO Box 12425
 Lancaster, PA 17605-2425
 717-656-2300 Fax: 717-656-2681





LLI Sample No. 3064363

MW-29S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646714
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH	
-----		Batch: 983640007A										
1861 PAH's in Water												

3280	Naphthalene											
	0.81 ug/l	N.D.		81	82	1	66			37	120	
3281	Acenaphthylene											
	0.81 ug/l	N.D.		86	89	1	71			41	135	
3282	Acenaphthene											
	0.81 ug/l	N.D.		86	89	1	71			38	135	
3283	Fluorene											
	0.17 ug/l	N.D.		89	93	2	75			41	140	
3284	Phenanthrene											
	0.046 ug/l	N.D.		88	93	2	75			48	152	
3285	Anthracene											
	0.031 ug/l	N.D.		84	89	3	73			42	143	
3286	Fluoranthene											
	0.020 ug/l	N.D.		89	94	3	76			48	155	
3287	Pyrene											
	0.18 ug/l	N.D.		91	96	2	78			51	146	
3288	Benzo(a)anthracene											
	0.018 ug/l	N.D.		87	91	2	74			52	146	
3289	Chrysene											
	0.060 ug/l	N.D.		88	91	1	75			56	145	
3290	Benzo(b)fluoranthene											
	0.035 ug/l	N.D.		88	92	1	76			59	141	
3291	Benzo(k)fluoranthene											
	0.027 ug/l	N.D.		89	92	1	76			60	137	
3292	Benzo(a)pyrene											
	0.022 ug/l	N.D.		85	89	2	72			42	158	
3293	Dibenzo(a,h)anthracene											
	0.047 ug/l	N.D.		87	91	2	75			49	142	
3294	Benzo(g,h,i)perylene											
	0.10 ug/l	N.D.		90	93	1	77			46	148	
3295	Indeno(1,2,3-cd)pyrene											
	0.065 ug/l	N.D.		89	92	1	75			64	134	
-----		Batch: 99003A68										
8213 BTEX (8021)												

0776	Benzene											
	0.2 ug/l	N.D.		100	101	1	97			81	124	
0777	Toluene											
	0.2 ug/l	N.D.		97	98	1	94			84	119	
0778	Ethylbenzene											
	0.2 ug/l	N.D.		95	96	1	92			82	118	
0779	Total Xylenes											
	0.6 ug/l	N.D.		93	93	1	91			81	120	



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev 8/4/97





LLI Sample No. 3064363

MW-29S-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646714
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	77	22	131
		Triphenyle	73	60	120
8213 BTEX (8021)		TFT	100	77	125



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 3065182

Collected: 12/30/98 at 10:30 by JC

Submitted: 12/31/98 Reported: 1/19/99

Discard: 2/19/99

TW-05-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
TW054 SDG#: MOS06-16

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED	
		RESULTS	METHOD DETECTION LIMIT UNITS
1861	PAH's in Water		See Page 2
8213	BTEX (8021)		See Page 3

1 COPY TO Kerr-McGee Corporation
1 COPY TO Roy F. Weston
1 COPY TO Data Package Group

ATTN: Garet Van de Steeg, PhD
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
19:47:29 D 0003 8 128410 646933
232 0.00 00021753 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681





LLI Sample No. WW 3065182

Collected: 12/30/98 at 10:30 by JC

Submitted: 12/31/98 Reported: 1/19/99
Discard: 2/19/99

TW-05-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
TW054 SDG#: MOS06-16

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		METHOD	
		RESULTS		DETECTION LIMIT	UNITS
PAH's in Water					
3280	Naphthalene	9.3	J	7.9	ug/l
3281	Acenaphthylene	15.2	J	7.9	ug/l
3282	Acenaphthene	110.		7.9	ug/l
3283	Fluorene	62.3		1.7	ug/l
3284	Phenanthrene	2.38	J	0.45	ug/l
3285	Anthracene	4.8		0.31	ug/l
3286	Fluoranthene	23.3		0.20	ug/l
3287	Pyrene	23.8		1.8	ug/l
3288	Benzo(a)anthracene	4.09		0.18	ug/l
3289	Chrysene	3.8		0.58	ug/l
3290	Benzo(b)fluoranthene	1.42		0.35	ug/l
3291	Benzo(k)fluoranthene	0.87		0.27	ug/l
3292	Benzo(a)pyrene	1.72		0.22	ug/l
3293	Dibenzo(a,h)anthracene	N.D.		0.46	ug/l
3294	Benzo(g,h,i)perylene	N.D.		1.0	ug/l
3295	Indeno(1,2,3-cd)pyrene	0.97	J	0.63	ug/l
The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.					

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/4/97





LLI Sample No. WW 3065182

Collected: 12/30/98 at 10:30 by JC

Submitted: 12/31/98 Reported: 1/19/99

Discard: 2/19/99

TW-05-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
TW054 SDG#: MOS06-16

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.2	ug/l
0777	Toluene	N.D.	0.2	ug/l
0778	Ethylbenzene	N.D.	0.2	ug/l
0779	Total Xylenes	N.D.	0.6	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Michele Turner, B.A.
Manager, Volatiles



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





Lancaster Laboratories

A division of Thermo Analytical Inc.

LLI Sample No. WW 3065182

Collected: 12/30/98 at 10:30 by JC

Submitted: 12/31/98

TW-05-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
TW054 SDG#: MOS06-16

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS		ANALYST
				ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1		01/16/99 0607	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1		01/04/99 0700	Nathanial R. Kurtz
8213	BTEX (8021)	SW-846 8021B	1		01/05/99 0226	Jodie L. Buckwalter



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681





LLI Sample No. 3065182

TW-05-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646933
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH
1861 PAH's in Water		Batch: 990020000A									
3280	Naphthalene 7.9 ug/l	N.D.		83	82	0	80			37	120
3281	Acenaphthylene 7.9 ug/l	N.D.		86	86	0	84			41	135
3282	Acenaphthene 7.9 ug/l	N.D.		86	84	1	82			38	135
3283	Fluorene 1.7 ug/l	N.D.		96	91	3	87			41	140
3284	Phenanthrene 0.45 ug/l	N.D.		87	85	2	86			48	152
3285	Anthracene 0.31 ug/l	N.D.		68	67	1	78			42	143
3286	Fluoranthene 0.20 ug/l	N.D.		-8	12	10	90			48	155
3287	Pyrene 1.8 ug/l	N.D.		80	81	1	97			51	146
3288	Benzo(a)anthracene 0.18 ug/l	N.D.		30	43	13	92			52	146
3289	Chrysene 0.58 ug/l	N.D.		80	81	1	93			56	145
3290	Benzo(b)fluoranthene 0.35 ug/l	N.D.		67	69	2	94			59	141
3291	Benzo(k)fluoranthene 0.27 ug/l	N.D.		78	80	3	94			60	137
3292	Benzo(a)pyrene 0.22 ug/l	N.D.		67	70	3	92			42	158
3293	Dibenzo(a,h)anthracene 0.46 ug/l	N.D.		96	95	1	95			49	142
3294	Benzo(g,h,i)perylene 1.0 ug/l	N.D.		102	100	1	99			46	148
3295	Indeno(1,2,3-cd)pyrene 0.63 ug/l	N.D.		90	90	0	91			64	134
8213 BTEX (8021)		Batch: 99004A68									
0776	Benzene 0.2 ug/l	N.D.		103	102	2	98			81	124
0777	Toluene 0.2 ug/l	N.D.		97	96	1	95			84	119
0778	Ethylbenzene 0.2 ug/l	N.D.		96	95	1	93			82	118
0779	Total Xylenes 0.6 ug/l	N.D.		94	94	0	91			81	120



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681





LLI Sample No. 3065182
TW-05-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646933
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	53	22	131
		Triphenyle	161	60	120
8213 BTEX (8021)		TFT	99	77	125



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2691

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/4/97





LLI Sample No. WW 3065183

Collected: 12/30/98 at 12:30 by JC

Submitted: 12/31/98 Reported: 1/19/99

Discard: 2/19/99

TW-09-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
TW094 SDG#: MOS06-17

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD	
		RESULTS	DETECTION LIMIT UNITS
1861	PAH's in Water		See Page 2
8213	BTEX (8021)		See Page 3

1 COPY TO Kerr-McGee Corporation
1 COPY TO Roy F. Weston
1 COPY TO Data Package Group

ATTN: Garet Van de Steeg, PhD
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
19:48:15 D 0003 8 128410 646933
232 0.00 00021753 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681





LLI Sample No. WW 3065183
 Collected: 12/30/98 at 12:30 by JC

Submitted: 12/31/98 Reported: 1/19/99
 Discard: 2/19/99

TW-09-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
 TW094 SDG#: MOS06-17

Account No: 07802
 Kerr-McGee Corporation
 P.O. Box 25861
 Oklahoma City OK 73125

P.O. MOSS-AMERICAN
 ReI.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD	DETECTION LIMIT UNITS
PAH's in Water				
3280	Naphthalene	14,900.	J	640. ug/l
3281	Acenaphthylene	N.D.	J	640. ug/l
3282	Acenaphthene	4,500.	J	640. ug/l
3283	Fluorene	4,120.	J	140. ug/l
3284	Phenanthrene	10,500.	J	37. ug/l
3285	Anthracene	1,100.	J	25. ug/l
3286	Fluoranthene	4,630.	J	16. ug/l
3287	Pyrene	5,090.	J	140. ug/l
3288	Benzo(a)anthracene	741.	J	14. ug/l
3289	Chrysene	750.	J	47. ug/l
3290	Benzo(b)fluoranthene	201.	J	28. ug/l
3291	Benzo(k)fluoranthene	121.	J	22. ug/l
3292	Benzo(a)pyrene	228.	J	18. ug/l
3293	Dibenzo(a,h)anthracene	N.D.	J	38. ug/l
3294	Benzo(g,h,i)perylene	N.D.	J	79. ug/l
3295	Indeno(1,2,3-cd)pyrene	136.	J	51. ug/l

Due to the dilution required for analysis, accurate surrogate recoveries could not be determined for the sample.

*T. Ballou
12 Feb 99*

Questions? Contact your Client Services Representative
 Kay G. Hower at (717) 656-2300

Respectfully Submitted
 Jenifer E. Hess, B.S.
 Group Leader Pesticides/PCBs



Lancaster Laboratories
 2425 New Holland Pike
 PO Box 12425
 Lancaster, PA 17605-2425
 717-656-2300 Fax: 717-656-2681





LLI Sample No. WW 3065183

Collected: 12/30/98 at 12:30 by JC

Submitted: 12/31/98 Reported: 1/19/99

Discard: 2/19/99

TW-09-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
TW094 SDG#: MOS06-17

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
BTEX (8021)					
0776	Benzene	N.D.		2.	ug/l
0777	Toluene	6.	J	2.	ug/l
0778	Ethylbenzene	20.		2.	ug/l
0779	Total Xylenes	60.		6.	ug/l

The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt.

Due to the nature of the sample matrix, normal reporting limits were not attained.

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Michele Turner, B.A.
Manager, Volatiles



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster PA 17605-2425
717-656-2300 Fax: 717-656-2681





LLI Sample No. WW 3065183

Collected: 12/30/98 at 12:30 by JC

Submitted: 12/31/98

TW-09-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
TW094 SDG#: MOS06-17

Account No: 07802
 Kerr-McGee Corporation
 P.O. Box 25861
 Oklahoma City OK 73125

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS		ANALYST
				ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1		01/14/99 2114	Michelle J. Kolodziejski
3337	PAH Water Extraction	SW-846 3510C	1		01/06/99 0045	Darin P. Wagner
8213	BTEX (8021)	SW-846 8021B	1		01/05/99 0957	Jodie L. Buckwalter



Lancaster Laboratories
 2425 New Holland Pike
 PO Box 12425
 Lancaster, PA 17605-2425
 717-656-2300 Fax: 717-656-2681





LLI Sample No. 3065183

TW-09-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646933
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH

1861 PAH's in Water		Batch: 990020000B									

3280	Naphthalene										
640.	ug/l	N.D.		83	82	0	83	84	1	37	120
3281	Acenaphthylene										
640.	ug/l	N.D.		86	86	0	96	96	1	41	135
3282	Acenaphthene										
640.	ug/l	N.D.		86	84	1	94	93	1	38	135
3283	Fluorene										
140.	ug/l	N.D.		96	91	3	102	101	1	41	140
3284	Phenanthrene										
37.	ug/l	N.D.		87	85	2	104	103	1	48	152
3285	Anthracene										
25.	ug/l	N.D.		68	67	1	93	91	2	42	143
3286	Fluoranthene										
16.	ug/l	N.D.		-8	12	10	108	107	1	48	155
3287	Pyrene										
140.	ug/l	N.D.		80	81	1	112	112	1	51	146
3288	Benzo(a)anthracene										
14.	ug/l	N.D.		30	43	13	105	105	0	52	146
3289	Chrysene										
47.	ug/l	N.D.		80	81	1	107	107	0	56	145
3290	Benzo(b)fluoranthene										
28.	ug/l	N.D.		67	69	2	105	105	0	59	141
3291	Benzo(k)fluoranthene										
22.	ug/l	N.D.		78	80	3	104	105	1	60	137
3292	Benzo(a)pyrene										
18.	ug/l	N.D.		67	70	3	102	104	1	42	158
3293	Dibenzo(a,h)anthracene										
38.	ug/l	N.D.		96	95	1	105	107	1	49	142
3294	Benzo(g,h,i)perylene										
79.	ug/l	N.D.		102	100	1	108	109	1	46	148
3295	Indeno(1,2,3-cd)pyrene										
51.	ug/l	N.D.		90	90	0	105	107	1	64	134

8213 BTEX (8021)		Batch: 99004A68									

0776	Benzene										
2.	ug/l	N.D.		103	102	2	98			81	124
0777	Toluene										
2.	ug/l	N.D.		97	96	1	95			84	119
0778	Ethylbenzene										
2.	ug/l	N.D.		96	95	1	93			82	118
0779	Total Xylenes										
6.	ug/l	N.D.		94	94	0	91			81	120



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2309 Fax: 717-656-2681





LLI Sample No. 3065183

TW-09-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646933
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	87	22	131
		Triphenyle	(5)	60	120
8213 BTEX (8021)		TFT	97	77	125

(5) Accurate surrogate recoveries could not be determined due to interferences or dilution necessary for this sample.



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 3064373

Collected: 12/29/98 at 08:30 by JC

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

FD-01-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
FD01- SDG#: MOS06-15

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

MW-4-S

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD	
		RESULTS	DETECTION LIMIT UNITS
1861	PAH's in Water		See Page 2
8213	BTEX (8021)		See Page 3

1 COPY TO Kerr-McGee Corporation
1 COPY TO Roy F. Weston
1 COPY TO Data Package Group

ATTN: Garet Van de Steeg, PhD
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
12:58:16 D 0003 14 128410 646714
232 0.00 00021753 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681





LLI Sample No. WW 3064373

Collected: 12/29/98 at 08:30 by JC

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

FD-01-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
FD01- SDG#: MOS06-15

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD	DETECTION LIMIT UNITS
PAH's in Water				
3280	Naphthalene	1,060.		16. ug/l
3281	Acenaphthylene	105.	J	16. ug/l
3282	Acenaphthene	660.		16. ug/l
3283	Fluorene	330.		3.4 ug/l
3284	Phenanthrene	41.1		0.91 ug/l
3285	Anthracene	38.5		0.61 ug/l
3286	Fluoranthene	156.		0.40 ug/l
3287	Pyrene	151.		3.6 ug/l
3288	Benzo(a)anthracene	22.5		0.36 ug/l
3289	Chrysene	18.5		1.2 ug/l
3290	Benzo(b)fluoranthene	7.3		0.69 ug/l
3291	Benzo(k)fluoranthene	4.3		0.53 ug/l
3292	Benzo(a)pyrene	8.5		0.43 ug/l
3293	Dibenzo(a,h)anthracene	N.D.		0.93 ug/l
3294	Benzo(g,h,i)perylene	N.D.		2.0 ug/l
3295	Indeno(1,2,3-cd)pyrene	4.2	J	1.3 ug/l

The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681





LLI Sample No. WW 3064373

Collected: 12/29/98 at 08:30 by JC

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

FD-01-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
FD01- SDG#: MOS06-15

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	6.	1.	ug/l
0777	Toluene	11.	1.	ug/l
0778	Ethylbenzene	14.	1.	ug/l
0779	Total Xylenes	N.D.	50.	ug/l

Due to the presence of interferences near their retention times, normal reporting limit was not attained for total xylenes.

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Michele Turner, B.A.
Manager, Volatiles



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681





LLI Sample No. WW 3064373

Collected: 12/29/98 at 08:30 by JC

Submitted: 12/30/98

FD-01-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
FD01- SDG#: MOS06-15

Account No: 07802
 Kerr-McGee Corporation
 P.O. Box 25861
 Oklahoma City OK 73125

CAT NO	ANALYSIS NAME	METHOD	TRIAL ID	ANALYSIS		ANALYST
				DATE	TIME	
1861	PAH's in Water	SW-846 8310	1	01/12/99	1633	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	12/31/98	0845	Joseph S. Feister
8213	BTEX (8021)	SW-846 8021B	1	01/05/99	1655	Jodie L. Buckwalter



Lancaster Laboratories
 2425 New Holland Pike
 PO Box 12425
 Lancaster, PA 17605-2425
 717-656-2300 Fax: 717-656-2681





LLI Sample No. 3064373

FD-01-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646714
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH
1861 PAH's in Water		Batch: 983640007A									
3280	Naphthalene 16. ug/l	N.D.		81	82	1	66			37	120
3281	Acenaphthylene 16. ug/l	N.D.		86	89	1	71			41	135
3282	Acenaphthene 16. ug/l	N.D.		86	89	1	71			38	135
3283	Fluorene 3.4 ug/l	N.D.		89	93	2	75			41	140
3284	Phenanthrene 0.91 ug/l	N.D.		88	93	2	75			48	152
3285	Anthracene 0.61 ug/l	N.D.		84	89	3	73			42	143
3286	Fluoranthene 0.40 ug/l	N.D.		89	94	3	76			48	155
3287	Pyrene 3.6 ug/l	N.D.		91	96	2	78			51	146
3288	Benzo(a)anthracene 0.36 ug/l	N.D.		87	91	2	74			52	146
3289	Chrysene 1.2 ug/l	N.D.		88	91	1	75			56	145
3290	Benzo(b)fluoranthene 0.69 ug/l	N.D.		88	92	1	76			59	141
3291	Benzo(k)fluoranthene 0.53 ug/l	N.D.		89	92	1	76			60	137
3292	Benzo(a)pyrene 0.43 ug/l	N.D.		85	89	2	72			42	158
3293	Dibenzo(a,h)anthracene 0.93 ug/l	N.D.		87	91	2	75			49	142
3294	Benzo(g,h,i)perylene 2.0 ug/l	N.D.		90	93	1	77			46	148
3295	Indeno(1,2,3-cd)pyrene 1.3 ug/l	N.D.		89	92	1	75			64	134
8213 BTEX (8021)		Batch: 99004A68									
0776	Benzene 1. ug/l	N.D.		103	102	2	98			81	124
0777	Toluene 1. ug/l	N.D.		97	96	1	95			84	119
0778	Ethylbenzene 1. ug/l	N.D.		96	95	1	93			82	118
0779	Total Xylenes 50. ug/l	N.D.		94	94	0	91			81	120



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681





LLI Sample No. 3064373

FD-01-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646714
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	76	22	131
		Triphenyle	685	60	120
8213 BTEX (8021)		TFT	98	77	125



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 3065184

Collected: 12/30/98 at 10:30 by JC

Submitted: 12/31/98 Reported: 1/19/99

Discard: 2/19/99

FD-02-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
FD024 SDG#: MOS06-18

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

TW-05

CAT NO.	ANALYSIS NAME	AS RECEIVED		UNITS
		RESULTS	METHOD DETECTION LIMIT	
1861	PAH's in Water			See Page 2
8213	BTEX (8021)			See Page 3

1 COPY TO Kerr-McGee Corporation
1 COPY TO Roy F. Weston
1 COPY TO Data Package Group

ATTN: Garet Van de Steeg, PhD
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
19:49:07 D 0003 8 128410 646933
232 0.00 00021753 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681





Lancaster Laboratories

A division of Thermo Analytical Inc.

Page: 2 of 6

LLI Sample No. WW **3065184**

Collected: 12/30/98 at 10:30 by JC

Submitted: 12/31/98 Reported: 1/19/99

Discard: 2/19/99

FD-02-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
FD024 SDG#: MOS06-18

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		METHOD	DETECTION LIMIT UNITS
		RESULTS			
PAH's in Water					
3280	Naphthalene	10.6	J	3.9	ug/l
3281	Acenaphthylene	19.2	J	3.9	ug/l
3282	Acenaphthene	130.		3.9	ug/l
3283	Fluorene	74.8		0.83	ug/l
3284	Phenanthrene	2.4		0.23	ug/l
3285	Anthracene	5.1		0.15	ug/l
3286	Fluoranthene	24.8		0.098	ug/l
3287	Pyrene	24.6		0.88	ug/l
3288	Benzo(a)anthracene	3.85		0.088	ug/l
3289	Chrysene	4.1		0.29	ug/l
3290	Benzo(b)fluoranthene	1.32		0.17	ug/l
3291	Benzo(k)fluoranthene	0.81		0.13	ug/l
3292	Benzo(a)pyrene	1.59		0.11	ug/l
3293	Dibenzo(a,h)anthracene	N.D.		0.23	ug/l
3294	Benzo(g,h,i)perylene	N.D.		0.49	ug/l
3295	Indeno(1,2,3-cd)pyrene	0.87	J	0.31	ug/l
The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.					

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pkwy
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 3065184

Collected: 12/30/98 at 10:30 by JC

Submitted: 12/31/98 Reported: 1/19/99

Discard: 2/19/99

FD-02-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
FD024 SDG#: MOS06-18

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	METHOD DETECTION	LIMIT	UNITS
BTEX (8021)					
0776	Benzene	N.D.	0.2		ug/l
0777	Toluene	N.D.	0.2		ug/l
0778	Ethylbenzene	N.D.	0.2		ug/l
0779	Total Xylenes	N.D.	0.6		ug/l

The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt.

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Michele Turner, B.A.
Manager, Volatiles



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681





LLI Sample No. WW 3065184

Collected: 12/30/98 at 10:30 by JC

Submitted: 12/31/98

FD-02-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
FD024 SDG#: MOS06-18

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	01/16/99 0758	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	01/04/99 0700	Nathaniel R. Kurtz
8213	BTEX (8021)	SW-846 8021B	1	01/05/99 0152	Jodie L. Buckwalter



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681





LLI Sample No. 3065184

FD-02-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646933
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH

1861 PAH's in Water		Batch: 990020000A									

3280	Naphthalene 3.9 ug/l	N.D.		83	82	0	80			37	120
3281	Acenaphthylene 3.9 ug/l	N.D.		86	86	0	84			41	135
3282	Acenaphthene 3.9 ug/l	N.D.		86	84	1	82			38	135
3283	Fluorene 0.83 ug/l	N.D.		96	91	3	87			41	140
3284	Phenanthrene 0.23 ug/l	N.D.		87	85	2	86			48	152
3285	Anthracene 0.15 ug/l	N.D.		68	67	1	78			42	143
3286	Fluoranthene 0.098 ug/l	N.D.		-8	12	10	90			48	155
3287	Pyrene 0.88 ug/l	N.D.		80	81	1	97			51	146
3288	Benzo(a)anthracene 0.088 ug/l	N.D.		30	43	13	92			52	146
3289	Chrysene 0.29 ug/l	N.D.		80	81	1	93			56	145
3290	Benzo(b)fluoranthene 0.17 ug/l	N.D.		67	69	2	94			59	141
3291	Benzo(k)fluoranthene 0.13 ug/l	N.D.		78	80	3	94			60	137
3292	Benzo(a)pyrene 0.11 ug/l	N.D.		67	70	3	92			42	158
3293	Dibenzo(a,h)anthracene 0.23 ug/l	N.D.		96	95	1	95			49	142
3294	Benzo(g,h,i)perylene 0.49 ug/l	N.D.		102	100	1	99			46	148
3295	Indeno(1,2,3-cd)pyrene 0.31 ug/l	N.D.		90	90	0	91			64	134

8213 BTEX (8021)		Batch: 99004A68									

0776	Benzene 0.2 ug/l	N.D.		103	102	2	98			81	124
0777	Toluene 0.2 ug/l	N.D.		97	96	1	95			84	119
0778	Ethylbenzene 0.2 ug/l	N.D.		96	95	1	93			82	118
0779	Total Xylenes 0.6 ug/l	N.D.		94	94	0	91			81	120



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. 3065184
 FD-02-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646933
 Kerr-McGee Corporation

SURROGATE SUMMARY

	TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
				LOW	HIGH
1861 PAH's in Water		Nitrobenz	66	22	131
		Triphenyle	185	60	120
8213 BTEX (8021)		TFT	99	77	125



Lancaster Laboratories
 2425 New Holland Pike
 PO Box 12425
 Lancaster, PA 17605-2425
 717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/4/97





LLI Sample No. **WW 3064364**

Collected: 12/29/98 at 17:40 by JC

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

FB-01-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
FB01- SDG#: MOS06-08FB

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED	
		RESULTS	METHOD DETECTION LIMIT UNITS
1861	PAH's in Water		See Page 2
8213	BTEX (8021)		See Page 3

1 COPY TO Kerr-McGee Corporation
1 COPY TO Roy F. Weston
1 COPY TO Data Package Group

ATTN: Garet Van de Steeg, PhD
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
12:50:39 D 0003 14 128410 646714
232 0.00 00021753 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681





LLI Sample No. WW **3064364**

Collected: 12/29/98 at 17:40 by JC

Submitted: 12/30/98 Reported: 1/15/99
Discard: 2/15/99

FB-01-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
FB01- SDG#: MOS06-08FB

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Re1.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.77	ug/l
3281	Acenaphthylene	N.D.	0.77	ug/l
3282	Acenaphthene	N.D.	0.77	ug/l
3283	Fluorene	N.D.	0.16	ug/l
3284	Phenanthrene	N.D.	0.045	ug/l
3285	Anthracene	N.D.	0.030	ug/l
3286	Fluoranthene	N.D.	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	N.D.	0.057	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.034	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.046	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.096	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.062	ug/l

Questions? Contact your Client Services Representative
at (717) 656-2300
Kay G. Hower

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2631

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW **3064364**

Collected: 12/29/98 at 17:40 by JC

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

FB-01-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

FB01- SDG#: MOS06-08FB

Account No: 07802
 Kerr-McGee Corporation
 P.O. Box 25861
 Oklahoma City OK 73125

P.O. MOSS-AMERICAN
 Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.2	ug/l
0777	Toluene	N.D.	0.2	ug/l
0778	Ethylbenzene	N.D.	0.2	ug/l
0779	Total Xylenes	N.D.	0.6	ug/l

Questions? Contact your Client Services Representative
 Kay G. Hower at (717) 656-2300

Respectfully Submitted
 Michele Turner, B.A.
 Manager, Volatiles



Lancaster Laboratories
 2425 New Holland Pike
 PO Box 12425
 Lancaster, PA 17605-2425
 717-656-2300 Fax: 717-656-2681





LLI Sample No. WW 3064364

Collected: 12/29/98 at 17:40 by JC

Submitted: 12/30/98

FB-01-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
FB01- SDG#: MOS06-08FB

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS		ANALYST
				ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1		01/14/99 0028	Michelle J. Kolodziejewski
3337	PAH Water Extraction	SW-846 3510C	1		12/31/98 0845	Joseph S. Feister
8213	BTEX (8021)	SW-846 8021B	1		01/03/99 1927	Jodie L. Buckwalter



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681





LLI Sample No. 3064364

FB-01-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646714
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH
-----		Batch: 983640007A									
1861 PAH's in Water											

3280	Naphthalene										
	0.77 ug/l	N.D.		81	82	1	66			37	120
3281	Acenaphthylene										
	0.77 ug/l	N.D.		86	89	1	71			41	135
3282	Acenaphthene										
	0.77 ug/l	N.D.		86	89	1	71			38	135
3283	Fluorene										
	0.16 ug/l	N.D.		89	93	2	75			41	140
3284	Phenanthrene										
	0.045 ug/l	N.D.		88	93	2	75			48	152
3285	Anthracene										
	0.030 ug/l	N.D.		84	89	3	73			42	143
3286	Fluoranthene										
	0.019 ug/l	N.D.		89	94	3	76			48	155
3287	Pyrene										
	0.17 ug/l	N.D.		91	96	2	78			51	146
3288	Benzo(a)anthracene										
	0.017 ug/l	N.D.		87	91	2	74			52	146
3289	Chrysene										
	0.057 ug/l	N.D.		88	91	1	75			56	145
3290	Benzo(b)fluoranthene										
	0.034 ug/l	N.D.		88	92	1	76			59	141
3291	Benzo(k)fluoranthene										
	0.026 ug/l	N.D.		89	92	1	76			60	137
3292	Benzo(a)pyrene										
	0.021 ug/l	N.D.		85	89	2	72			42	158
3293	Dibenzo(a,h)anthracene										
	0.046 ug/l	N.D.		87	91	2	75			49	142
3294	Benzo(g,h,i)perylene										
	0.096 ug/l	N.D.		90	93	1	77			46	148
3295	Indeno(1,2,3-cd)pyrene										
	0.062 ug/l	N.D.		89	92	1	75			64	134
-----		Batch: 99003A68									
8213 BTEX (8021)											

0776	Benzene										
	0.2 ug/l	N.D.		100	101	1	97			81	124
0777	Toluene										
	0.2 ug/l	N.D.		97	98	1	94			84	119
0778	Ethylbenzene										
	0.2 ug/l	N.D.		95	96	1	92			82	118
0779	Total Xylenes										
	0.6 ug/l	N.D.		93	93	1	91			81	120



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/4/97





LLI Sample No. 3064364

FB-01-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646714
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	78	22	131
		Triphenyle	76	60	120
8213 BTEX (8021)		TFT	101	77	125



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 3065188

Collected: 12/30/98 at 17:30 by JC

Submitted: 12/31/98 Reported: 1/19/99

Discard: 2/19/99

FB-02-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
FB204 SDG#: MOS06-22FB

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		LIMIT	UNITS
		RESULTS	METHOD DETECTION		
1861	PAH's in Water			See Page	2
8213	BTEX (8021)			See Page	3

1 COPY TO Kerr-McGee Corporation
1 COPY TO Roy F. Weston
1 COPY TO Data Package Group

ATTN: Garet Van de Steeg, PhD
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
19:52:13 D 0003 8 128410 646933
232 0.00 00021753 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681





LLI Sample No. WW 3065188

Collected: 12/30/98 at 17:30 by JC

Submitted: 12/31/98 Reported: 1/19/99

Discard: 2/19/99

FB-02-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
FB204 SDG#: MOS06-22FB

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.76	ug/l
3281	Acenaphthylene	N.D.	0.76	ug/l
3282	Acenaphthene	N.D.	0.76	ug/l
3283	Fluorene	N.D.	0.16	ug/l
3284	Phenanthrene	N.D.	0.044	ug/l
3285	Anthracene	N.D.	0.029	ug/l
3286	Fluoranthene	N.D.	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	N.D.	0.056	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.033	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.094	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.061	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 3065188

Collected: 12/30/98 at 17:30 by JC

Submitted: 12/31/98 Reported: 1/19/99

Discard: 2/19/99

FB-02-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
FB204 SDG#: MOS06-22FB

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.2	ug/l
0777	Toluene	N.D.	0.2	ug/l
0778	Ethylbenzene	N.D.	0.2	ug/l
0779	Total Xylenes	N.D.	0.6	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Michele Turner, B.A.
Manager, Volatiles



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17505-2425
717-656-2300 Fax 717-656-2681





LLI Sample No. WW 3065188

Collected: 12/30/98 at 17:30 by JC

Submitted: 12/31/98

FB-02-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
FB204 SDG#: MOS06-22FB

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS		ANALYST
				ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1		01/16/99 0903	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1		01/04/99 0700	Nathaniel R. Kurtz
8213	BTEX (8021)	SW-846 8021B	1		01/05/99 0520	Jodie L. Buckwalter



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681





LLI Sample No. 3065188

FB-02-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646933
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH

1861 PAH's in Water		Batch: 990020000A									

3280	Naphthalene 0.76 ug/l	N.D.		83	82	0	80			37	120
3281	Acenaphthylene 0.76 ug/l	N.D.		86	86	0	84			41	135
3282	Acenaphthene 0.76 ug/l	N.D.		86	84	1	82			38	135
3283	Fluorene 0.16 ug/l	N.D.		96	91	3	87			41	140
3284	Phenanthrene 0.044 ug/l	N.D.		87	85	2	86			48	152
3285	Anthracene 0.029 ug/l	N.D.		68	67	1	78			42	143
3286	Fluoranthene 0.019 ug/l	N.D.		-8	12	10	90			48	155
3287	Pyrene 0.17 ug/l	N.D.		80	81	1	97			51	146
3288	Benzo(a)anthracene 0.017 ug/l	N.D.		30	43	13	92			52	146
3289	Chrysene 0.056 ug/l	N.D.		80	81	1	93			56	145
3290	Benzo(b)fluoranthene 0.033 ug/l	N.D.		67	69	2	94			59	141
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.		78	80	3	94			60	137
3292	Benzo(a)pyrene 0.021 ug/l	N.D.		67	70	3	92			42	158
3293	Dibenzo(a,h)anthracene 0.045 ug/l	N.D.		96	95	1	95			49	142
3294	Benzo(g,h,i)perylene 0.094 ug/l	N.D.		102	100	1	99			46	148
3295	Indeno(1,2,3-cd)pyrene 0.061 ug/l	N.D.		90	90	0	91			64	134

8213 BTEX (8021)		Batch: 99004A68									

0776	Benzene 0.2 ug/l	N.D.		103	102	2	98			81	124
0777	Toluene 0.2 ug/l	N.D.		97	96	1	95			84	119
0778	Ethylbenzene 0.2 ug/l	N.D.		96	95	1	93			82	118
0779	Total Xylenes 0.6 ug/l	N.D.		94	94	0	91			81	120



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. 3065188

FB-02-04 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646933
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	73	22	131
	Triphenyle	75	60	120
8213 BTEX (8021)	TFT	101	77	125



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/4/97





LLI Sample No. WW 3063734

Collected: 12/17/98

Submitted: 12/29/98 Reported: 1/15/99

Discard: 2/15/99

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI
TRP17 SDG#: MOS06-03TB

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD	
		RESULTS	DETECTION LIMIT UNITS
8213	BTEX (8021)		See Page 2

1 COPY TO Kerr-McGee Corporation ATTN: Garet Van de Sterg, PhD
 1 COPY TO Data Package Group
 1 COPY TO Roy F. Weston ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative
 Kay G. Hower at (717) 656-2300
 12:24:22 D 0003 3 128410 646570
 232 0.00 00005933 ASR000

Respectfully Submitted
 Jenifer E. Hess, B.S.
 Group Leader Pesticides/PCBs



Lancaster Laboratories
 2425 New Holland Pike
 PO Box 12425
 Lancaster, PA 17605-2425
 717-656-2300 Fax 717-656-2681





LLI Sample No. WW 3063734
Collected: 12/17/98

Submitted: 12/29/98 Reported: 1/15/99
Discard: 2/15/99

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI
TRP17 SDG#: MOS06-03TB

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.2	ug/l
0777	Toluene	N.D.	0.2	ug/l
0778	Ethylbenzene	N.D.	0.2	ug/l
0779	Total Xylenes	N.D.	0.6	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Michele Turner, B.A.
Manager, Volatiles



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681





LLI Sample No. WW 3063734

Collected: 12/17/98

Submitted: 12/29/98

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI
TRP17 SDG#: MOS06-03TB

Account No: 07802 Kerr-McGee Corporation P.O. Box 25861 Oklahoma City OK 73125

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
8213	BTEX (8021)	SW-846 8021B	1	12/30/98 2131	Jodie L. Buckwalter



Lancaster Laboratories
 2425 New Holland Pike
 PO Box 12425
 Lancaster, PA 17605-2425
 717-656-2300 Fax 717-656-2681





LLI Sample No. 3063734

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646570
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH
8213 BTEX (8021)		Batch: 98363A65									
0776	Benzene										
	0.2 ug/l	N.D.		119	112	6	103			81	124
0777	Toluene										
	0.2 ug/l	N.D.		115	111	3	102			84	119
0778	Ethylbenzene										
	0.2 ug/l	N.D.		113	108	4	102			82	118
0779	Total Xylenes										
	0.6 ug/l	N.D.		112	109	3	102			81	120



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. 3063734
Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646570
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
8213 BTEX (8021)	TFT		108	77	125



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/4/97





LLI Sample No. WW 3064370

Collected: 12/17/98

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI
17TB- SDG#: MOS06-12TB

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED	
		RESULTS	METHOD DETECTION LIMIT UNITS
8213	BTEX (8021)		See Page 2

1 COPY TO Kerr-McGee Corporation
1 COPY TO Roy F. Weston
1 COPY TO Data Package Group

ATTN: Garet Van de Steeg, PhD
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
12:56:04 D 0003 14 128410 646714
232 0.00 00005933 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681





LLI Sample No. WW 3064370

Collected: 12/17/98

Submitted: 12/30/98 Reported: 1/15/99

Discard: 2/15/99

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI
17TB- SDG#: MOS06-12TB

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT
NO. ANALYSIS NAME

AS RECEIVED
RESULTS METHOD
DETECTION LIMIT UNITS

BTEX (8021)

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
0776	Benzene	N.D.	J	0.2	ug/l
0777	Toluene	N.D.	J	0.2	ug/l
0778	Ethylbenzene	N.D.	J	0.2	ug/l
0779	Total Xylenes	N.D.	J	0.6	ug/l

T. Baile
12 Feb 99

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Michele Turner, B.A.
Manager, Volatiles



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/4/97





LLI Sample No. WW 3064370

Collected: 12/17/98

Submitted: 12/30/98

Account No: 07802 Kerr-McGee Corporation P.O. Box 25861 Oklahoma City OK 73125

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI
17TB- SDG#: MOS06-12TB

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
8213	BTEX (8021)	SW-846 8021B	1	12/31/98 1104	Steven J. Stabinger



Lancaster Laboratories
 2425 New Holland Pike
 PO Box 12425
 Lancaster, PA 17605-2425
 717-656-2300 Fax 717-656-2681





LLI Sample No. 3064370

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646714
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH
-----		Batch: 98365A51									
0776	Benzene										
	0.2 ug/l	N.D.		112	114		1	112		81	124
0777	Toluene										
	0.2 ug/l	N.D.		109	109		0	108		84	119
0778	Ethylbenzene										
	0.2 ug/l	N.D.		106	110		3	106		82	118
0779	Total Xylenes										
	0.6 ug/l	N.D.		106	109		3	106		81	120



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. 3064370
Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646714
Kerr-McGee Corporation

		SURROGATE SUMMARY		SURROGATE LIMITS	
TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH	
8213 BTEX (8021)	TFT	97	77	125	



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/4/97





LLI Sample No. WW **3065189**

Collected: 12/17/98 by JC

Submitted: 12/31/98 Reported: 1/19/99

Discard: 2/19/99

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI
TBMW- SDG#: MOS06-23TB*

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

CAT
NO. ANALYSIS NAME

AS RECEIVED
RESULTS METHOD
DETECTION LIMIT UNITS

8213 BTEX (8021)

See Page 2

1 COPY TO Kerr-McGee Corporation
1 COPY TO Roy F. Weston
1 COPY TO Data Package Group

ATTN: Garet Van de Steeg, PhD
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
19:52:59 D 0003 8 128410 646933
232 0.00 00005933 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681





LLI Sample No. WW **3065189**
 Collected: 12/17/98 by JC

Submitted: 12/31/98 Reported: 1/19/99
 Discard: 2/19/99

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI
 TBMW- SDG#: MOS06-23TB*

Account No: 07802
 Kerr-McGee Corporation
 P.O. Box 25861
 Oklahoma City OK 73125

P.O. MOSS-AMERICAN
 Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		DETECTION LIMIT	UNITS
		RESULTS	METHOD		
BTEX (8021)					
0776	Benzene	N.D.	J 0.2	0.2	ug/l
0777	Toluene	N.D.	J 0.2	0.2	ug/l
0778	Ethylbenzene	N.D.	J 0.2	0.2	ug/l
0779	Total Xylenes	N.D.	J 0.6	0.6	ug/l

*T. Ballew
 12 Feb 99*

Questions? Contact your Client Services Representative
 Kay G. Hower at (717) 656-2300

Respectfully Submitted
 Michele Turner, B.A.
 Manager, Volatiles



Lancaster Laboratories
 2425 New Holland Pike
 PO Box 12425
 Lancaster, PA 17605-2425
 717-656-2300 Fax: 717-656-2681





LLI Sample No. WW 3065189

Collected: 12/17/98 by JC

Submitted: 12/31/98

Account No: 07802
 Kerr-McGee Corporation
 P.O. Box 25861
 Oklahoma City OK 73125

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI
TBMW- SDG#: MOS06-23TB*

CAT NO	ANALYSIS NAME	METHOD	TRIAL ID	ANALYSIS DATE AND TIME	ANALYST
8213	BTEX (8021)	SW-846 8021B	1	01/04/99 2257	Jodie L. Buckwalter



Lancaster Laboratories
 2425 New Holland Pike
 PO Box 12425
 Lancaster, PA 17605-2425
 717-656-2300 Fax 717-656-2681





LLI Sample No. 3065189

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646933
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH
8213 BTEX (8021)		Batch: 99004A68									
0776	Benzene										
	0.2 ug/l	N.D.		103	102	2	98			81	124
0777	Toluene										
	0.2 ug/l	N.D.		97	96	1	95			84	119
0778	Ethylbenzene										
	0.2 ug/l	N.D.		96	95	1	93			82	118
0779	Total Xylenes										
	0.6 ug/l	N.D.		94	94	0	91			81	120



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/4/97





LLI Sample No. 3065189
Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646933
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
8213 BTEX (8021)	TFT	100	77	125



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2621

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/4/97





LLI Sample No. WW 3065185

Collected: 12/17/98 by JC

Submitted: 12/31/98 Reported: 1/19/99

Discard: 2/19/99

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI
TBTW- SDG#: MOS06-19TB

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD	
		RESULTS	DETECTION LIMIT UNITS
8213	BTEX (8021)		See Page 2

1 COPY TO Kerr-McGee Corporation
1 COPY TO Roy F. Weston
1 COPY TO Data Package Group

ATTN: Garet Van de Steeg, PhD
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
19:49:57 D 0003 8 128410 646933
232 0.00 00005933 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681





LLI Sample No. WW 3065185
 Collected: 12/17/98 by JC

Submitted: 12/31/98 Reported: 1/19/99
 Discard: 2/19/99

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI
 TBTW- SDG#: MOS06-19TB

Account No: 07802
 Kerr-McGee Corporation
 P.O. Box 25861
 Oklahoma City OK 73125

P.O. MOSS-AMERICAN
 Re1.

CAT
 NO. ANALYSIS NAME

AS RECEIVED
 METHOD
 RESULTS DETECTION LIMIT UNITS

BTEX (8021)

0776	Benzene	N.D. J	0.2	ug/l
0777	Toluene	N.D. J	0.2	ug/l
0778	Ethylbenzene	N.D. J	0.2	ug/l
0779	Total Xylenes	N.D. J	0.6	ug/l

12 Feb 99

Questions? Contact your Client Services Representative
 Kay G. Hower at (717) 656-2300

Respectfully Submitted
 Michele Turner, B.A.
 Manager, Volatiles



Lancaster Laboratories
 2425 New Holland Pike
 PO Box 12425
 Lancaster, PA 17605-2425
 717-656-2300 Fax 717-656-2681





LLI Sample No. WW **3065185**
Collected: 12/17/98 by JC

Submitted: 12/31/98

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI
TBTW- SDG#: MOS06-19TB

CAT NO	ANALYSIS NAME	METHOD	TRIAL ID	ANALYSIS DATE AND TIME	ANALYST
8213	BTEX (8021)	SW-846 8021B	1	01/04/99 2222	Jodie L. Buckwalter



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681





LLI Sample No. 3065185

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646933
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH	
-----		Batch: 99004A68										
0776	Benzene											
	0.2 ug/l	N.D.		103	102	2	98			81	124	
0777	Toluene											
	0.2 ug/l	N.D.		97	96	1	95			84	119	
0778	Ethylbenzene											
	0.2 ug/l	N.D.		96	95	1	93			82	118	
0779	Total Xylenes											
	0.6 ug/l	N.D.		94	94	0	91			81	120	



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. 3065185
Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 646933
Kerr-McGee Corporation

SURROGATE SUMMARY		SURROGATE LIMITS		
TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
8213 BTEX (8021)	TFT	100	77	125



Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev 8/4/97



Analysis Request / Environmental Services Chain of Custody



For Lancaster Laboratories use only

Acct. # 7800 Sample # 3064360-373

Please print. Instructions on reverse side correspond with circled numbers.

Client: <u>Kerr-McGee (Weston)</u> Acct. #: _____ Project Name/ #: <u>Moss American Site</u> PWSID #: _____ Project Manager: <u>Tom Grogan</u> P.O.# _____ Sampler: <u>Jeff Cook / Becky Kussik</u> Quote #: _____ Name of state where samples were collected: <u>Wisconsin</u>				Matrix 4 <input type="checkbox"/> Potable (Check if applicable) <input type="checkbox"/> NPDES <input type="checkbox"/> Other			Analyses Requested 5 <div style="text-align: center; font-size: 2em; font-weight: bold;">BTEX PAHS 8310</div>				For lab use only FSC: _____ SCR #: <u>1120439</u>				
Sample Identification	Date Collected	Time Collected	Grab 3	Composite	Soil	Water	Other	Total # of Containers	Remarks				Temperature of samples upon receipt (if requested) 6		
MW-285-04	↓	12/29/02 16:10	X			X		4	✓	✓					
MW-095-04		14:15	X			X		4	✓	✓					
MW-65-04		16:20	X				X		4	✓	✓				
MW-295-04		14:50	X				X		4	✓	✓				
FB-01-04		17:40	X				X		4	✓	✓			Field Blank	

Turnaround Time Requested (TAT) (please circle): Normal Rush (Rush TAT is subject to Lancaster Laboratories approval and surcharge.) Date results are needed: <u>Std TAT</u> Rush results requested by (please circle): Phone Fax Phone #: <u>(847) 918-4000</u> Fax #: _____		Relinquished by: <u>[Signature]</u> Date: <u>12/29/02</u> Time: <u>15:50</u> Relinquished by: <u>[Signature]</u> Date: <u>12/29/02</u> Time: <u>18:20</u> Relinquished by: _____ Date: _____ Time: _____ Relinquished by: _____ Date: _____ Time: _____ Relinquished by: _____ Date: _____ Time: _____		Received by: _____ Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____ Received by: <u>[Signature]</u> Date: <u>12/29/02</u> Time: <u>09:00</u>	
Data Package Options (please circle if requested) QC Summary Type VI (Raw Data) As per quote Type I (Tier I) GLP Type II (Tier II) Other Type III (NJ Red. Del.) Type IV (CLP)		SDG Complete? Yes No Site-specific QC required? Yes No (if yes, indicate QC sample and submit triplicate volume.) Internal Chain of Custody required? Yes No			

Analysis Request/ Environmental Services Chain of Custody



For Lancaster Laboratories use only

Acct. # 7802 Sample # 3064360-377

Please print. Instructions on reverse side correspond with circled numbers.

Client: <u>Kerr-McGee (Weston)</u> Acct. #: _____ Project Name/#: <u>Mass American State</u> PWSID #: _____ Project Manager: <u>Tom Groman</u> P.O.# _____ Sampler: <u>J. Cook / B. Kusak</u> Quote #: _____ Name of state where samples were collected: <u>Wisconsin</u>				Matrix 4 <input type="checkbox"/> Potable (Check if applicable) <input type="checkbox"/> Water <input type="checkbox"/> NPDES <input type="checkbox"/> Other			Analyses Requested 5 <div style="border: 1px solid black; padding: 5px; text-align: center; font-size: 2em; font-weight: bold;"> BTEX PAHs 8310 </div>					For lab use only FSC: _____ SCR #: <u>1120431</u>	
Sample Identification	Date Collected	Time Collected	Grab 3	Composite	Soil	Water	Other	Total # of Containers	Remarks			Temperature of samples upon receipt (if requested) 6	
MW-05S-04	12/29/98	11:00	X			X		12	✓	✓			
MW-03S-04	12/29/98	10:30	X			X		4	✓	✓			
MW-10S-04	12/29/98	12:00	X			X		4	✓	✓			
Trip Blank	12/17/98		\			X		2	✓				

Turnaround Time Requested (TAT) (please circle): Normal Rush (Rush TAT is subject to Lancaster Laboratories approval and surcharge.) Date results are needed: _____ Rush results requested by (please circle): Phone Fax Phone #: _____ Fax #: _____				Relinquished by: <u>[Signature]</u> Date: <u>12-29-98</u> Time: <u>1:55</u>		Received by: _____ Date: _____ Time: _____	
Data Package Options (please circle if requested) QC Summary Type VI (Raw Data) SDG Complete? Yes No Type I (Tier I) GLP Type II (Tier II) Other Site-specific QC required? Yes No (if yes, indicate QC sample and submit triplicate volume.) Type III (NJ Red. Del.) Internal Chain of Custody required? Yes No Type IV (CLP)				Relinquished by: <u>[Signature]</u> Date: <u>12/29/98</u> Time: <u>12:37</u>		Received by: _____ Date: _____ Time: _____	
Relinquished by: _____ Date: _____ Time: _____				Received by: _____ Date: _____ Time: _____			
Relinquished by: _____ Date: _____ Time: _____				Received by: <u>[Signature]</u> Date: <u>1/20/99</u> Time: <u>09:01</u>			

Analysis Request / Environmental Services Chain of Custody

Not enough chains in center



For Lancaster Laboratories use only

Acct. # 2802 Sample # 3064300-373

Please print. Instructions on reverse side correspond with circled numbers.

<p>Client: <u>Kerr-McGee (Weston)</u> Acct. #: _____</p> <p>Project Name#: <u>Moss American site</u> PWSID #: _____</p> <p>Project Manager: <u>Tom Grogan</u> P.O.# _____</p> <p>Sampler: <u>Jeff Copeck / Becky Knowlton</u> Quote #: _____</p> <p>Name of state where samples were collected: <u>Wisconsin</u></p>	Matrix: 4	5	Analyse Requested	For lab use only
			FSC: _____	
			SCR #: <u>1120439</u>	
2	3	4	5	6
Sample Identification	Date	Time	Matrix	Volume
<u>MW-045-E4</u>	<u>12/29/98</u>	<u>0830</u>	X	X
<u>MW-265-04</u>	<u>12/29/98</u>	<u>0930</u>	X	X
<u>FD-01-04</u>	<u>12/20/98</u>	<u>0830</u>	X	X

<p>7 Turnaround Time Requested (TAT) (please circle): <u>Normal</u> Rush</p> <p>(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)</p> <p>Date results are needed: <u>Std TAT</u></p> <p>Rush results requested by (please circle): Phone Fax</p> <p>Phone #: <u>(847) 918-9142</u> Fax #: <u>(847) 918-4055</u></p>	<p>Relinquished by: <u>[Signature]</u></p> <p>Date: <u>12-17-98</u> Time: <u>1550</u></p>	<p>Received by: _____</p> <p>Date: _____ Time: _____</p>	9
<p>8 Data Package Options (please circle if requested)</p> <p>QC Summary Type VI (Raw Data) <u>(As per Quote)</u> SDG Complete? Yes <u>No</u></p> <p>Type I (Tier I) GLP</p> <p>Type II (Tier II) Other</p> <p>Type III (NJ Red. Del.)</p> <p>Type IV (CLP)</p>	<p>Relinquished by: <u>[Signature]</u></p> <p>Date: <u>12/23/98</u> Time: <u>19:15</u></p>	<p>Received by: _____</p> <p>Date: _____ Time: _____</p>	
<p>Site-specific QC required? Yes No</p> <p>(If yes, indicate QC sample and submit triplicate volume.)</p> <p>Internal Chain of Custody required? Yes No</p>	<p>Relinquished by: _____</p> <p>Date: _____ Time: _____</p>	<p>Received by: <u>[Signature]</u></p> <p>Date: <u>12/29/98</u> Time: <u>0901</u></p>	

Analysis Request/ Environmental Services Chain of Custody



For Lancaster Laboratories use only
 Acct. # 7802 Sample # 306 5182-89

Please print. Instructions on reverse side correspond with circled numbers.

Client: <u>Kerr-McGree (Weston)</u> Acct. #: _____ Project Name/#: <u>Mass American Site</u> PWSID #: _____ Project Manager: <u>Tom Cooran</u> P.O.# _____ Sampler: <u>Jeff Cook/Becky Kusek</u> Quote #: _____ Name of state where samples were collected: <u>Wisconsin</u>				Matrix (4) <input type="checkbox"/> Potable (Check if applicable) <input type="checkbox"/> NPDES Soil _____ Water _____ Other _____			Analyses Requested (5) <div style="font-size: 2em; text-align: center; font-family: cursive;"> DTEX PAHs 8310 </div>						For lab use only FSC: _____ SCR #: _____	
Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Other	Total # of Containers	Remarks			Temperature of samples upon receipt (if requested)		
TW-05-04	12/30/98	10:30	X			X		4	X	X				
TW-09-04	↓	12:30	X			X		4	X	X				
FD-02-04	↓	10:30	X			X		4	X	X				
MW-205-04			X			X		4	X	X				
MW-275-04			X			X		4	X	X				
Trip Blank	12/17/98		✓			X		2	X					
FB-02-04			X			X		4	X	X				

7 Turnaround Time Requested (TAT) (please circle): <u>Normal</u> Rush (Rush TAT is subject to Lancaster Laboratories approval and surcharge.) Date results are needed: <u>Std TAT</u> Rush results requested by (please circle): Phone <u>(847) 918-4000</u> Fax <u>(847) 918-4055</u>	Relinquished by: _____ Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____	Relinquished by: _____ Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____	Relinquished by: _____ Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____
8 Data Package Options (please circle if requested) QC Summary Type VI (Raw Data) <u>(as per quote)</u> <input checked="" type="checkbox"/> SDG Complete? <input checked="" type="checkbox"/> Type I (Tier I) GLP Type II (Tier II) Other Type III (NJ Red. Del.) Type IV (CLP)	Site-specific QC required? Yes No (if yes, indicate QC sample and submit triplicate volume.) Internal Chain of Custody required? Yes No	Relinquished by: _____ Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____	Relinquished by: _____ Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____

Analysis Request/ Environmental Services Chain of Custody



For Lancaster Laboratories use only
 Acct. # 4802 Sample # 3065182-89

Please print. Instructions on reverse side correspond with circled numbers.

Client: <u>Kerr-McGee (Weston)</u> Acct. #: _____ Project Name/#: <u>Mass-American Site</u> PWSID #: _____ Project Manager: <u>Tom Gagan</u> P.O.# _____ Sampler: <u>Jeff Cook / Becky Kusok</u> Quote #: _____ Name of state where samples were collected: <u>Wisconsin</u>			Matrix 4 <input type="checkbox"/> Potable (Check if applicable) <input type="checkbox"/> NPDES Soil _____ Water _____ Other _____			Analyses Requested 5 <div style="text-align: center; font-size: 2em; font-weight: bold;"> BTEX PAHs BIO </div>					For lab use only FSC: _____ SCR #: _____				
Sample Identification	Date Collected	Time Collected	Grab 3	Composite	Soil	Water	Other	Total # of Containers	Remarks					Temperature of samples upon receipt (if requested) 6	
<u>MW-275-04</u>	<u>12/30</u>	<u>11:30</u>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<u>4</u>						<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<u>m w - 205 - 04</u>	↓	<u>15:00</u>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<u>4</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
<u>FB-02-04</u>	↓	<u>17:30</u>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<u>4</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
<u>Trip Blank</u>	<u>12/17/08</u>	<u>17:30</u>				<input checked="" type="checkbox"/>		<u>2</u>	<input checked="" type="checkbox"/>						

Turnaround Time Requested (TAT) (please circle): Normal Rush (Rush TAT is subject to Lancaster Laboratories approval and surcharge.) Date results are needed: <u>Std TAT</u> Rush results requested by (please circle): Phone <input checked="" type="checkbox"/> Fax _____ Phone #: <u>(817) 918-4000</u> Fax #: <u>(817) 918-1055</u>		Relinquished by: _____ Date _____ Time _____ Received by: _____ Date _____ Time _____	
Data Package Options (please circle if requested) QC Summary Type VI (Raw Data) Yes No _____ Type I (Tier I) GLP _____ Type II (Tier II) Other _____ Type III (NJ Red. Del.) _____ Type IV (CLP) _____		Relinquished by: <u>Jeffery W Cook</u> Date <u>12/30/08</u> Time <u>17:40</u> Received by: _____ Date _____ Time _____	
SDG Complete? Yes No _____ Site-specific QC required? Yes No _____ (If yes, indicate QC sample and submit triplicate volume.) Internal Chain of Custody required? Yes No _____		Relinquished by: _____ Date _____ Time _____ Received by: _____ Date _____ Time _____	
		Relinquished by: <u>Tom Gagan</u> Date <u>12/1/08</u> Time _____ Received by: _____ Date _____ Time _____	

Analysis Request / Environmental Services Chain of Custody



For Lancaster Laboratories use only
 Acct. # 7802 Sample # 3063732-34

Please print. Instructions on reverse side correspond with circled numbers.

1 Client: <u>Kerr-McGee (Weston)</u> Acct. #: _____ Project Name/ #: <u>Moss-American Site</u> PWSID #: _____ Project Manager: <u>Tom Grogan (Weston)</u> P.O.# _____ Sampler: <u>Jeff Cook</u> Quote #: _____ Name of state where samples were collected: <u>Wisconsin</u>				Matrix 4 <input type="checkbox"/> Potable (Check if applicable) <input type="checkbox"/> Water <input type="checkbox"/> NPDES <input type="checkbox"/> Other		5 Analyses Requested <div style="border: 1px solid black; padding: 5px; transform: rotate(-45deg); display: inline-block;"> BTEX PAH 8310 PNA's </div>				For lab use only FSC: _____ SCR #: <u>1120439</u>				
Sample Identification	Date Collected	Time Collected	Grab 3	Composite	Soil	Water	Other	Total # of Containers	Remarks				Temperature of samples upon receipt (if requested) 6	
<u>MW-135-04</u>	<u>12/22/98</u>	<u>15:00</u>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<u>4</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
<u>MW-255-04</u>	<u>12/22/98</u>	<u>16:00</u>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<u>4</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
<u>Toip Blank</u>	<u>12/17/98</u>					<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>					

7 Turnaround Time Requested (TAT) (please circle) <u>Normal</u> Rush (Rush TAT is subject to Lancaster Laboratories approval and surcharge.) Date results are needed: <u>STW TAT</u> Rush results requested by (please circle): Phone <u>(847) 918-4142</u> Fax <u>(847) 918-4055</u>		Relinquished by: <u>[Signature]</u> Date <u>12/22/98</u> Time <u>15:00</u> Received by: <u>Becky Kusak (Weston)</u> Date <u>12/21/98</u> Time <u>11:00</u>	
8 Data Package Options (please circle if requested) QC Summary Type VI (Raw Data) <u>as per quote</u> SDG Complete? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Type I (Tier I) GLP Type II (Tier II) Other Type III (NJ Red. Del.) Type IV (CLP)		Relinquished by: <u>Jeffrey W Cook</u> Date <u>12/22/98</u> Time <u>17:54</u> Received by: _____ Date _____ Time _____ Relinquished by: _____ Date _____ Time _____ Received by: _____ Date _____ Time _____ Relinquished by: _____ Date _____ Time _____ Received by: <u>Harley Collins</u> Date <u>12/29/98</u> Time <u>0845</u>	
Site-specific QC required? Yes No (If yes, indicate QC sample and submit triplicate volume.) Internal Chain of Custody required? Yes No			

Case Narrative
SDG# MOS06

Client: Kerr-McGee Corporation
Project: Moss-American Superfund Site
Milwaukee, WI
Petroleum Analysis - Water

SAMPLE ANALYSES

LL Sample #	Sample Designation	Matrix Soil Water	Comments
3063732	MW13S	X	
3063733	25S04	X	
3063734	TRP17	X	
3064360	W28S-	X	
3064361	W09S-	X	
3064362	W6S--	X	
3064363	W29S-	X	
3064364	FB01-	X	
3064365	W05S-	X	Unspiked
3064366MS	W05S-	X	Matrix Spike
3064367MSD	W05S-	X	Matrix Spike Dup
3064368	W03S-	X	
3064369	W10S-	X	
3064370	17TB-	X	
3064371	W04S-	X	DF 5
3064372	W26S-	X	
3064373	FD01-	X	DF 5
3065182	TW054	X	
3065183	TW094	X	DF 10
3065184	FD024	X	
3065185	TBTW-	X	
3065186	27S04	X	
3065187	20S04	X	
3065188	FB204	X	
3065189	TBMW-	X	

QUALITY CONTROL ANALYSES

BLK6505	X	Method Blank
BLK6506	X	Method Blank
BLK5192	X	Method Blank
BLK6801	X	Method Blank
BLK6802	X	Method Blank
BLK6803	X	Method Blank
BLK6804	X	Method Blank
BLK6805	X	Method Blank
BLK6806	X	Method Blank
LCS6505	X	Lab Control Sample
LCS5192	X	Lab Control Sample
LCS6805	X	Lab Control Sample
3065180	X	Unspiked
3065180MS	X	Matrix Spike
3065180MSD	X	Matrix Spike Dup

Case Narrative
SDG# MOS06

Client: Kerr-McGee Corporation
Project: Moss-American Superfund Site
Milwaukee, WI
Petroleum Analysis - Water

SAMPLE PREPARATION

Dilutions were necessary for some samples as noted in the comments section above.

ANALYSIS

The integration system reviews the chromatogram retention times, comparing them to the retention times in the ID Window column. A peak in the sample chromatogram with a retention time within the ID window is identified as a "hit."

The method used for analysis was EPA Method SW-846 8021B. A Hewlett Packard HP-5, 30m, 0.53mm column was used for the analysis of all samples. The surrogate concentration was 30.0 UG/L. No problems were encountered during analysis.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY

Client submitted batch QC was referenced.

All QC was within specifications.

DATA INTERPRETATION

No explanation is necessary for the data submitted.

Narrative reviewed and approved by:

 for

Michele M. Turner, Manager

1/19/99

Date

Page 2 of 2

QC Summary

Surrogate Recovery
 Petroleum Analysis - Water

LL Sample#	Sample Code	Dilution Factor	TFT-P Water-PID % Recovery	TOT OUT
3063732	MW13S	1.0	100	
3063733	25S04	1.0	105	
3063734	TRP17	1.0	108	
3064360	W28S-	1.0	100	
3064361	W09S-	1.0	100	
3064362	W6S--	1.0	101	
3064363	W29S-	1.0	100	
3064364	FB01-	1.0	101	
3064365	W05S-	1.0	100	
3064366MS	W05S-	1.0	101	
3064367MSD	W05S-	1.0	102	
3064368	W03S-	1.0	100	
3064369	W10S-	1.0	100	
3064370	17TB-	1.0	97	
3064371	W04S-	5.0	100	
3064372	W26S-	1.0	100	
3064373	FD01-	5.0	98	
3065180		1.0	100	
3065180MS		1.0	102	
3065180MSD		1.0	102	
3065182	TW054	1.0	99	
3065183 D	TW094	10.0	97	
3065184	FD024	1.0	99	
3065185	TBTW-	1.0	100	
3065186	27S04	1.0	100	
3065187	20S04	1.0	99	
3065188	FB204	1.0	101	
3065189	TBMW-	1.0	100	
BLK5192	METHOD BLANK	1.0	99	
BLK6505	METHOD BLANK	1.0	110	
BLK6506	METHOD BLANK	1.0	106	
BLK6801	METHOD BLANK	1.0	100	
BLK6802	METHOD BLANK	1.0	101	
BLK6803	METHOD BLANK	1.0	100	
BLK6804	METHOD BLANK	1.0	100	
BLK6805	METHOD BLANK	1.0	102	
BLK6806	METHOD BLANK	1.0	100	
LCS5192	LAB CONTROL	1.0	99	
LCS6505	LAB CONTROL	1.0	106	
LCS6805	LAB CONTROL	1.0	102	

* = Values outside quality control limits.

D = Surrogates diluted - not counted towards total out.

TOT OUT = Total # of surrogates with recovery outside control limits.

TFT-P = Trifluorotoluene (Water - PID)

Control Limits	
Lower	Upper
77	125

Method Blank
 Petroleum Analysis - Water

Blank ID.....: BLK6505
 Date.....: 12/29/98
 Instrument.....: 5890-65--

Batch Number.....: 98363A65
 Time.....: 18:34
 Matrix.....: Water

Sample Information			
LL Sample#	Sample Code	Analysis	
		Date	Time
LCS6505	LAB CONTROL	12/29/98	19:49

Method Blank Results				
CAS Number	Compound	Blank	LOQ	MDL
		Conc. (UG/L)	(UG/L)	(UG/L)
71-43-2	BENZENE	ND	1	.2
108-88-3	TOLUENE	ND	1	.2
100-41-4	ETHYLBENZENE	ND	1	.2
1330-20-7	TOTAL XYLENES	ND	3	.6

LOQ = Limit of Quantitation; MDL = Method Detection Limit
 ND = None Detected; * = Above Limit of Quantitation

Method Blank
 Petroleum Analysis - Water

Blank ID.....: BLK6506
 Date.....: 12/30/98
 Instrument.....: 5890-65--

Batch Number.....: 98363A65
 Time.....: 13:39
 Matrix.....: Water

Sample Information			
LL Sample#	Sample Code	Analysis	
		Date	Time
3063734	TRP17	12/30/98	21:31

Method Blank Results				
CAS Number	Compound	Blank	LOQ	MDL
		Conc. (UG/L)	(UG/L)	(UG/L)
71-43-2	BENZENE	ND	1	.2
108-88-3	TOLUENE	ND	1	.2
100-41-4	ETHYLBENZENE	ND	1	.2
1330-20-7	TOTAL XYLENES	ND	3	.6

LOQ = Limit of Quantitation; MDL = Method Detection Limit
 ND = None Detected; * = Above Limit of Quantitation

Method Blank
 Petroleum Analysis - Water

Blank ID.....: BLK5192
 Date.....: 12/31/98
 Instrument.....: 5890-51--

Batch Number.....: 98365A51
 Time.....: 10:27
 Matrix.....: Water

Sample Information			
LL Sample#	Sample Code	Analysis	
		Date	Time
3064370	17TB-	12/31/98	11:04
LCS5192	LAB CONTROL	12/31/98	13:10

Method Blank Results				
CAS Number	Compound	Blank	LOQ	MDL
		Conc. (UG/L)	(UG/L)	(UG/L)
71-43-2	BENZENE	ND	1	.2
108-88-3	TOLUENE	ND	1	.2
100-41-4	ETHYLBENZENE	ND	1	.2
1330-20-7	TOTAL XYLENES	ND	3	.6

LOQ = Limit of Quantitation; MDL = Method Detection Limit
 ND = None Detected; * = Above Limit of Quantitation

Method Blank
 Petroleum Analysis - Water

Blank ID.....: BLK6801
 Date.....: 01/02/99
 Instrument.....: 5890-68--

Batch Number.....: 99002A68
 Time.....: 10:28
 Matrix.....: Water

Sample Information			
LL Sample#	Sample Code	Analysis	
		Date	Time
3063733	25S04	01/02/99	15:04
3063732	MW13S	01/02/99	15:39

Method Blank Results				
CAS Number	Compound	Blank	LOQ	MDL
		Conc. (UG/L)	(UG/L)	(UG/L)
71-43-2	BENZENE	ND	1	.2
108-88-3	TOLUENE	ND	1	.2
100-41-4	ETHYLBENZENE	ND	1	.2
1330-20-7	TOTAL XYLENES	ND	3	.6

LOQ = Limit of Quantitation; MDL = Method Detection Limit
 ND = None Detected; * = Above Limit of Quantitation

Method Blank
 Petroleum Analysis - Water

Blank ID.....: BLK6802
 Date.....: 01/03/99
 Instrument.....: 5890-68--

Batch Number.....: 99002A68
 Time.....: 01:59
 Matrix.....: Water

Sample Information			
LL Sample#	Sample Code	Analysis	
		Date	Time
3064360	W28S-	01/03/99	02:34
3064368	W03S-	01/03/99	03:43

Method Blank Results				
CAS Number	Compound	Blank Conc. (UG/L)	LOQ (UG/L)	MDL (UG/L)
71-43-2	BENZENE	ND	1	.2
108-88-3	TOLUENE	ND	1	.2
100-41-4	ETHYLBENZENE	ND	1	.2
1330-20-7	TOTAL XYLENES	ND	3	.6

LOQ = Limit of Quantitation; MDL = Method Detection Limit
 ND = None Detected; * = Above Limit of Quantitation

Method Blank
 Petroleum Analysis - Water

Blank ID.....: BLK6803
 Date.....: 01/03/99
 Instrument.....: 5890-68--

Batch Number.....: 99003A68
 Time.....: 14:14
 Matrix.....: Water

Sample Information			
LL Sample#	Sample Code	Analysis	
		Date	Time
3064365	W05S-	01/03/99	16:33
3064366MS	W05S-	01/03/99	17:08
3064367MSD	W05S-	01/03/99	17:42
3064362	W6S--	01/03/99	18:17
3064363	W29S-	01/03/99	18:52
3064364	FB01-	01/03/99	19:27
3064369	W10S-	01/03/99	20:02
3064372	W26S-	01/04/99	01:15

Method Blank Results				
CAS Number	Compound	Blank	LOQ	MDL
		Conc. (UG/L)	(UG/L)	(UG/L)
71-43-2	BENZENE	ND	1	.2
108-88-3	TOLUENE	ND	1	.2
100-41-4	ETHYLBENZENE	ND	1	.2
1330-20-7	TOTAL XYLENES	ND	3	.6

LOQ = Limit of Quantitation; MDL = Method Detection Limit
 ND = None Detected; * = Above Limit of Quantitation

Method Blank
 Petroleum Analysis - Water

Blank ID.....: BLK6804
 Date.....: 01/04/99
 Instrument.....: 5890-68--

Batch Number.....: 99003A68
 Time.....: 08:40
 Matrix.....: Water

Sample Information			
LL Sample#	Sample Code	Analysis	
		Date	Time
3064361	W09S-	01/04/99	17:22

Method Blank Results				
CAS Number	Compound	Blank	LOQ	MDL
		Conc. (UG/L)	(UG/L)	(UG/L)
71-43-2	BENZENE	ND	1	.2
108-88-3	TOLUENE	ND	1	.2
100-41-4	ETHYLBENZENE	ND	1	.2
1330-20-7	TOTAL XYLENES	ND	3	.6

LOQ = Limit of Quantitation; MDL = Method Detection Limit
 ND = None Detected; * = Above Limit of Quantitation

Method Blank
 Petroleum Analysis - Water

Blank ID.....: BLK6805
 Date.....: 01/04/99
 Instrument.....: 5890-68--

Batch Number.....: 99004A68
 Time.....: 20:03
 Matrix.....: Water

Sample Information				
LL Sample#	Sample Code	Analysis		
		Date	Time	
LCS6805	LAB CONTROL	01/04/99	21:13	
3065185	TBTW-	01/04/99	22:22	
3065189	TBMW-	01/04/99	22:57	
3065180		01/04/99	23:32	
3065180MS		01/05/99	00:07	
3065180MSD		01/05/99	00:42	
3065184	FD024	01/05/99	01:52	
3065182	TW054	01/05/99	02:26	
3065186	27S04	01/05/99	03:01	
3065187	20S04	01/05/99	03:36	
3065188	FB204	01/05/99	05:20	
3065183	TW094	01/05/99	09:57	

Method Blank Results				
CAS Number	Compound	Blank Conc. (UG/L)	LOQ (UG/L)	MDL (UG/L)
71-43-2	BENZENE	ND	1	.2
108-88-3	TOLUENE	ND	1	.2
100-41-4	ETHYLBENZENE	ND	1	.2
1330-20-7	TOTAL XYLENES	ND	3	.6

LOQ = Limit of Quantitation; MDL = Method Detection Limit
 ND = None Detected; * = Above Limit of Quantitation

Method Blank
 Petroleum Analysis - Water

Blank ID.....: BLK6806
 Date.....: 01/05/99
 Instrument.....: 5890-68--

Batch Number.....: 99004A68
 Time.....: 15:10
 Matrix.....: Water

Sample Information			
LL Sample#	Sample Code	Analysis	
		Date	Time
3064373	FD01-	01/05/99	16:55
3064371	W04S-	01/05/99	17:30

Method Blank Results				
CAS Number	Compound	Blank	LOQ	MDL
		Conc. (UG/L)	(UG/L)	(UG/L)
71-43-2	BENZENE	ND	1	.2
108-88-3	TOLUENE	ND	1	.2
100-41-4	ETHYLBENZENE	ND	1	.2
1330-20-7	TOTAL XYLENES	ND	3	.6

LOQ = Limit of Quantitation; MDL = Method Detection Limit
 ND = None Detected; * = Above Limit of Quantitation