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Received
08/26/99

24 August 1999

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, 2nd Quarter 1999
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 second quarter 1999 groundwater monitoring event completed at the above referenced project in June 1999. 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 second quarter 1999 reflect conditions at the site after the free-product recovery system was off from November of 1998 to 5 May 1999.

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) 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)-



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anthracene, fluorene, fluoranthene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, and pyrene).

2.0 GROUNDWATER MONITORING RESULTS

The second quarter 1999 groundwater monitoring event at the Moss-American site was completed on 22 and 23 June 1999. Tasks completed during the field effort for this event included the collection of groundwater elevation data from all the shallow monitoring wells followed by 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 3.5 feet of free-product. Therefore, as with any well observed to contain free-product, MW-8S is assumed as contaminated. Groundwater sample was also not collected from well MW-20S because of a compressed riser. The results of the groundwater samples that were collected and analyzed from the shallow are described in the following subsections.

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20S

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 22 June 1999, 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 0.023 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 approximately 0.081 ft/day. Near the river, the velocity of groundwater flow is calculated to be approximately 0.043 ft/day.



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2.2 GROUNDWATER SAMPLE ANALYSES RESULTS

Groundwater samples were collected from fifteen shallow monitoring wells (MW-3S, MW-4S, MW-5S, MW-6S, MW-7S, MW-9S, MW-10S, MW-13S, 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 (identified by a FB prefix) 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 6.9 to 7.9 standard pH units (S.U.) in the shallow groundwater samples. The specific conductivity ranged from 0.40 to 0.85 m Ω /cm in the shallow groundwater samples. Groundwater temperatures ranged from 17.8 to 24.7° C in the shallow groundwater monitoring wells. The redox potentials of the groundwater ranged from -78 to 200 millivolts (mV) in shallow groundwater samples. Dissolved oxygen levels ranged from 1.7 to 5.4 mg/L in the shallow monitoring wells. Turbidity ranged from 88 to 1,208 nephelometric turbidity units (NTU) in the shallow groundwater samples.

2.2.2 Laboratory Analyses

Each groundwater sample collected during the second quarter 1999 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 with concentrations exceeding both PALs and ESs are presented as bold and shaded values in Table 3. These results are summarized in the following paragraphs. The laboratory reports are presented in Attachment A.



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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 MW-7S.
- Naphthalene was detected at concentrations exceeding the WDNR PAL of 8 µg/L in groundwater samples collected from monitoring wells MW-4S and TW-09.
- Fluorene was detected at concentrations exceeding WDNR PAL of 80 µg/L in groundwater sample collected from MW-4S and TW-09.
- Benzo(a)pyrene was detected at concentrations exceeding the WDNR PAL of 0.02 µg/L in groundwater samples collected from monitoring wells MW-3S, MW-4S, MW-7S, MW-9S, MW-13S, MW-28S, TW-05, TW-09, FD-01, and FD-02.

ES Exceedances:

- Benzene was detected at concentrations exceeding the WDNR PAL of 5 µg/L in groundwater sample MW-4S and MW-7S.
- Naphthalene was detected at concentrations exceeding the WDNR ES of 40 µg/L in groundwater samples collected from monitoring wells MW-4S and TW-09.
- Fluorene was detected at concentrations exceeding the WDNR ES of 400 µg/L in groundwater sample collected from monitoring well MW-4S and TW-09.
- 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 and TW-09.



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For the most part, the detected plume boundary during this sampling event is an area encompassing the four most impacted wells (MW-4S, MW-8S, TW-05, and TW-09). Groundwater from monitoring wells MW-28S, MW-3S, and MW-9S indicated a concentration of benzo(a)pyrene above the WDNR PAL of 0.02 $\mu\text{g/L}$, which may be related to the seasonal high groundwater table. Based on these detected concentrations, the width of the contaminant plume covers a broader area, with a more easterly trend as indicated in Figure 1. This trend of the plume may also be attributed to the free product recovery system turned off for approximately five months.

A summary of the concentration of contaminants at wells that have regularly exceeded PALs and/or ES during the four quarters of 1998 and the first and second quarter of 1999 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 the later part of 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.

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

TPG/slr
Attachments

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

Table 1

**Groundwater Elevation Measurements
Second Quarter 1999
Moss-American Site
Milwaukee, Wisconsin**

Well ID	Ground Elevation	TOC Elevation	Depth to Water	GW Elevation	Product Thickness
MW-3S	729.00	731.50	6.82	724.68	ND
MW-4S	731.00	732.86	4.90	727.96	ND
MW-5S	723.00	724.70	4.75	719.95	ND
MW-6S	727.00	724.28	4.58	719.70	ND
MW-7S	720.00	721.70	6.14	715.56	ND
MW-8S	718.00	721.73	5.05	716.68	3.45
MW-9S	720.00	721.71	6.79	714.92	ND
MW-10S	723.00	726.58	6.40	720.18	ND
MW-13S	737.00	738.68	2.72	735.96	ND
MW-20S	716.00	719.94	5.12	714.82	ND
MW-25S	736.83	739.24	3.10	736.14	ND
MW-26S	732.31	731.66	3.24	728.42	ND
MW-27S	720.59	723.15	3.85	719.30	ND
MW-28S	720.04	722.65	4.63	718.02	ND
MW-29S	720.01	722.39	4.69	717.70	ND
TW-05	721.76	724.16	3.28	720.88	ND
TW-09	717.61	719.96	3.92	716.04	trace

Note: All values in feet

TOC = Top of the casing

GW = Groundwater

ND = Not detected

All elevation measurements are with respect to Mean Sea Level (MSL)

Table 2

**Field-Measured Parameters
Second Quarter 1999
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	7.4	0.837	22.3	138	3.7	1,064
MW-4S	7.6	0.847	20.2	-78	3.4	88
MW-5S	7.5	0.45	18.9	46	3.6	1,127
MW-6S	7.8	0.40	19.3	154	2.8	1,208
MW-7S	6.9	0.85	18.3	48	2.7	448
MW-8S	NM	NM	NM	NM	NM	NM
MW-9S	7.1	0.69	17.8	-17	2.1	1,135
MW-10S	7.0	0.58	20.5	200	4.1	191
MW-13S	7.0	0.51	25.1	170	4.7	349
MW-20S	NS	NS	NS	NS	NS	NS
MW-25S	7.3	0.57	24.6	189	3.2	998
MW-26S	7.5	0.66	24.7	195	3.6	806
MW-27S	7.3	0.74	20.4	-78	1.7	425
MW-28S	7.9	0.54	19.6	107	5.4	1,131
MW-29S	7.6	0.48	18.6	128	3.7	782
TW-05	7.2	0.55	20.9	-62	1.7	538
TW-09	NM	NM	NM	NM	NM	NM

S - Shallow well
 TW - Temporary Well (Shallow)
 NM - Not measured.
 NS- Not samples due to compressed riser

Table 3
Groundwater Sample Analytical Results
Second Quarter 1999
Moss-American Site
Milwaukee, Wisconsin

Sample ID:	MW-3S-06		MW-4S-06		MW-5S-06		MW-6S-06		MW-7S-06		WDNR PAL ug/L	WDNR ES ug/L
Sample Matrix:	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater			
Sample Date:	6/22/99		6/22/99		6/22/99		6/23/99		6/22/99			
Units of Measure:	ug/L		ug/L		ug/L		ug/L		ug/L			
Parameters												
VOCs												
Benzene	0.2	U	6		0.2	U	0.2	U	7	J	0.5	5
Toluene	0.2	U	10		0.2	U	0.2	U	4	U	68.6	343
Ethylbenzene	0.2	U	18		0.2	U	0.2	U	30		140	700
Total Xylenes	0.6	U	27		0.6	U	0.6	U	80		124	620
PAHs												
Naphthalene	0.81	U	940		0.81	U	0.86	U	6,400		8.0	40
Acenaphthylene	0.81	U	80	U	0.81	U	0.86	U	4.2	U	NA	NA
Acenaphthene	0.81	U	950		0.81	U	0.86	U	180		NA	NA
Fluorene	0.17	U	547		0.17	U	0.18	U	36.5		80	400
Phenanthrene	0.047	U	287		0.047	U	0.091	J	0.24	U	NA	NA
Anthracene	0.031	U	131		0.031	U	0.033	U	0.16	U	NA	NA
Fluoranthene	0.048	J	516		0.020	U	0.040	J	0.10	U	NA	NA
Pyrene	0.18	U	459		0.18	U	0.19	U	0.94	U	NA	NA
Benzo(a)anthracene	0.018	U	84.9		0.018	U	0.019	U	0.094	U	NA	NA
Chrysene	0.060	U	89		0.060	U	0.064	U	0.31	U	NA	NA
Benzo(b)fluoranthene	0.035	U	31.3		0.035	U	0.038	U	0.18	U	NA	NA
Benzo(k)fluoranthene	0.027	U	16.6		0.027	U	0.029	U	0.14	U	NA	NA
Benzo(a)pyrene	0.023	J	35.1		0.022	U	0.024	U	0.12	U	0.02	0.2
Dibenzo(a,h)anthracene	0.048	U	4.70	U	0.048	U	0.051	U	0.25	U	NA	NA
Benzo(g,h,i)perylene	0.10	U	9.9	J	0.10	U	0.11	U	0.52	U	NA	NA
Indeno(1,2,3-cd)pyrene	0.065	U	15.4	J	0.065	U	0.069	U	0.34	U	NA	NA

VOC - Volatile Organic Compound.

PAL - Wisconsin Department of Natural Resources (WDNR) Preventative Action Limit. ES = Enforcement Standard (WDNR)

PAH - Polynuclear Aromatic Hydrocarbon.

NA - PAL or ES not available for this parameter.

Table 3 (Cont.)

Groundwater Sample Analytical Results
 Second Quarter 1999
 Moss-American Site
 Milwaukee, Wisconsin

Sample ID:	MW-9S-06		MW-10S-06		MW-13S-06		MW-25S-06		MW-26S-06		WDNR PAL ug/L	WDNR ES ug/L
Sample Matrix:	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater			
Sample Date:	6/23/99		6/23/99		6/22/99		6/22/99		6/22/99			
Units of Measure:	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	0.5	5
Toluene	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	140	700
Total Xylenes	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	124	620
PAHs												
Naphthalene	0.84	U	0.81	U	0.82	U	0.79	U	0.81	U	8.0	40
Acenaphthylene	0.84	U	0.81	U	0.82	U	0.79	U	0.81	U	NA	NA
Acenaphthene	0.84	U	0.81	U	0.82	U	0.79	U	0.81	U	NA	NA
Fluorene	0.18	U	0.17	U	0.17	U	0.17	U	0.17	U	80	400
Phenanthrene	0.048	U	0.046	U	0.068	J	0.045	U	0.047	U	NA	NA
Anthracene	0.032	U	0.031	U	0.032	U	0.031	U	0.031	U	NA	NA
Fluoranthene	0.025	J	0.020	U	0.035	J	0.020	U	0.020	U	NA	NA
Pyrene	0.19	U	0.18	U	0.19	U	0.18	U	0.18	U	NA	NA
Benzo(a)anthracene	0.019	U	0.018	U	0.019	U	0.018	U	0.018	U	NA	NA
Chrysene	0.093	U	0.060	U	0.011	U	0.058	U	0.060	U	NA	NA
Benzo(b)fluoranthene	0.039	J	0.035	U	0.036	U	0.035	U	0.035	U	NA	NA
Benzo(k)fluoranthene	0.028	U	0.027	U	0.028	U	0.027	U	0.027	U	NA	NA
Benzo(a)pyrene	0.047	J	0.022	U	0.023	U	0.022	U	0.022	U	0.02	0.2
Dibenzo(a,h)anthracene	0.049	U	0.047	U	0.048	U	0.046	U	0.048	U	NA	NA
Benzo(g,h,i)perylene	0.10	U	0.10	U	0.10	U	0.098	U	0.010	U	NA	NA
Indeno(1,2,3-cd)pyrene	0.87	U	0.065	U	0.066	U	0.063	U	0.065	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
Second Quarter 1999
Moss-American Site
Milwaukee, Wisconsin**

Sample ID:	MW-27S-06	MW-28S-06	MW-29S-06	TW-05-06	TW-09-06	FD-01-06	FD-02-06	FB-01-06	WDNR PAL	WDNR ES								
Sample Matrix:	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater										
Sample Date:	6/23/99	6/23/99	6/23/99	6/23/99	6/22/99	6/22/99	6/22/99	6/22/99	ug/L	ug/L								
Units of Measure:	ug/L	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	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	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	9	J	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	24	J	0.6	U	0.6	U	0.6	U	124	620
PAHs																		
Naphthalene	0.79	U	4.0	U	0.80	U	3.9	U	11,600	J	0.90	U	0.83	U	0.77	U	8.0	40
Acenaphthalene	0.79	U	4.0	U	0.80	U	3.9	U	4,700	U	0.90	U	0.83	U	0.77	U	NA	NA
Acenaphthene	0.79	U	4.0	U	0.80	U	120		8,500	J	0.90	U	0.83	U	0.77	U	NA	NA
Fluorene	0.17	U	0.86	U	0.17	U	79.6		5,200	J	0.19	U	0.18	U	0.16	U	80	400
Phenanthrene	0.045	U	0.048	J	0.046	U	3.1		13,100		0.52	U	0.048	U	0.044	U	NA	NA
Anthracene	0.031	U	0.026	J	0.065	J	5.6		1,500		0.035	U	0.032	U	0.030	U	NA	NA
Fluoranthene	0.020	U	2.3		0.36		24.1		5,100		0.023	U	0.024	J	0.019	U	NA	NA
Pyrene	0.18	U	2.11	J	0.33	J	20.5		4,400	J	0.2	U	0.19	U	0.17	U	NA	NA
Benzo(a)anthracene	0.018	U	0.66	U	0.055	J	2.93		790		0.02	U	0.019	U	0.017	U	NA	NA
Chrysene	0.058	U	1.42	J	0.070	U	3.3		730	J	0.067	U	0.061	U	0.057	U	NA	NA
Benzo(b)fluoranthene	0.035	U	3.1	U	0.044	J	1.23		220	J	0.04	U	0.041	J	0.034	U	NA	NA
Benzo(k)fluoranthene	0.027	U	1.11	U	0.027	U	0.67		160	U	0.03	U	0.028	U	0.026	U	NA	NA
Benzo(a)pyrene	0.022	U	2.62		0.034	J	1.42		230	J	0.025	U	0.046	J	0.021	U	0.02	0.2
Dibenzo(a,h)anthracene	0.046	U	0.38	J	0.047	U	0.24	J	270	U	0.053	U	0.049	U	0.045	U	NA	NA
Benzo(g,h,i)perylene	0.098	U	2.9	U	0.099	U	0.49	U	580	U	0.11	U	0.10	U	0.096	U	NA	NA
Indeno(1,2,3-cd)pyrene	0.063	U	3.2	U	0.064	U	0.73	J	370	U	0.072	U	0.067	U	0.062	U	NA	NA

VOC - Volatile Organic Compound.

FD-01-04 is MW-26S-06

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

ES = Enforcement Standard (WDNR)

PAH - Polynuclear Aromatic Hydrocarbon.

FD-02-04 is MW-95-06

NA - PAL or ES not available for this parameter.

Table 3 (Cont.)

**Groundwater Sample Analytical Results
Second Quarter 1999
Moss-American Site
Milwaukee, Wisconsin**

Sample ID:	FB-02-06			WDNR PAL ug/L	WDNR ES ug/L
Sample Matrix:	Groundwater				
Sample Date:	6/23/99				
Units of Measure:	ug/L				
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	0.77	U	8.0	40	
Acenaphthalylene	0.77	U	NA	NA	
Acenaphthene	0.77	U	NA	NA	
Fluorene	0.16	U	80	400	
Phenanthrene	0.044	U	NA	NA	
Anthracene	0.030	U	NA	NA	
Fluoranthene	0.019	U	NA	NA	
Pyrene	0.17	U	NA	NA	
Benzo(a)anthracene	0.017	U	NA	NA	
Chrysene	0.057	U	NA	NA	
Benzo(b)fluoranthene	0.034	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	0.095	U	NA	NA	
Indeno(1,2,3-cd)pyrene	0.062	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

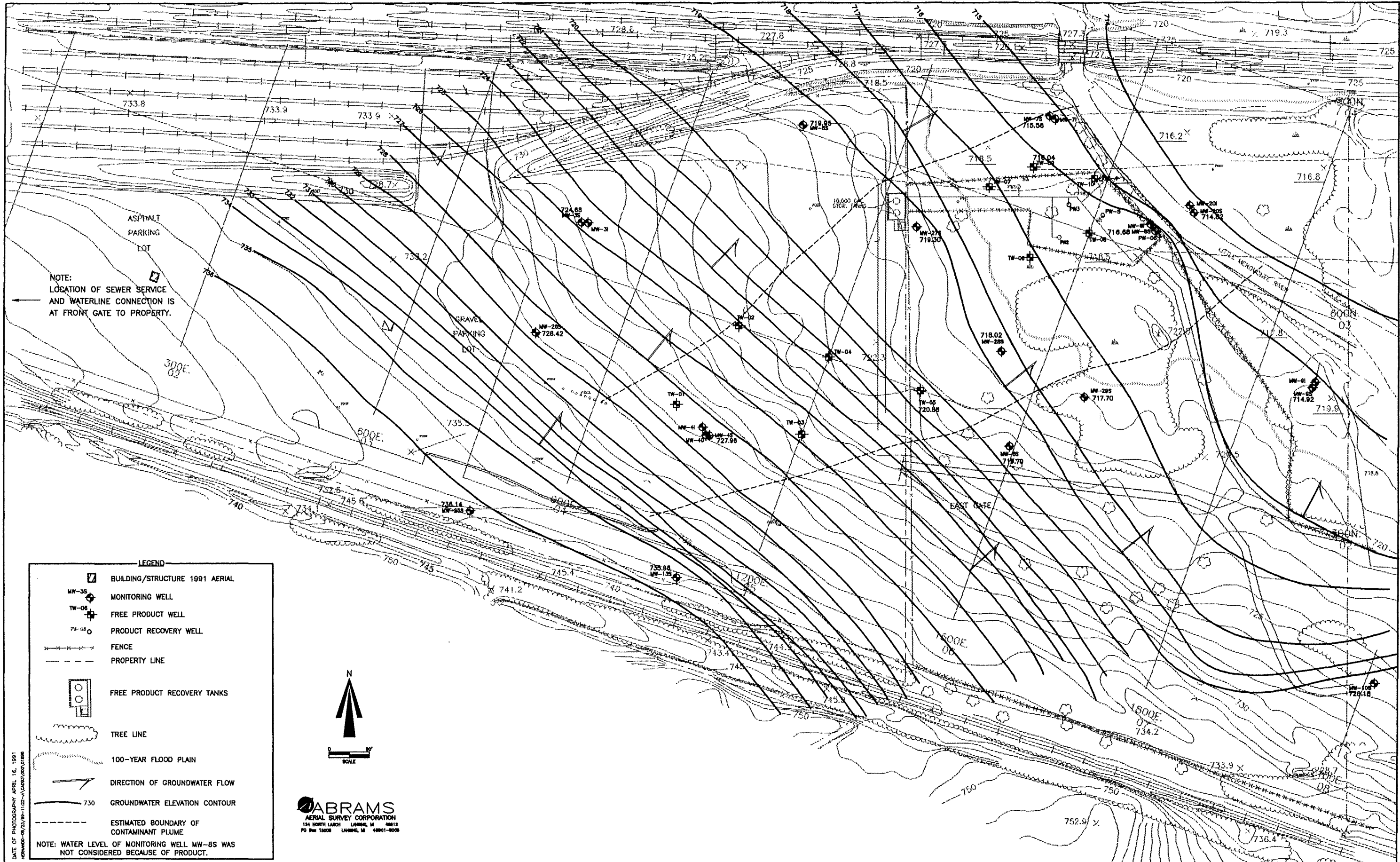
**Concentration Trends in Groundwater Samples
Four quarters of 1998 and two quarters of 1999
Moss-American Site
Milwaukee, Wisconsin**

	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
First Quarter (March '99)	5	9	0.2 U	0.3 U
Second Quarter (June '99)	6	7J	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
First Quarter (March '99)	1,330	5,560	19.9	9,500
Second Quarter (June '99)	940	6,400	3.9 U	11,600
<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
First Quarter (March '99)	271	30	65.4	4,300
Second Quarter (June '99)	547	36.5	79.6	5,200
<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
First Quarter (March '99)	6.10	0.43	2.10	240
Second Quarter (June '99)	35.1	0.12 U	1.42	230 J

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
- MONITORING WELL
- FREE PRODUCT WELL
- 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 LEVEL OF MONITORING WELL MW-8S WAS NOT CONSIDERED BECAUSE OF PRODUCT.

N
▲
0 10 20
SCALE

ABRAMS
AERIAL SURVEY CORPORATION
134 NORTH LAUREL LANSING, MI 48912
PO Box 10008 LANSING, MI 48901-0008

DATE OF PHOTOGRAPHY APRIL 16, 1991
SERIAL NO. 89/23/89-1125-A/0400/000/0188

NO.	DATE	APPR.	NO.	DATE	APPR.	REVISION

MOSS - AMERICAN SITE
Milwaukee, Wisconsin

WESTON
ENGINEERS/CONSULTANTS

CHECKED	DATE	CLIENT APPROVAL	DATE

GROUNDWATER ELEVATION CONTOUR MAP
2ND QUARTER 1999

BY	DATE	SCALE	PROJECT NO.	REV. NO.
D.C.H.	JUNE 99	1" = 60'	026870070030002	1

ATTACHMENT A
LABORATORY REPORTS



Roy F. Weston, Inc. of Michigan
Suite 270
2125 University Park Drive
Okemos, Michigan 48864-3974
517-349-8255 • Fax 517-349-0798
www.rfweston.com

11 August 1999

Dr. Thomas Graan
Project Manager
Roy F. Weston, Inc.
3 Hawthorne Parkway
Suite 400
Vernon Hills, Illinois 60061

Re: Data Validation of Polynuclear Aromatic Hydrocarbon and Volatiles Analyses performed by Lancaster Laboratories, Lancaster, Pennsylvania for the Moss American Site.

Dear Dr. Graan:

I have reviewed the analytical data provided by Lancaster Laboratories of Lancaster, Pennsylvania for the Moss American site. The water analyses performed and validated are summarized below:

Polynuclear Aromatic Hydrocarbons (PAHs by HPLC)

SDG # MOS09

1. Samples

<u>WESTON Code</u>	<u>Lab Sample No.</u>	<u>Date Collected</u>	<u>Date Extracted</u>	<u>Date Analyzed</u>
TW-09-06	3178806	6/22/99	6/24/99	6/28/99
MW-13S-06	3178807	6/22/99	6/24/99	6/25/99
MW-25S-06	3178808	6/22/99	6/24/99	6/25/99
MW-26S-06	3178809	6/22/99	6/24/99	6/25/99
MW-3S-06	3178810	6/22/99	6/24/99	6/25/99
MW-5S-06	3178811	6/22/99	6/24/99	6/25/99
MW-4S-06	3178812	6/22/99	6/24/99	6/27/99
MW-7S-06	3178813	6/22/99	6/24/99	6/27/99
FD-01-06	3178814	6/22/99	6/24/99	6/25/99
FB-01-06	3178815	6/22/99	6/24/99	6/25/99
MW-10S-06	3179678	6/23/99	6/25/99	6/27/99
MW-9S-06	3179679	6/23/99	6/25/99	6/27/99
MW-29S-06	3179680	6/23/99	6/25/99	6/27/99
MW-6S-06	3179681	6/23/99	6/25/99	6/27/99
TW-05-06	3179682	6/23/99	6/25/99	6/27/99
MW-28S-06	3179685	6/23/99	6/25/99	6/27/99
MW-27S-06	3179686	6/23/99	6/25/99	6/27/99
FD-02-06	3179687	6/23/99	6/25/99	6/27/99
FB-02-06	3179688	6/23/99	6/25/99	6/27/99



Polynuclear Aromatic Hydrocarbons (PAHs by HPLC)

SDG # MOS09

2. Holding Times

All samples were extracted and analyzed within the required holding time.

3. Blanks

Two method blanks were associated with these samples. PBLKV2 was free of contamination. PBLKW7 contained chrysene at 0.067 ug/L. Qualify the chrysene results in Samples MW-9S-06 and MW-29S-06 as not-detected (U) due to blank contamination.

4. Field Blanks

Two field blanks were associated with these samples. Sample FB-01-06 and FB-02-06 were free of contamination.

5. Matrix Spike/Matrix Spike Duplicate

Sample TW-05-06 was used for the MS/MSD audit. The matrix spike recoveries for fluoranthene (285%) and benzo(a)anthracene (177%) were outside the quality control limits. The matrix spike duplicate recoveries for fluoranthene (284%) and benzo(a)anthracene (183%) were outside the quality control limits. However, the laboratory control sample and laboratory control sample duplicate recoveries for fluoranthene and benzo(a)anthracene were within acceptance limits, so no action was taken.

6. Surrogate Compound Recoveries

The nitrobenzene surrogate spike recovery on the primary column for sample TW-09-06 was diluted out (0% recovery). The triphenylene surrogate spike recoveries on the primary column for samples MW-4S-06 (2090%), TW-05-06 (184%), and TW-09-06 (500%) were diluted out. The triphenylene surrogate spike recoveries on the secondary column for samples MW-28S-06 (262%), MW-4S-06 (1860%), and TW-09-06 (900%) were diluted out. These recoveries were diluted out due to matrix related problems as noted in the laboratory narrative.

7. Laboratory Control Sample

Two laboratory control sample audits were included with this laboratory sample delivery group. All laboratory control sample results were acceptable.



Polynuclear Aromatic Hydrocarbons (PAHs by HPLC)

SDG # MOS09

8. Overall Assessment

The chrysene results in Samples MW-9S-06 and MW-29S-06 were qualified as not-detected (U) due to blank contamination. All Polynuclear Aromatic Hydrocarbon results for these samples are acceptable and usable.

Petroleum Analyses (BTEX by SW 846 Method 8021)

SDG # MOS09

1. Samples

<u>WESTON Code</u>	<u>Lab Sample No.</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
TW-09-06	3178806	6/22/99	6/29/99
MW-13S-06	3178807	6/22/99	6/28/99
MW-25S-06	3178808	6/22/99	6/28/99
MW-26S-06	3178809	6/22/99	6/28/99
MW-3S-06	3178810	6/22/99	6/28/99
MW-5S-06	3178811	6/22/99	6/28/99
MW-4S-06	3178812	6/22/99	6/29/99
MW-7S-06	3178813	6/22/99	6/29/99
FD-01-06	3178814	6/22/99	6/28/99
FB-01-06	3178815	6/22/99	6/28/99
TB-01-06	3178816	6/23/99	6/24/99
MW-10S-06	3179678	6/23/99	6/28/99
MW-9S-06	3179679	6/23/99	6/28/99
MW-29S-06	3179680	6/23/99	6/28/99
MW-6S-06	3179681	6/23/99	6/28/99
TW-05-06	3179682	6/23/99	6/28/99
MW-28S-06	3179685	6/23/99	7/07/99
MW-27S-06	3179686	6/23/99	7/07/99
FD-02-06	3179687	6/23/99	7/07/99
FB-02-06	3179688	6/23/99	6/28/99
TB-02-06	3179689	6/23/99	6/28/99

2. Holding Times

All samples were analyzed within the required holding time.



Petroleum Analyses (BTEX by SW 846 Method 8021)

SDG # MOS09

3. Method Blanks

Four method blanks (BLK0263, BLK6853, BLK6854 and BLK 6931) were associated with these samples. All method blanks were free of contamination.

4. Field Blanks

Two field blanks were associated with these samples. Sample FB-01-06 and Sample FB-02-06 were free of contamination.

5. Trip Blanks

Two trip blanks were associated with these samples. Sample TB-01-06 and Sample TB-02-06 were free of contamination.

6. Matrix Spike/ Matrix Spike Duplicate

Sample TW-05-06 was used for the matrix spike/matrix spike duplicate audit. All matrix spike and matrix spike duplicate recoveries were acceptable.

7. Surrogates

All surrogate spike recoveries for trifluorotoluene were acceptable for all samples.

8. Laboratory Control Sample

Three laboratory Control Sample audits (LCS 0261, LCS 6853, and LCS 6931) were analyzed with these samples. All laboratory control sample results were within the acceptance limits.



Petroleum Analyses (BTEX by SW 846 Method 8021)

SDG # MOS09

9. Overall Assessment

The Petroleum Analyses were acceptable and usable without qualification.

Please contact me at (517) 349-8255 if you have any questions or problems regarding this validation report.

Very truly yours,

ROY. F. WESTON, INC.

A handwritten signature in cursive script that reads "Linda Korobka". The signature is written in black ink and includes a horizontal line extending to the right.

Linda Korobka
Senior Project Scientist



LLI Sample No. WW 3178810

Collected: 6/22/99 at 14:00 by JA

Submitted: 6/23/99 Reported: 7/ 3/99
Discard: 8/ 3/99

MW-3S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
3S-06 SDG#: MOS09-05

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
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
07:28:24 D 0003 11 128410 671392
232 0.00 00021753 ASR000



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

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See reverse side for explanation of symbols and abbreviations.

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



LLI Sample No. WW 3178810

Collected: 6/22/99 at 14:00 by JA

Submitted: 6/23/99 Reported: 7/ 3/99
Discard: 8/ 3/99

MW-3S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
3S-06 SDG#: MOS09-05

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.	0.81	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.	0.047	ug/l
3285	Anthracene	N.D.	0.031	ug/l
3286	Fluoranthene	0.048 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.	0.060	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	0.023 J	0.022	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.048	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

Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

Handwritten signature: J. Hess 8/11/99

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

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



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LLI Sample No. WW 3178810

Collected: 6/22/99 at 14:00 by JA

Submitted: 6/23/99 Reported: 7/ 3/99

Discard: 8/ 3/99

MW-3S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
3S-06 SDG#: MOS09-05

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.	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

J. K. ...
6/14/99

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

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



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LLI Sample No. **WW 3178810**

Collected: 06/22/99 at 14:00 by TA

Submitted: 06/23/99

MW-3S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
3S-06 SDG#: MOS09-05

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		06/25/99 1649	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1		06/24/99 1200	Anita M. Dale
8213	BTEX (8021)	SW-846 8021B	1		06/28/99 2047	Jodie L. Larsen



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LLI Sample No. 3178810

MW-3S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671392
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: 991750002A									
3280	Naphthalene 0.81 ug/l	N.D.					80	80	0	45	111
3281	Acenaphthylene 0.81 ug/l	N.D.					92	89	4	59	114
3282	Acenaphthene 0.81 ug/l	N.D.					88	86	2	50	120
3283	Fluorene 0.17 ug/l	N.D.					95	92	4	64	117
3284	Phenanthrene 0.047 ug/l	N.D.					98	92	6	75	114
3285	Anthracene 0.031 ug/l	N.D.					92	87	5	64	104
3286	Fluoranthene 0.020 ug/l	N.D.					95	89	6	43	147
3287	Pyrene 0.18 ug/l	N.D.					93	88	6	39	149
3288	Benzo(a)anthracene 0.018 ug/l	N.D.					91	86	6	73	117
3289	Chrysene 0.060 ug/l	N.D.					92	87	6	68	125
3290	Benzo(b)fluoranthene 0.035 ug/l	N.D.					96	90	6	71	123
3291	Benzo(k)fluoranthene 0.027 ug/l	N.D.					97	91	6	75	118
3292	Benzo(a)pyrene 0.022 ug/l	N.D.					105	99	7	61	127
3293	Dibenzo(a,h)anthracene 0.048 ug/l	N.D.					93	88	6	71	121
3294	Benzo(g,h,i)perylene 0.10 ug/l	N.D.					106	101	5	70	125
3295	Indeno(1,2,3-cd)pyrene 0.065 ug/l	N.D.					105	99	6	73	125
3213 BTEX (8021)		Batch: 99179A68									
0776	Benzene 0.2 ug/l	N.D.		110	109	1	92			81	124
0777	Toluene 0.2 ug/l	N.D.		110	110	0	92			81	122
0778	Ethylbenzene 0.2 ug/l	N.D.		107	107	0	90			79	123
0779	Total Xylenes 0.6 ug/l	N.D.		106	106	0	90			80	123



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LLI Sample No. 3178810

MW-3S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671392
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	88	29	136
		Triphenyle	95	33	139
8213 BTEX (8021)		TFT	94	77	118



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LLT Sample No. WW 3178812

Collected: 6/22/99 at 15:25 by JA

Submitted: 6/23/99 Reported: 7/ 3/99
Discard: 8/ 3/99

MW-4S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
4S-06 SDG#: MOS09-07

Account No: 07302
Kerr-McGee Corporation
P.O. Box 25867
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
07:29:40 D 0003 11 128410 671392
232 0.00 00021753 ASR000

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



Lancaster Laboratories
2425 New Holland Pike
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Lancaster Laboratories
Where quality is a science.

LLI Sample No. WW 3178812

Collected: 6/22/99 at 15:25 by JA

Submitted: 6/23/99 Reported: 7/ 3/99
Discard: 8/ 3/99

MW-4S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
4S-06 SDG#: MOS09-07

Account #: 07802
Kerr-McGee Corporation
P.O. Box 25361
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	940.	80.	ug/l
3281	Acenaphthylene	N.D.	80.	ug/l
3282	Acenaphthene	950.	80.	ug/l
3283	Fluorene	547.	17.	ug/l
3284	Phenanthrene	287.	4.6	ug/l
3285	Anthracene	131.	3.1	ug/l
3286	Fluoranthene	516.	2.0	ug/l
3287	Pyrene	459.	18.	ug/l
3288	Benzo(a)anthracene	84.9	1.8	ug/l
3289	Chrysene	89.	5.9	ug/l
3290	Benzo(b)fluoranthene	31.3	3.5	ug/l
3291	Benzo(k)fluoranthene	16.6	2.7	ug/l
3292	Benzo(a)pyrene	35.1	2.2	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	4.7	ug/l
3294	Benzo(g,h,i)perylene	9.9 J	9.9	ug/l
3295	Indeno(1,2,3-cd)pyrene	15.4 J	6.4	ug/l

Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

Handwritten signature
8/11/99

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
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LLI Sample No. WW 3178812

Collected: 6/22/99 at 15:25 by JA

Submitted: 6/23/99 Reported: 7/ 3/99

Discard: 8/ 3/99

MW-4S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
4S-06 SDG#: MOS09-07

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25361
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	
			DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	6.	0.2	ug/l
0777	Toluene	10.	0.2	ug/l
0778	Ethylbenzene	18.	0.2	ug/l
0779	Total Xylenes	27.	0.6	ug/l

Handwritten signature
6/24/99

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

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See reverse side for explanation of symbols and abbreviations.



LLI Sample No. WW 3178812

Collected: 06/22/99 at 15:25 by JA

Submitted: 06/23/99

MW-4S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
4S-06 SDG#: MOS09-07

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		06/27/99 1720	Michelle J. Kolodziejski
3337	PAH Water Extraction	SW-846 3510C	1		06/24/99 1200	Anita M. Dale
8213	BTEX (8021)	SW-846 8021B	1		06/29/99 0723	Jodie L. Larsen



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LLI Sample No. 3178812

MW-4S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671392
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: 991750002A									
3230	Naphthalene										
80.	ug/l	N.D.					80	80	0	45	111
3281	Acenaphthylene										
80.	ug/l	N.D.					92	89	4	59	114
3282	Acenaphthene										
80.	ug/l	N.D.					88	86	2	50	120
3283	Fluorene										
17.	ug/l	N.D.					95	92	4	64	117
3284	Phenanthrene										
4.6	ug/l	N.D.					98	92	6	75	114
3285	Anthracene										
3.1	ug/l	N.D.					92	87	5	64	104
3286	Fluoranthene										
2.0	ug/l	N.D.					95	89	6	43	147
3287	Pyrene										
18.	ug/l	N.D.					93	88	6	39	149
3288	Benzo(a)anthracene										
1.8	ug/l	N.D.					91	86	6	73	117
3289	Chrysene										
5.9	ug/l	N.D.					92	87	6	68	125
3290	Benzo(b)fluoranthene										
3.5	ug/l	N.D.					96	90	6	71	123
3291	Benzo(k)fluoranthene										
2.7	ug/l	N.D.					97	91	6	75	118
3292	Benzo(a)pyrene										
2.2	ug/l	N.D.					105	99	7	61	127
3293	Dibenzo(a,h)anthracene										
4.7	ug/l	N.D.					93	88	6	71	121
3294	Benzo(g,h,i)perylene										
9.9	ug/l	N.D.					106	101	5	70	125
3295	Indeno(1,2,3-cd)pyrene										
6.4	ug/l	N.D.					105	99	6	73	125
8213 BTEX (8021)		Batch: 99179A68									
0776	Benzene										
0.2	ug/l	N.D.	110	109		1	92			81	124
0777	Toluene										
0.2	ug/l	N.D.	110	110		0	92			81	122
0778	Ethylbenzene										
0.2	ug/l	N.D.	107	107		0	90			79	123
0779	Total Xylenes										
0.6	ug/l	N.D.	106	106		0	90			80	123



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LLI Sample No. **3178812**

MW-4S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671392
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	92	29	136
		Triphenyle	(5)	33	139
8213 BTEX (8021)		TFT	96	77	118

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



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LLI Sample No. WW 3178811

Collected: 6/22/99 at 14:45 by JA

Submitted: 6/23/99 Reported: 7/ 3/99

Discard: 8/ 3/99

MW-5S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
5S-06 SDG#: MOS09-06

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
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
07:29:03 D 0003 11 128410 671392
232 0.00 00021753 ASR000

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



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LLI Sample No. WW 3178811

Collected: 6/22/99 at 14:45 by JA

Submitted: 6/23/99 Reported: 7/ 3/99
Discard: 8/ 3/99

MW-5S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
5S-06 SDG#: MOS09-06

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
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.	0.047	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.	0.060	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.	0.048	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

Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

L. K. Stahl
8/14/99

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

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



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LLI Sample No. WW 3178811

Collected: 6/22/99 at 14:45 by JA

Submitted: 6/23/99 Reported: 7/ 3/99

Discard: 8/ 3/99

MW-5S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
5S-06 SDG#: MOS09-06

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

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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

Handwritten signature
8/11/99

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

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



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LLI Sample No. WW **3178811**

Collected: 06/22/99 at 14:45 by JA

Submitted: 06/23/99

MW-5S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
5S-06 SDG#: MOS09-06

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		06/25/99 1711	Michelle J. Kolodziejski
3337	PAH Water Extraction	SW-846 3510C	1		06/24/99 1200	Anita M. Dale
8213	BTEX (8021)	SW-846 8021B	1		06/28/99 2122	Jodie L. Larsen



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LLI Sample No. 3178811

MW-5S-06 Ground Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671392
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH
-----		Batch: 991750002A									
1861 PAH's in Water											
3280	Naphthalene										
	0.81 ug/l	N.D.					80	80	0	45	111
3281	Acenaphthylene										
	0.81 ug/l	N.D.					92	89	4	59	114
3282	Acenaphthene										
	0.81 ug/l	N.D.					88	86	2	50	120
3283	Fluorene										
	0.17 ug/l	N.D.					95	92	4	64	117
3284	Phenanthrene										
	0.047 ug/l	N.D.					98	92	6	75	114
3285	Anthracene										
	0.031 ug/l	N.D.					92	87	5	64	104
3286	Fluoranthene										
	0.020 ug/l	N.D.					95	89	6	43	147
3287	Pyrene										
	0.18 ug/l	N.D.					93	88	6	39	149
3288	Benzo(a)anthracene										
	0.018 ug/l	N.D.					91	86	6	73	117
3289	Chrysene										
	0.060 ug/l	N.D.					92	87	6	68	125
3290	Benzo(b)fluoranthene										
	0.035 ug/l	N.D.					96	90	6	71	123
3291	Benzo(k)fluoranthene										
	0.027 ug/l	N.D.					97	91	6	75	118
3292	Benzo(a)pyrene										
	0.022 ug/l	N.D.					105	99	7	61	127
3293	Dibenzo(a,h)anthracene										
	0.048 ug/l	N.D.					93	88	6	71	121
3294	Benzo(g,h,i)perylene										
	0.10 ug/l	N.D.					106	101	5	70	125
3295	Indeno(1,2,3-cd)pyrene										
	0.065 ug/l	N.D.					105	99	6	73	125
-----		Batch: 99179A68									
8213 BTEX (8021)											
0776	Benzene										
	0.2 ug/l	N.D.		110	109	1	92			81	124
0777	Toluene										
	0.2 ug/l	N.D.		110	110	0	92			81	122
0778	Ethylbenzene										
	0.2 ug/l	N.D.		107	107	0	90			79	123
0779	Total Xylenes										
	0.6 ug/l	N.D.		106	106	0	90			80	123



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LLI Sample No. 3178811

MW-55-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671392
Kerr-McGee Corporation

SURROGATE SUMMARY

	TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
				LOW	HIGH
1861 PAH's in Water		Nitrobenz	93	29	136
		Triphenyle	97	33	139
8213 BTEX (8021)		TFT	96	77	118



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LLI Sample No. WW 3179681
Collected: 6/23/99 at 11:15 by JA

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

P.O. MOSS-AMERICAN
Rel.

Submitted: 6/24/99 Reported: 7/13/99
Discard: 8/13/99

MW-6S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
-6S-- SDG#: MOS09-15

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 ATTN: Garett Van de Steeg, PhD
1 COPY TO Roy F. Weston ATTN: Mr. Tom Graan
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
03:08:53 D 0003 12 128410 671615
232 0.00 00021753 ASR000



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



LLI Sample No. WW 3179681
Collected: 6/23/99 at 11:15 by JA

Submitted: 6/24/99 Reported: 7/13/99
Discard: 8/13/99

MW-6S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
-6S-- SDG#: MOS09-15

Account No: 07802

Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

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Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.86	ug/l
3281	Acenaphthylene	N.D.	0.86	ug/l
3282	Acenaphthene	N.D.	0.86	ug/l
3283	Fluorene	N.D.	0.18	ug/l
3284	Phenanthrene	0.091 J	0.050	ug/l
3285	Anthracene	N.D.	0.033	ug/l
3286	Fluoranthene	0.040 J	0.022	ug/l
3287	Pyrene	N.D.	0.19	ug/l
3288	Benzo(a)anthracene	N.D.	0.019	ug/l
3289	Chrysene	N.D.	0.064	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.038	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.029	ug/l
3292	Benzo(a)pyrene	N.D.	0.024	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.051	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.11	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.069	ug/l

J. Hess
8/11/99

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



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



LLI Sample No. **WW 3179681**
Collected: 6/23/99 at 11:15 by JA

Submitted: 6/24/99 Reported: 7/13/99
Discard: 8/13/99

MW-6S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
-6S-- SDG#: MOS09-15

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	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

Handwritten signature: J. H. H. 8/11/99

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



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

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LLI Sample No. WW 3179681

Collected: 06/23/99 at 11:15 by JA

Submitted: 06/24/99

MW-6S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
-6S-- SDG#: MOS09-15

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	06/27/99 2131	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	06/25/99 2350	Darin P. Wagner
8213	BTEX (8021)	SW-846 8021B	1	06/28/99 2339	Jodie L. Larsen



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LLI Sample No. 3179681
 MW-6S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671615
 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: 991760012A									

3280	Naphthalene 0.86 ug/l	N.D.		99	101	2	78			45	111
3281	Acenaphthylene 0.86 ug/l	N.D.		107	108	1	89			59	114
3282	Acenaphthene 0.86 ug/l	N.D.		101	104	2	88			50	120
3283	Fluorene 0.18 ug/l	N.D.		107	120 (2)	2	93			64	117
3284	Phenanthrene 0.050 ug/l	N.D.		98	103	3	93			75	114
3285	Anthracene 0.033 ug/l	N.D.		121	124	1	91			64	104
3286	Fluoranthene 0.022 ug/l	N.D.		284	283 (2)	0	87			43	147
3287	Pyrene 0.19 ug/l	N.D.		116	115	1	85			39	149
3288	Benzo(a)anthracene 0.019 ug/l	N.D.		176	184	2	85			73	117
3289	Chrysene 0.064 ug/l	0.067 J ug/l		110	108	2	84			68	125
3290	Benzo(b)fluoranthene 0.038 ug/l	N.D.		140	140	0	88			71	123
3291	Benzo(k)fluoranthene 0.029 ug/l	N.D.		117	117	0	89			75	118
3292	Benzo(a)pyrene 0.024 ug/l	N.D.		146	148	0	92			61	127
3293	Dibenzo(a,h)anthracene 0.051 ug/l	N.D.		85	88	3	87			71	121
3294	Benzo(g,h,i)perylene 0.11 ug/l	N.D.		102	102	0	99			70	125
3295	Indeno(1,2,3-cd)pyrene 0.069 ug/l	N.D.		100	101	0	97			73	125

8213 BTEX (8021)		Batch: 99179A68									

0776	Benzene 0.2 ug/l	N.D.		110	109	1	92			81	124
0777	Toluene 0.2 ug/l	N.D.		110	110	0	92			81	122
0778	Ethylbenzene 0.2 ug/l	N.D.		107	107	0	90			79	123
0779	Total Xylenes 0.6 ug/l	N.D.		106	106	0	90			80	123

(2) The background result was more than four times the spike added.



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LLI Sample No. **3179681**
MW-6S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671615
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	91	29	136
	Triphenyle	95	33	139
8213 BTEX (8021)	TFT	96	77	118



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LLI Sample No. WW 3178813

Collected: 6/22/99 at 16:10 by JA

Submitted: 6/23/99 Reported: 7/ 3/99
Discard: 8/ 3/99

MW-7S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
7S-06 SDG#: MOS09-08

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
07:30:16 D 0003 11 128410 671392
232 0.00 00021753 ASR000



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



LLI Sample No. WW 3178813

Collected: 6/22/99 at 16:10 by JA

Submitted: 6/23/99 Reported: 7/ 3/99

Discard: 8/ 3/99

MW-7S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
7S-06 SDG#: MOS09-08

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	6,400.	17.	ug/l
3281	Acenaphthylene	N.D.	4.2	ug/l
3282	Acenaphthene	180.	4.2	ug/l
3283	Fluorene	36.5	0.89	ug/l
3284	Phenanthrene	N.D.	0.24	ug/l
3285	Anthracene	N.D.	0.16	ug/l
3286	Fluoranthene	N.D.	0.10	ug/l
3287	Pyrene	N.D.	0.94	ug/l
3288	Benzo(a)anthracene	N.D.	0.094	ug/l
3289	Chrysene	N.D.	0.31	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.18	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.14	ug/l
3292	Benzo(a)pyrene	N.D.	0.12	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.25	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.52	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.34	ug/l

Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

Handwritten signature: J. Hess

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



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

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

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LLI Sample No. WW 3178813

Collected: 6/22/99 at 16:10 by JA

Submitted: 6/23/99 Reported: 7/ 3/99
Discard: 8/ 3/99

MW-7S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
7S-06 SDG#: MOS09-08

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

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

BTEX (8021)

0776	Benzene	7.	J	4.		ug/l
0777	Toluene	N.D.		4.		ug/l
0778	Ethylbenzene	30.		4.		ug/l
0779	Total Xylenes	80.		10.		ug/l

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

Skraft
8/11/99

Questions? Contact your Client Services Representative
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Respectfully Submitted
Michele Turner, B.A.
Manager, Volatiles

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LLI Sample No. WW 3178813

Collected: 06/22/99 at 16:10 by JA

Submitted: 06/23/99

MW-7S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
7S-06 SDG#: MOS09-08

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		06/27/99 1745	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1		06/24/99 1200	Anita M. Dale
8213	BTEX (8021)	SW-846 8021B	1		06/29/99 0340	Jodie L. Larsen



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LLI Sample No. 3178813

MW-7S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671392
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH
-----		Batch: 991750002A									
1861 PAH's in Water											
3280	Naphthalene										
	17. ug/l	N.D.					80	80	0	45	111
3281	Acenaphthylene										
	4.2 ug/l	N.D.					92	89	4	59	114
3282	Acenaphthene										
	4.2 ug/l	N.D.					88	86	2	50	120
3283	Fluorene										
	0.89 ug/l	N.D.					95	92	4	64	117
3284	Phenanthrene										
	0.24 ug/l	N.D.					98	92	6	75	114
3285	Anthracene										
	0.16 ug/l	N.D.					92	87	5	64	104
3286	Fluoranthene										
	0.10 ug/l	N.D.					95	89	6	43	147
3287	Pyrene										
	0.94 ug/l	N.D.					93	88	6	39	149
3288	Benzo(a)anthracene										
	0.094 ug/l	N.D.					91	86	6	73	117
3289	Chrysene										
	0.31 ug/l	N.D.					92	87	6	68	125
3290	Benzo(b)fluoranthene										
	0.18 ug/l	N.D.					96	90	6	71	123
3291	Benzo(k)fluoranthene										
	0.14 ug/l	N.D.					97	91	6	75	118
3292	Benzo(a)pyrene										
	0.12 ug/l	N.D.					105	99	7	61	127
3293	Dibenzo(a,h)anthracene										
	0.25 ug/l	N.D.					93	88	6	71	121
3294	Benzo(g,h,i)perylene										
	0.52 ug/l	N.D.					106	101	5	70	125
3295	Indeno(1,2,3-cd)pyrene										
	0.34 ug/l	N.D.					105	99	6	73	125
-----		Batch: 99179A68									
8213 BTEX (8021)											
0776	Benzene										
	4. ug/l	N.D.		110	109	1	92			81	124
0777	Toluene										
	4. ug/l	N.D.		110	110	0	92			81	122
0778	Ethylbenzene										
	4. ug/l	N.D.		107	107	0	90			79	123
0779	Total Xylenes										
	10. ug/l	N.D.		106	106	0	90			80	123



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LLI Sample No. 3178813

MW-7S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671392
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	84	29	136
		Triphenyle	94	33	139
8213 BTEX (8021)		TFT	95	77	118



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LLI Sample No. WW **3179679**
Collected: 6/23/99 at 10:05 by JA

Submitted: 6/24/99 Reported: 7/13/99
Discard: 8/13/99

MW-9S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
-9S-- SDG#: MOS09-13

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

P.O. MOSS-AMERICAN
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CAT NO.	ANALYSIS NAME	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
03:07:33 D 0003 12 128410 671615
232 0.00 00021753 ASR000

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



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LLI Sample No. WW 3179679

Collected: 06/23/99 at 10:05 by JA

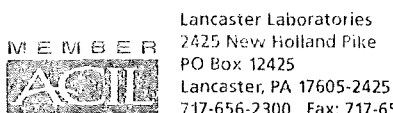
Submitted: 06/24/99

MW-9S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
-9S-- SDG#: MOS09-13

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	06/27/99 2027	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	06/25/99 2350	Darin P. Wagner
8213	BTEX (8021)	SW-846 8021B	1	06/28/99 2230	Jodie L. Larsen



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LLI Sample No. 3179679

MW-9S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671615
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: 991760012A									
3280	Naphthalene										
	0.84 ug/l	N.D.		99	101	2	78			45	111
3281	Acenaphthylene										
	0.84 ug/l	N.D.		107	108	1	89			59	114
3282	Acenaphthene										
	0.84 ug/l	N.D.		101	104	2	88			50	120
3283	Fluorene										
	0.18 ug/l	N.D.		107	120 (2)	2	93			64	117
3284	Phenanthrene										
	0.048 ug/l	N.D.		98	103	3	93			75	114
3285	Anthracene										
	0.032 ug/l	N.D.		121	124	1	91			64	104
3286	Fluoranthene										
	0.021 ug/l	N.D.		284	283 (2)	0	87			43	147
3287	Pyrene										
	0.19 ug/l	N.D.		116	115	1	85			39	149
3288	Benzo(a)anthracene										
	0.019 ug/l	N.D.		176	184	2	85			73	117
3289	Chrysene										
	0.062 ug/l	0.067 J ug/l		110	108	2	84			68	125
3290	Benzo(b)fluoranthene										
	0.037 ug/l	N.D.		140	140	0	88			71	123
3291	Benzo(k)fluoranthene										
	0.028 ug/l	N.D.		117	117	0	89			75	118
3292	Benzo(a)pyrene										
	0.023 ug/l	N.D.		146	148	0	92			61	127
3293	Dibenzo(a,h)anthracene										
	0.049 ug/l	N.D.		85	88	3	87			71	121
3294	Benzo(g,h,i)perylene										
	0.10 ug/l	N.D.		102	102	0	99			70	125
3295	Indeno(1,2,3-cd)pyrene										
	0.067 ug/l	N.D.		100	101	0	97			73	125

8213 BTEX (8021)		Batch: 99179A68									
0776	Benzene										
	0.2 ug/l	N.D.		110	109	1	92			81	124
0777	Toluene										
	0.2 ug/l	N.D.		110	110	0	92			81	122
0778	Ethylbenzene										
	0.2 ug/l	N.D.		107	107	0	90			79	123
0779	Total Xylenes										
	0.6 ug/l	N.D.		106	106	0	90			80	123

(2) The background result was more than four times the spike added.



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LLI Sample No. **3179679**
MW-9S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671615
Kerr-McGee Corporation

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	91	29	136
	Triphenyle	98	33	139
8213 BTEX (8021)	TFT	93	77	118



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LLI Sample No. WW 3179678

Collected: 6/23/99 at 09:30 by JA

Submitted: 6/24/99 Reported: 7/13/99
Discard: 8/13/99

MW-10S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
-10S- SDG#: MOS09-12

Account No: 07802

Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

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AS RECEIVED
METHOD
RESULTS DETECTION LIMIT UNITS

CAT NO.	ANALYSIS NAME	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
03:06:52 D 0003 12 128410 671615
232 0.00 00021753 ASR000

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



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LLI Sample No. WW 3179678
Collected: 6/23/99 at 09:30 by JA

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

P.O. MOSS-AMERICAN
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Submitted: 6/24/99 Reported: 7/13/99
Discard: 8/13/99

MW-10S-06 Grab Water Sample

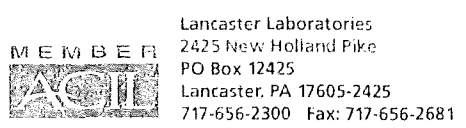
Moss-American Superfund Site - Milwaukee, WI
-10S- SDG#: MOS09-12

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	DETECTION LIMIT	METHOD 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	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.	0.060	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.	0.10	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.065	ug/l

Handwritten signature
8/11/99

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



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LLI Sample No. WW 3179678

Collected: 6/23/99 at 09:30 by JA

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

P.O. MOSS-AMERICAN
Rel.

Submitted: 6/24/99 Reported: 7/13/99
Discard: 8/13/99

MW-10S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
-10S- SDG#: MOS09-12

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

*g. Knoll
6/13/99*

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

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



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LLI Sample No. WW 3179678

Collected: 06/23/99 at 09:30 by JA

Submitted: 06/24/99

MW-10S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
-10S- SDG#: MOS09-12

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		06/27/99 2005	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1		06/25/99 2350	Darin P. Wagner
8213	BTEX (8021)	SW-846 8021B	1		06/28/99 2156	Jodie L. Larsen



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LLI Sample No. 3179678
MW-10S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671615
Kerr-McGee Corporation

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

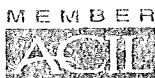
1861 PAH's in Water		Batch: 991760012A									

3280	Naphthalene										
	0.81 ug/l	N.D.		99	101	2	78			45	111
3281	Acenaphthylene										
	0.81 ug/l	N.D.		107	108	1	89			59	114
3282	Acenaphthene										
	0.81 ug/l	N.D.		101	104	2	88			50	120
3283	Fluorene										
	0.17 ug/l	N.D.		107	120 (2)	2	93			64	117
3284	Phenanthrene										
	0.046 ug/l	N.D.		98	103	3	93			75	114
3285	Anthracene										
	0.031 ug/l	N.D.		121	124	1	91			64	104
3286	Fluoranthene										
	0.020 ug/l	N.D.		284	283 (2)	0	87			43	147
3287	Pyrene										
	0.18 ug/l	N.D.		116	115	1	85			39	149
3288	Benzo(a)anthracene										
	0.018 ug/l	N.D.		176	184	2	85			73	117
3289	Chrysene										
	0.060 ug/l	0.067 J ug/l		110	108	2	84			68	125
3290	Benzo(b)fluoranthene										
	0.035 ug/l	N.D.		140	140	0	88			71	123
3291	Benzo(k)fluoranthene										
	0.027 ug/l	N.D.		117	117	0	89			75	118
3292	Benzo(a)pyrene										
	0.022 ug/l	N.D.		146	148	0	92			61	127
3293	Dibenzo(a,h)anthracene										
	0.047 ug/l	N.D.		85	88	3	87			71	121
3294	Benzo(g,h,i)perylene										
	0.10 ug/l	N.D.		102	102	0	99			70	125
3295	Indeno(1,2,3-cd)pyrene										
	0.065 ug/l	N.D.		100	101	0	97			73	125

8213 BTEX (8021)		Batch: 99179A68									

0776	Benzene										
	0.2 ug/l	N.D.		110	109	1	92			81	124
0777	Toluene										
	0.2 ug/l	N.D.		110	110	0	92			81	122
0778	Ethylbenzene										
	0.2 ug/l	N.D.		107	107	0	90			79	123
0779	Total Xylenes										
	0.6 ug/l	N.D.		106	106	0	90			80	123

(2) The background result was more than four times the spike added.



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LLI Sample No. 3179678

MW-10S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671615
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	92	29	136
		Triphenyle	97	33	139
8213 BTEX (8021)		TFT	95	77	118



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2216 Rev. 3/23/99



LLI Sample No. WW 3178807

Collected: 6/23/99 at 11:30 by JA

Submitted: 6/23/99 Reported: 7/ 3/99
Discard: 8/ 3/99

MW-13S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
13S06 SDG#: MOS09-02

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
07:26:27 D 0003 11 128410 671392
232 0.00 00021753 ASR000



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



LLI Sample No. WW 3178807

Collected: 7/22/99 at 11:30 by JA

Submitted: 6/23/99 Reported: 7/ 3/99
Discard: 8/ 3/99

MW-13S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
13S06 SDG#: MOS09-02

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
PAH's in Water				
3280	Naphthalene	N.D.	0.82	ug/l
3281	Acenaphthylene	N.D.	0.82	ug/l
3282	Acenaphthene	N.D.	0.82	ug/l
3283	Fluorene	N.D.	0.17	ug/l
3284	Phenanthrene	0.068 J	0.047	ug/l
3285	Anthracene	N.D.	0.032	ug/l
3286	Fluoranthene	0.035 J	0.021	ug/l
3287	Pyrene	N.D.	0.19	ug/l
3288	Benzo(a)anthracene	N.D.	0.019	ug/l
3289	Chrysene	N.D.	0.061	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.036	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.028	ug/l
3292	Benzo(a)pyrene	N.D.	0.023	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.048	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.10	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.066	ug/l

Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

Handwritten signature
8/11/99

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

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



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LLI Sample No. WW **3178807**

Collected: 6/22/99 at 11:30 by JA

Submitted: 6/23/99 Reported: 7/ 3/99
Discard: 8/ 3/99

MW-13S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
13S06 SDG#: MOS09-02

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

P.O. MOSS-AMERICAN
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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

Harold
8/14/99

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



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



LLI Sample No. WW **3178807**

Collected: 06/22/99 at 11:30 by JA

Submitted: 06/23/99

MW-13S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
13S06 SDG#: MOS09-02

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		06/25/99 1545	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1		06/24/99 1200	Anita M. Dale
8213	BTEX (8021)	SW-846 8021B	1		06/28/99 1904	Jodie L. Larsen



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LLI Sample No. 3178807

MW-13S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671392
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH
-----		Batch: 991750002A									
1861 PAH's in Water											

3280	Naphthalene										
	0.82 ug/l	N.D.					80	80	0	45	111
3281	Acenaphthylene										
	0.82 ug/l	N.D.					92	89	4	59	114
3282	Acenaphthene										
	0.82 ug/l	N.D.					88	86	2	50	120
3283	Fluorene										
	0.17 ug/l	N.D.					95	92	4	64	117
3284	Phenanthrene										
	0.047 ug/l	N.D.					98	92	6	75	114
3285	Anthracene										
	0.032 ug/l	N.D.					92	87	5	64	104
3286	Fluoranthene										
	0.021 ug/l	N.D.					95	89	6	43	147
3287	Pyrene										
	0.19 ug/l	N.D.					93	88	6	39	149
3288	Benzo(a)anthracene										
	0.019 ug/l	N.D.					91	86	6	73	117
3289	Chrysene										
	0.061 ug/l	N.D.					92	87	6	68	125
3290	Benzo(b)fluoranthene										
	0.036 ug/l	N.D.					96	90	6	71	123
3291	Benzo(k)fluoranthene										
	0.028 ug/l	N.D.					97	91	6	75	118
3292	Benzo(a)pyrene										
	0.023 ug/l	N.D.					105	99	7	61	127
3293	Dibenzo(a,h)anthracene										
	0.048 ug/l	N.D.					93	88	6	71	121
3294	Benzo(g,h,i)perylene										
	0.10 ug/l	N.D.					106	101	5	70	125
3295	Indeno(1,2,3-cd)pyrene										
	0.066 ug/l	N.D.					105	99	6	73	125
-----		Batch: 99179A68									
8213 BTEX (8021)											

0776	Benzene										
	0.2 ug/l	N.D.		110	109	1	92			81	124
0777	Toluene										
	0.2 ug/l	N.D.		110	110	0	92			81	122
0778	Ethylbenzene										
	0.2 ug/l	N.D.		107	107	0	90			79	123
0779	Total Xylenes										
	0.6 ug/l	N.D.		106	106	0	90			80	123



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LLI Sample No. **3178807**
MW-13S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671392
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	88	29	136
		Triphenyle	96	33	139
8213 BTEX (8021)		TFT	95	77	118



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LLI Sample No. WW 3178808

Collected: 6/22/99 at 12:00 by JA

Submitted: 6/23/99 Reported: 7/ 3/99

Discard: 8/ 3/99

MW-25S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
25S06 SDG#: MOS09-03

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

P.O. MOSS-AMERICAN
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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 ATTN: Garet Van de Steeg, PhD
 1 COPY TO Roy F. Weston ATTN: Mr. Tom Graan
 1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
 Kay G. Hower at (717) 656-2300
 07:27:08 D 0003 11 128410 671392
 232 0.00 00021753 ASR000



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



LLI Sample No. WW 3178808

Collected: 6/22/99 at 12:00 by JA

Submitted: 6/23/99 Reported: 7/ 3/99
Discard: 8/ 3/99

MW-25S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
25S06 SDG#: MOS09-03

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

P.O. MOSS-AMERICAN
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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.	0.045	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.	0.058	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.	0.046	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.098	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.063	ug/l

Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

L. K. Hower
8/11/99

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

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



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LLI Sample No. WW 3178808

Collected: 6/22/99 at 12:00 by JA

Submitted: 6/23/99 Reported: 7/ 3/99

Discard: 8/ 3/99

MW-25S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
25S06 SDG#: MOS09-03

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25361
Oklahoma City OK 73125

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CAT NO.	ANALYSIS NAME	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

J. Hower
8/11/99

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



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



LLI Sample No. WW 3178808

Collected: 06/22/99 at 12:00 by JA

Submitted: 06/23/99

MW-25S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
25S06 SDG#: MOS09-03

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

CAT NO	ANALYSIS NAME	METHOD	TRIAL ID	ANALYSIS		ANALYST
				DATE	AND TIME	
1861	PAH's in Water	SW-846 8310	1	06/25/99	1606	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	06/24/99	1200	Anita M. Dale
8213	BTEX (8021)	SW-846 8021B	1	06/28/99	1938	Jodie L. Larsen



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LLI Sample No. 3178808

MW-25S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671392
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: 991750002A									

3290	Naphthalene										
	0.79 ug/l	N.D.					80	80	0	45	111
3281	Acenaphthylene										
	0.79 ug/l	N.D.					92	89	4	59	114
3282	Acenaphthene										
	0.79 ug/l	N.D.					88	86	2	50	120
3283	Fluorene										
	0.17 ug/l	N.D.					95	92	4	64	117
3284	Phenanthrene										
	0.045 ug/l	N.D.					98	92	6	75	114
3285	Anthracene										
	0.031 ug/l	N.D.					92	87	5	64	104
3286	Fluoranthene										
	0.020 ug/l	N.D.					95	89	6	43	147
3287	Pyrene										
	0.18 ug/l	N.D.					93	88	6	39	149
3288	Benzo(a)anthracene										
	0.018 ug/l	N.D.					91	86	6	73	117
3289	Chrysene										
	0.058 ug/l	N.D.					92	87	6	68	125
3290	Benzo(b)fluoranthene										
	0.035 ug/l	N.D.					96	90	6	71	123
3291	Benzo(k)fluoranthene										
	0.027 ug/l	N.D.					97	91	6	75	118
3292	Benzo(a)pyrene										
	0.022 ug/l	N.D.					105	99	7	61	127
3293	Dibenzo(a,h)anthracene										
	0.046 ug/l	N.D.					93	88	6	71	121
3294	Benzo(g,h,i)perylene										
	0.098 ug/l	N.D.					106	101	5	70	125
3295	Indeno(1,2,3-cd)pyrene										
	0.063 ug/l	N.D.					105	99	6	73	125

3213 BTEX (8021)		Batch: 99179A68									

0776	Benzene										
	0.2 ug/l	N.D.		110	109	1	92			81	124
0777	Toluene										
	0.2 ug/l	N.D.		110	110	0	92			81	122
0778	Ethylbenzene										
	0.2 ug/l	N.D.		107	107	0	90			79	123
0779	Total Xylenes										
	0.6 ug/l	N.D.		106	106	0	90			80	123



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LLI Sample No. **3178808**

MW-25S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671392
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	83	29	136
		Triphenyle	90	33	139
8213 BTEX (8021)		TFT	100	77	118



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LLI Sample No. WW 3178809

Collected: 6/22/99 at 13:25 by JA

Submitted: 6/23/99 Reported: 7/ 3/99

Discard: 8/ 3/99

MW-26S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
26S06 SDG#: MOS09-04

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

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CAT NO.	ANALYSIS NAME	RESULTS	METHOD	
			DETECTION LIMIT	UNITS
1861	PAH's in Water		See Page	2
3213	BTEX (8021)		See Page	3

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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
07:27:44 D 0003 11 128410 671392
232 0.00 00021753 ASR000

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



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LLI Sample No. WW 3178809

Collected: 6/22/99 at 13:25 by JA

Submitted: 6/23/99 Reported: 7/ 3/99

Discard: 8/ 3/99

MW-26S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
26S06 SDG#: MOS09-04

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	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.	0.047	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.	0.060	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.	0.048	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

Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

L. Hess
8/11/99

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

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



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LLI Sample No. WW 3178809

Collected: 6/22/99 at 13:25 by JA

Submitted: 6/23/99 Reported: 7/ 3/99

Discard: 8/ 3/99

MW-26S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
26S06 SDG#: MOS09-04

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.	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

*2 Knoll
8/11/99*

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

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



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LLI Sample No. WW 3178809

Collected: 06/22/99 at 13:25 by JA

Submitted: 06/23/99

MW-26S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
26S06 SDG#: MOS09-04

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	06/25/99 1628	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	06/24/99 1200	Anita M. Dale
8213	BTEX (8021)	SW-846 8021B	1	06/28/99 2013	Jodie L. Larsen



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LLI Sample No. 3178809

MW-26S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671392
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH
-----		Batch: 991750002A									
1861 PAH's in Water											
3280	Naphthalene										
	0.81 ug/l	N.D.					80	80	0	45	111
3281	Acenaphthylene										
	0.81 ug/l	N.D.					92	89	4	59	114
3282	Acenaphthene										
	0.81 ug/l	N.D.					88	86	2	50	120
3283	Fluorene										
	0.17 ug/l	N.D.					95	92	4	64	117
3284	Phenanthrene										
	0.047 ug/l	N.D.					98	92	6	75	114
3285	Anthracene										
	0.031 ug/l	N.D.					92	87	5	64	104
3286	Fluoranthene										
	0.020 ug/l	N.D.					95	89	6	43	147
3287	Pyrene										
	0.18 ug/l	N.D.					93	88	6	39	149
3288	Benzo(a)anthracene										
	0.018 ug/l	N.D.					91	86	6	73	117
3289	Chrysene										
	0.060 ug/l	N.D.					92	87	6	68	125
3290	Benzo(b)fluoranthene										
	0.035 ug/l	N.D.					96	90	6	71	123
3291	Benzo(k)fluoranthene										
	0.027 ug/l	N.D.					97	91	6	75	118
3292	Benzo(a)pyrene										
	0.022 ug/l	N.D.					105	99	7	61	127
3293	Dibenzo(a,h)anthracene										
	0.048 ug/l	N.D.					93	88	6	71	121
3294	Benzo(g,h,i)perylene										
	0.10 ug/l	N.D.					106	101	5	70	125
3295	Indeno(1,2,3-cd)pyrene										
	0.065 ug/l	N.D.					105	99	6	73	125
-----		Batch: 99179A68									
8213 BTEX (8021)											
0776	Benzene										
	0.2 ug/l	N.D.		110	109	1	92			81	124
0777	Toluene										
	0.2 ug/l	N.D.		110	110	0	92			81	122
0778	Ethylbenzene										
	0.2 ug/l	N.D.		107	107	0	90			79	123
0779	Total Xylenes										
	0.6 ug/l	N.D.		106	106	0	90			80	123



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LLI Sample No. **3178809**

MW-26S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671392
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	87	29	136
		Triphenyle	94	33	139
8213 BTEX (8021)		TFT	94	77	118



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LLI Sample No. WW 3179686

Collected: 6/23/99 at 12:45 by JA

Submitted: 6/24/99 Reported: 7/13/99
Discard: 8/13/99

MW-27S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
-27S- SDG#: MOS09-18

Account No: 07802

Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

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AS RECEIVED

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

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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
03:12:15 D 0003 12 128410 671615
232 0.00 00021753 ASR000

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



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LLI Sample No. WW 3179686
 Collected: 6/23/99 at 12:45 by JA

Submitted: 6/24/99 Reported: 7/13/99
 Discard: 8/13/99

MW-27S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
 -27S- SDG#: MOS09-18

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

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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.	0.045	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.	0.058	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.	0.046	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.098	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.063	ug/l

Handwritten signature
 6/14/99

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



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



LLI Sample No. WW **3179686**
Collected: 6/23/99 at 12:45 by JA

Submitted: 6/24/99 Reported: 7/13/99
Discard: 8/13/99

MW-27S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
-27S- SDG#: MOS09-18

Account No: 07802

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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

J. J. J.
8/14/99

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

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



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LLI Sample No. WW 3179686

Collected: 06/23/99 at 12:45 by JA

Submitted: 06/24/99

MW-27S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
-27S- SDG#: MOS09-18

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	06/27/99 2218	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	06/25/99 2350	Darin P. Wagner
8213	BTEX (8021)	SW-846 8021B	1	07/07/99 0104	Barry R. Shoemaker



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LLI Sample No. 3179686

MW-27S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671615
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: 991760012A									

3280	Naphthalene										
	0.79 ug/l	N.D.		99	101	2	78			45	111
3281	Acenaphthylene										
	0.79 ug/l	N.D.		107	108	1	89			59	114
3282	Acenaphthene										
	0.79 ug/l	N.D.		101	104	2	88			50	120
3283	Fluorene										
	0.17 ug/l	N.D.		107	120 (2)	2	93			64	117
3284	Phenanthrene										
	0.045 ug/l	N.D.		98	103	3	93			75	114
3285	Anthracene										
	0.031 ug/l	N.D.		121	124	1	91			64	104
3286	Fluoranthene										
	0.020 ug/l	N.D.		284	283 (2)	0	87			43	147
3287	Pyrene										
	0.18 ug/l	N.D.		116	115	1	85			39	149
3288	Benzo(a)anthracene										
	0.018 ug/l	N.D.		176	184	2	85			73	117
3289	Chrysene										
	0.058 ug/l	0.067 J ug/l		110	108	2	84			68	125
3290	Benzo(b)fluoranthene										
	0.035 ug/l	N.D.		140	140	0	88			71	123
3291	Benzo(k)fluoranthene										
	0.027 ug/l	N.D.		117	117	0	89			75	118
3292	Benzo(a)pyrene										
	0.022 ug/l	N.D.		146	148	0	92			61	127
3293	Dibenzo(a,h)anthracene										
	0.046 ug/l	N.D.		85	88	3	87			71	121
3294	Benzo(g,h,i)perylene										
	0.098 ug/l	N.D.		102	102	0	99			70	125
3295	Indeno(1,2,3-cd)pyrene										
	0.063 ug/l	N.D.		100	101	0	97			73	125

8213 BTEX (8021)		Batch: 99187A69									

0776	Benzene										
	0.2 ug/l	N.D.					104	105	1	81	124
0777	Toluene										
	0.2 ug/l	N.D.					111	114	2	81	122
0778	Ethylbenzene										
	0.2 ug/l	N.D.					107	108	1	79	123
0779	Total Xylenes										
	0.6 ug/l	N.D.					98	97	1	80	123

(2) The background result was more than four times the spike added.



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LLI Sample No. **3179686**

MW-27S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671615
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	92	29	136
		Triphenyle	99	33	139
8213 BTEX (8021)		TFT	99	77	118



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LLI Sample No. WW 3179685

Collected: 6/23/99 at 12:15 by JA

Submitted: 6/24/99 Reported: 7/13/99

Discard: 8/13/99

MW-28S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
-28S- SDG#: MOS09-17

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

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 1 COPY TO Roy F. Weston ATTN: Mr. Tom Graan
 1 COPY TO Data Package Group

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 03:11:35 D 0003 12 128410 671615
 232 0.00 00021753 ASR000



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



LLI Sample No. WW 3179685
Collected: 6/23/99 at 12:15 by JA

Submitted: 6/24/99 Reported: 7/13/99
Discard: 8/13/99

MW-28S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
-28S- SDG#: MOS09-17

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

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Rel.

AS RECEIVED
METHOD
RESULTS DETECTION LIMIT UNITS

CAT
NO. ANALYSIS NAME

PAH's in Water

CAT NO.	ANALYSIS NAME	RESULTS	DETECTION	LIMIT	UNITS
3280	Naphthalene	N.D.	4.0		ug/l
3281	Acenaphthylene	N.D.	4.0		ug/l
3282	Acenaphthene	N.D.	4.0		ug/l
3283	Fluorene	N.D.	0.86		ug/l
3284	Phenanthrene	0.48	J	0.23	ug/l
3285	Anthracene	0.26	J	0.16	ug/l
3286	Fluoranthene	2.3		0.10	ug/l
3287	Pyrene	2.11	J	0.91	ug/l
3288	Benzo(a)anthracene	0.66		0.091	ug/l
3289	Chrysene	1.42	J	0.30	ug/l
3290	Benzo(b)fluoranthene	3.10		0.18	ug/l
3291	Benzo(k)fluoranthene	1.11		0.14	ug/l
3292	Benzo(a)pyrene	2.62		0.11	ug/l
3293	Dibenzo(a,h)anthracene	0.38	J	0.24	ug/l
3294	Benzo(g,h,i)perylene	2.9		0.50	ug/l
3295	Indeno(1,2,3-cd)pyrene	3.2		0.32	ug/l

J. Hess
6/24/99

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



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LLI Sample No. WW 3179685

Collected: 6/23/99 at 12:15 by JA

Submitted: 6/24/99 Reported: 7/13/99
Discard: 8/13/99

MW-28S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
-28S- SDG#: MOS09-17

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

P.O. MOSS-AMERICAN
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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

Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

J. H. Hower
8/11/99

82

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



LLI Sample No. WW 3179685

Collected: 06/23/99 at 12:15 by JA

Submitted: 06/24/99

MW-28S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
-28S- SDG#: MOS09-17

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	06/27/99 2156	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	06/25/99 2350	Darin P. Wagner
8213	BTEX (8021)	SW-846 8021B	1	07/07/99 0029	Barry R. Shoemaker



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LLI Sample No. 3179685

MW-28S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671615
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: 991760012A									

3280	Naphthalene 4.0 ug/l	N.D.		99	101	2	78			45	111
3281	Acenaphthylene 4.0 ug/l	N.D.		107	108	1	89			59	114
3282	Acenaphthene 4.0 ug/l	N.D.		101	104	2	88			50	120
3283	Fluorene 0.86 ug/l	N.D.		107	120 (2)	2	93			64	117
3284	Phenanthrene 0.23 ug/l	N.D.		98	103	3	93			75	114
3285	Anthracene 0.16 ug/l	N.D.		121	124	1	91			64	104
3286	Fluoranthene 0.10 ug/l	N.D.		284	283 (2)	0	87			43	147
3287	Pyrene 0.91 ug/l	N.D.		116	115	1	85			39	149
3288	Benzo(a)anthracene 0.091 ug/l	N.D.		176	184	2	85			73	117
3289	Chrysene 0.30 ug/l	0.067 J ug/l		110	108	2	84			68	125
3290	Benzo(b)fluoranthene 0.18 ug/l	N.D.		140	140	0	88			71	123
3291	Benzo(k)fluoranthene 0.14 ug/l	N.D.		117	117	0	89			75	118
3292	Benzo(a)pyrene 0.11 ug/l	N.D.		146	148	0	92			61	127
3293	Dibenzo(a,h)anthracene 0.24 ug/l	N.D.		85	88	3	87			71	121
3294	Benzo(g,h,i)perylene 0.50 ug/l	N.D.		102	102	0	99			70	125
3295	Indeno(1,2,3-cd)pyrene 0.32 ug/l	N.D.		100	101	0	97			73	125

8213 BTEX (8021)		Batch: 99187A69									

0776	Benzene 0.2 ug/l	N.D.					104	105	1	81	124
0777	Toluene 0.2 ug/l	N.D.					111	114	2	81	122
0778	Ethylbenzene 0.2 ug/l	N.D.					107	108	1	79	123
0779	Total Xylenes 0.6 ug/l	N.D.					98	97	1	80	123

(2) The background result was more than four times the spike added.



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LLI Sample No. 3179685

MW-28S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671615
 Kerr-McGee Corporation

SURROGATE SUMMARY

	TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
				LOW	HIGH
1861 PAH's in Water		Nitrobenz	68	29	136
		Triphenyle	107	33	139
8213 BTEX (8021)		TFT	97	77	118



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LLI Sample No. WW 3179680

Collected: 6/23/99 at 10:40 by JA

Submitted: 6/24/99 Reported: 7/13/99
Discard: 8/13/99

MW-29S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
-29S- SDG#: MOS09-14

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

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 03:08:13 D 0003 12 128410 671615
 232 0.00 00021753 ASR000



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



LLI Sample No. WW 3179680
 Collected: 6/23/99 at 10:40 by JA

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

P.O. MOSS-AMERICAN
 Rel.

Submitted: 6/24/99 Reported: 7/13/99
 Discard: 8/13/99

MW-29S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
 -29S- SDG#: MOS09-14

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	0.065	J	0.031 ug/l
3286	Fluoranthene	0.36		0.020 ug/l
3287	Pyrene	0.33	J	0.18 ug/l
3288	Benzo(a)anthracene	0.055	J	0.018 ug/l
3289	Chrysene	0.070	J u	0.059 ug/l
3290	Benzo(b)fluoranthene	0.044	J	0.035 ug/l
3291	Benzo(k)fluoranthene	N.D.		0.027 ug/l
3292	Benzo(a)pyrene	0.034	J	0.022 ug/l
3293	Dibenzo(a,h)anthracene	N.D.		0.047 ug/l
3294	Benzo(g,h,i)perylene	N.D.		0.099 ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.		0.064 ug/l

Skorob
8/11/99

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



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

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Respectfully Submitted
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LLI Sample No. WW **3179680**
Collected: 6/23/99 at 10:40 by JA

Submitted: 6/24/99 Reported: 7/13/99
Discard: 8/13/99

MW-29S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
-29S- SDG#: MOS09-14

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

J. Korshak
8/14/99

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

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



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MW-29S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
-29S- SDG#: MOS09-14

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	06/27/99 2110	Michelle J. Kolodziejski
3337	PAH Water Extraction	SW-846 3510C	1	06/25/99 2350	Darin P. Wagner
8213	BTEX (8021)	SW-846 8021B	1	06/28/99 2305	Jodie L. Larsen



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LLI Sample No. 3179680

MW-29S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671615
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: 991760012A									
3280	Naphthalene 0.80 ug/l	N.D.		99	101	2	78			45	111
3281	Acenaphthylene 0.80 ug/l	N.D.		107	108	1	89			59	114
3282	Acenaphthene 0.80 ug/l	N.D.		101	104	2	88			50	120
3283	Fluorene 0.17 ug/l	N.D.		107	120 (2)	2	93			64	117
3284	Phenanthrene 0.046 ug/l	N.D.		98	103	3	93			75	114
3285	Anthracene 0.031 ug/l	N.D.		121	124	1	91			64	104
3286	Fluoranthene 0.020 ug/l	N.D.		284	283 (2)	0	87			43	147
3287	Pyrene 0.18 ug/l	N.D.		116	115	1	85			39	149
3288	Benzo(a)anthracene 0.018 ug/l	N.D.		176	184	2	85			73	117
3289	Chrysene 0.059 ug/l	0.067 J ug/l		110	108	2	84			68	125
3290	Benzo(b)fluoranthene 0.035 ug/l	N.D.		140	140	0	88			71	123
3291	Benzo(k)fluoranthene 0.027 ug/l	N.D.		117	117	0	89			75	118
3292	Benzo(a)pyrene 0.022 ug/l	N.D.		146	148	0	92			61	127
3293	Dibenzo(a,h)anthracene 0.047 ug/l	N.D.		85	88	3	87			71	121
3294	Benzo(g,h,i)perylene 0.099 ug/l	N.D.		102	102	0	99			70	125
3295	Indeno(1,2,3-cd)pyrene 0.064 ug/l	N.D.		100	101	0	97			73	125
8213 BTEX (8021)		Batch: 99179A68									
0776	Benzene 0.2 ug/l	N.D.		110	109	1	92			81	124
0777	Toluene 0.2 ug/l	N.D.		110	110	0	92			81	122
0778	Ethylbenzene 0.2 ug/l	N.D.		107	107	0	90			79	123
0779	Total Xylenes 0.6 ug/l	N.D.		106	106	0	90			80	123

(2) The background result was more than four times the spike added.



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LLI Sample No. 3179680
MW-29S-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671615
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	92	29	136
		Triphenyle	97	33	139
8213 BTEX (8021)		TFT	95	77	118



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LLI Sample No. WW 3179682

Collected: 6/23/99 at 11:45 by JA

Submitted: 6/24/99 Reported: 7/13/99
Discard: 8/13/99

TW-05-06 Unspiked Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
TW-05 SDG#: MOS09-16BKG

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
03:09:35 D 0003 12 128410 671615
232 0.00 00021753 ASR000



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



LLI Sample No. WW 3179682

Collected: 6/23/99 at 11:45 by JA

Submitted: 6/24/99 Reported: 7/13/99
Discard: 8/13/99

TW-05-06 Unspiked Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
TW-05 SDG#: MOS09-16BKG

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	Napthalene	N.D.	3.9	ug/l
3281	Acenaphthylene	N.D.	3.9	ug/l
3282	Acenaphthene	120.	3.9	ug/l
3283	Fluorene	79.6	0.84	ug/l
3284	Phenanthrene	3.1	0.23	ug/l
3285	Anthracene	5.6	0.15	ug/l
3286	Fluoranthene	24.1	0.098	ug/l
3287	Pyrene	20.5	0.88	ug/l
3288	Benzo(a)anthracene	2.93	0.088	ug/l
3289	Chrysene	3.3	0.29	ug/l
3290	Benzo(b)fluoranthene	1.23	0.17	ug/l
3291	Benzo(k)fluoranthene	0.67	0.13	ug/l
3292	Benzo(a)pyrene	1.42	0.11	ug/l
3293	Dibenzo(a,h)anthracene	0.24 J	0.23	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.49	ug/l
3295	Indeno(1,2,3-cd)pyrene	0.73 J	0.31	ug/l

H. Hess
8/14/99

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

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



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TW-05-06 Unspiked Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
TW-05 SDG#: MOS09-16BKG

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

Handwritten signature
8/11/99

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

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



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Submitted: 06/24/99

TW-05-06 Unspiked Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
TW-05 SDG#: MOS09-16BKG

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	06/27/99 1854	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	06/25/99 2350	Darin P. Wagner
8213	BTEX (8021)	SW-846 8021B	1	06/28/99 1319	Jodie L. Larsen



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LLI Sample No. 3179682
 TW-05-06 Unspiked Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671615
 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: 991760012A									

3280	Naphthalene											
	3.9 ug/l	N.D.		99	101	2	78			45	111	
3281	Acenaphthylene											
	3.9 ug/l	N.D.		107	108	1	89			59	114	
3282	Acenaphthene											
	3.9 ug/l	N.D.		101	104	2	88			50	120	
3283	Fluorene											
	0.84 ug/l	N.D.		107	120 (2)	2	93			64	117	
3284	Phenanthrene											
	0.23 ug/l	N.D.		98	103	3	93			75	114	
3285	Anthracene											
	0.15 ug/l	N.D.		121	124	1	91			64	104	
3286	Fluoranthene											
	0.098 ug/l	N.D.		284	283 (2)	0	87			43	147	
3287	Pyrene											
	0.88 ug/l	N.D.		116	115	1	85			39	149	
3288	Benzo(a)anthracene											
	0.088 ug/l	N.D.		176	184	2	85			73	117	
3289	Chrysene											
	0.29 ug/l	0.067 J ug/l		110	108	2	84			68	125	
3290	Benzo(b)fluoranthene											
	0.17 ug/l	N.D.		140	140	0	88			71	123	
3291	Benzo(k)fluoranthene											
	0.13 ug/l	N.D.		117	117	0	89			75	118	
3292	Benzo(a)pyrene											
	0.11 ug/l	N.D.		146	148	0	92			61	127	
3293	Dibenzo(a,h)anthracene											
	0.23 ug/l	N.D.		85	88	3	87			71	121	
3294	Benzo(g,h,i)perylene											
	0.49 ug/l	N.D.		102	102	0	99			70	125	
3295	Indeno(1,2,3-cd)pyrene											
	0.31 ug/l	N.D.		100	101	0	97			73	125	

8213 BTEX (8021)			Batch: 99179A68									

0776	Benzene											
	0.2 ug/l	N.D.		110	109	1	92			81	124	
0777	Toluene											
	0.2 ug/l	N.D.		110	110	0	92			81	122	
0778	Ethylbenzene											
	0.2 ug/l	N.D.		107	107	0	90			79	123	
0779	Total Xylenes											
	0.6 ug/l	N.D.		106	106	0	90			80	123	

(2) The background result was more than four times the spike added.



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LLI Sample No. 3179682
TW-05-06 Unspiked Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671615
Kerr-McGee Corporation

TRIAL ID	SURROGATE SUMMARY		SURROGATE LIMITS	
	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water	Nitrobenz	67	29	136
	Triphenyle	184	33	139
8213 BTEX (8021)	TFT	95	77	118



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LLI Sample No. WW 3179684

Collected: 6/23/99 at 11:45 by JA

Submitted: 6/24/99 Reported: 7/13/99
Discard: 8/13/99

TW-05-06 Matrix Spike Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
TW-05 SDG#: MOS09-16MSD

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
03:10:55 D 0003 12 128410 671615
232 0.00 00021753 ASR000

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



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Submitted: 6/24/99 Reported: 7/13/99
 Discard: 8/13/99

TW-05-06 Matrix Spike Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
 TW-05 SDG#: MOS09-16MSD

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD	DETECTION LIMIT UNITS
PAH's in Water				
3280	Naphthalene	196.	3.9	ug/l
3281	Acenaphthylene	209.	3.9	ug/l
3282	Acenaphthene	320.	3.9	ug/l
3283	Fluorene	103.	0.82	ug/l
3284	Phenanthrene	9.0	0.22	ug/l
3285	Anthracene	9.2	0.15	ug/l
3286	Fluoranthene	32.3	0.096	ug/l
3287	Pyrene	42.6	0.87	ug/l
3288	Benzo(a)anthracene	5.59	0.087	ug/l
3289	Chrysene	9.5	0.28	ug/l
3290	Benzo(b)fluoranthene	2.85	0.17	ug/l
3291	Benzo(k)fluoranthene	2.03	0.13	ug/l
3292	Benzo(a)pyrene	3.55	0.11	ug/l
3293	Dibenzo(a,h)anthracene	2.8	0.23	ug/l
3294	Benzo(g,h,i)perylene	11.9	0.48	ug/l
3295	Indeno(1,2,3-cd)pyrene	6.5	0.31	ug/l

Hess
 6/14/99

Questions? Contact your Client Services Representative
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Respectfully Submitted
 Jenifer E. Hess, B.S.
 Group Leader Pesticides/PCBs



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Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

Submitted: 6/24/99 Reported: 7/13/99
Discard: 8/13/99

TW-05-06 Matrix Spike Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
TW-05 SDG#: MOS09-16MSD

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	22.	0.2	ug/l
0777	Toluene	22.	0.2	ug/l
0778	Ethylbenzene	21.	0.2	ug/l
0779	Total Xylenes	64.	0.6	ug/l

Handwritten signature
6/24/99

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

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



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Submitted: 06/24/99

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P.O. Box 25861
Oklahoma City OK 73125

TW-05-06 Matrix Spike Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
TW-05 SDG#: MOS09-16MSD

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		
			TRIAL ID	DATE AND TIME	ANALYST
1861	PAH's in Water	SW-846 8310	1	06/27/99 1944	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	06/25/99 2350	Darin P. Wagner
8213	BTEX (8021)	SW-846 8021B	1	06/28/99 1428	Jodie L. Larsen



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LLI Sample No. 3179684
 TW-05-06 Matrix Spike Duplicate Grab Water Sample
 Moss-American Superfund Site - Milwaukee, WI

Group No. 671615
 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: 991760012A									

3280	Naphthalene										
	3.9 ug/l	N.D.		99	101	2	78			45	111
3281	Acenaphthylene										
	3.9 ug/l	N.D.		107	108	1	89			59	114
3282	Acenaphthene										
	3.9 ug/l	N.D.		101	104	2	88			50	120
3283	Fluorene										
	0.82 ug/l	N.D.		107	120 (2)	2	93			64	117
3284	Phenanthrene										
	0.22 ug/l	N.D.		98	103	3	93			75	114
3285	Anthracene										
	0.15 ug/l	N.D.		121	124	1	91			64	104
3286	Fluoranthene										
	0.096 ug/l	N.D.		284	283 (2)	0	87			43	147
3287	Pyrene										
	0.87 ug/l	N.D.		116	115	1	85			39	149
3288	Benzo(a)anthracene										
	0.087 ug/l	N.D.		176	184	2	85			73	117
3289	Chrysene										
	0.28 ug/l	0.067 J ug/l		110	108	2	84			68	125
3290	Benzo(b)fluoranthene										
	0.17 ug/l	N.D.		140	140	0	88			71	123
3291	Benzo(k)fluoranthene										
	0.13 ug/l	N.D.		117	117	0	89			75	118
3292	Benzo(a)pyrene										
	0.11 ug/l	N.D.		146	148	0	92			61	127
3293	Dibenzo(a,h)anthracene										
	0.23 ug/l	N.D.		85	88	3	87			71	121
3294	Benzo(g,h,i)perylene										
	0.48 ug/l	N.D.		102	102	0	99			70	125
3295	Indeno(1,2,3-cd)pyrene										
	0.31 ug/l	N.D.		100	101	0	97			73	125

8213 BTEX (8021)		Batch: 99179A68									

0776	Benzene										
	0.2 ug/l	N.D.		110	109	1	92			81	124
0777	Toluene										
	0.2 ug/l	N.D.		110	110	0	92			81	122
0778	Ethylbenzene										
	0.2 ug/l	N.D.		107	107	0	90			79	123
0779	Total Xylenes										
	0.6 ug/l	N.D.		106	106	0	90			80	123

(2) The background result was more than four times the spike added.



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LLI Sample No. 3179684
TW-05-06 Matrix Spike Duplicate Grab Water Sample
Moss-American Superfund Site - Milwaukee, WI

Group No. 671615
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	70	29	136
		Triphenyle	224	33	139
8213 BTEX (8021)		TFT	100	77	118



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LLI Sample No. WW 3179683
Collected: 6/23/99 at 11:45 by JA

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

P.O. MOSS-AMERICAN
Rel.

Submitted: 6/24/99 Reported: 7/13/99
Discard: 8/13/99

TW-05-06 Matrix Spike Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
TW-05 SDG#: MOS09-16MS

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 ATTN: Garet Van de Steeg, PhD
 1 COPY TO Roy F. Weston ATTN: Mr. Tom Graan
 1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
 Kay G. Hower at (717) 656-2300
 03:10:16 D 0003 12 128410 671615
 232 0.00 00021753 ASR000



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 717-656-2300 Fax: 717-656-2681

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

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LLI Sample No. WW **3179683**
 Collected: 6/23/99 at 11:45 by JA

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

P.O. MOSS-AMERICAN
 Re1.

Submitted: 6/24/99 Reported: 7/13/99
 Discard: 8/13/99

TW-05-06 Matrix Spike Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
 TW-05 SDG#: MOS09-16MS

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	192.	3.9	ug/l
3281	Acenaphthylene	208.	3.9	ug/l
3282	Acenaphthene	320.	3.9	ug/l
3283	Fluorene	101.	0.82	ug/l
3284	Phenanthrene	8.8	0.22	ug/l
3285	Anthracene	9.1	0.15	ug/l
3286	Fluoranthene	32.4	0.097	ug/l
3287	Pyrene	43.0	0.87	ug/l
3288	Benzo(a)anthracene	5.49	0.087	ug/l
3289	Chrysene	9.7	0.29	ug/l
3290	Benzo(b)fluoranthene	2.86	0.17	ug/l
3291	Benzo(k)fluoranthene	2.03	0.13	ug/l
3292	Benzo(a)pyrene	3.54	0.11	ug/l
3293	Dibenzo(a,h)anthracene	2.7	0.23	ug/l
3294	Benzo(g,h,i)perylene	11.9	0.48	ug/l
3295	Indeno(1,2,3-cd)pyrene	6.6	0.31	ug/l

Handwritten signature: Hess
8/14/99

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

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



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LLI Sample No. WW 3179683

Collected: 6/23/99 at 11:45 by JA

Submitted: 6/24/99 Reported: 7/13/99
Discard: 8/13/99

TW-05-06 Matrix Spike Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
TW-05 SDG#: MOS09-16MS

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	22.	0.2	ug/l
0777	Toluene	22.	0.2	ug/l
0778	Ethylbenzene	21.	0.2	ug/l
0779	Total Xylenes	64.	0.6	ug/l

J. Hower
6/11/99

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

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



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LLI Sample No. WW 3179683

Collected: 06/23/99 at 11:45 by JA

Submitted: 06/24/99

TW-05-06 Matrix Spike Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
TW-05 SDG#: MOS09-16MS

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS			
			TRIAL	ID	DATE AND TIME	ANALYST
1861	PAH's in Water	SW-846 8310	1		06/27/99 1919	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1		06/25/99 2350	Darin P. Wagner
8213	BTEX (8021)	SW-846 8021B	1		06/28/99 1354	Jodie L. Larsen



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LLI Sample No. 3179683
 TW-05-06 Matrix Spike Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671615
 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: 991760012A									

3280	Naphthalene 3.9 ug/l	N.D.		99	101	2	78			45	111
3281	Acenaphthylene 3.9 ug/l	N.D.		107	108	1	89			59	114
3282	Acenaphthene 3.9 ug/l	N.D.		101	104	2	88			50	120
3283	Fluorene 0.82 ug/l	N.D.		107	120 (2)	2	93			64	117
3284	Phenanthrene 0.22 ug/l	N.D.		98	103	3	93			75	114
3285	Anthracene 0.15 ug/l	N.D.		121	124	1	91			64	104
3286	Fluoranthene 0.097 ug/l	N.D.		284	283 (2)	0	87			43	147
3287	Pyrene 0.87 ug/l	N.D.		116	115	1	85			39	149
3288	Benzo(a)anthracene 0.087 ug/l	N.D.		176	184	2	85			73	117
3289	Chrysene 0.29 ug/l	0.067 J ug/l		110	108	2	84			68	125
3290	Benzo(b)fluoranthene 0.17 ug/l	N.D.		140	140	0	88			71	123
3291	Benzo(k)fluoranthene 0.13 ug/l	N.D.		117	117	0	89			75	118
3292	Benzo(a)pyrene 0.11 ug/l	N.D.		146	148	0	92			61	127
3293	Dibenzo(a,h)anthracene 0.23 ug/l	N.D.		85	88	3	87			71	121
3294	Benzo(g,h,i)perylene 0.48 ug/l	N.D.		102	102	0	99			70	125
3295	Indeno(1,2,3-cd)pyrene 0.31 ug/l	N.D.		100	101	0	97			73	125

8213 BTEX (8021)		Batch: 99179A68									

0776	Benzene 0.2 ug/l	N.D.		110	109	1	92			81	124
0777	Toluene 0.2 ug/l	N.D.		110	110	0	92			81	122
0778	Ethylbenzene 0.2 ug/l	N.D.		107	107	0	90			79	123
0779	Total Xylenes 0.6 ug/l	N.D.		106	106	0	90			80	123

(2) The background result was more than four times the spike added.



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LLI Sample No. **3179683**
TW-05-06 Matrix Spike Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671615
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	71	29	136
	Triphenyle	223	33	139
8213 BTEX (8021)	TFT	100	77	118



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LLI Sample No. WW 3178806

Collected: 6/22/99 at 09:40 by JA

Submitted: 6/23/99 Reported: 7/ 3/99

Discard: 8/ 3/99

TW-09-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
TW906 SDG#: MOS09-01

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
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
07:25:52 D 0003 11 128410 671392
232 0.00 00021753 ASR000



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



LLI Sample No. WW 3178806

Collected: 6/22/99 at 09:40 by JA

Submitted: 6/23/99 Reported: 7/ 3/99

Discard: 8/ 3/99

TW-09-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
TW906 SDG#: MOS09-01

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
PAH's in Water				
3280	Naphthalene	11,600.	J 4,700.	ug/l
3281	Acenaphthylene	N.D.	4,700.	ug/l
3282	Acenaphthene	8,500.	J 4,700.	ug/l
3283	Fluorene	5,200.	990.	ug/l
3284	Phenanthrene	13,100.	270.	ug/l
3285	Anthracene	1,500.	180.	ug/l
3286	Fluoranthene	5,100.	120.	ug/l
3287	Pyrene	4,400.	J 1,000.	ug/l
3288	Benzo(a)anthracene	790.	100.	ug/l
3289	Chrysene	730.	J 340.	ug/l
3290	Benzo(b)fluoranthene	220.	J 200.	ug/l
3291	Benzo(k)fluoranthene	N.D.	160.	ug/l
3292	Benzo(a)pyrene	230.	J 130.	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	270.	ug/l
3294	Benzo(g,h,i)perylene	N.D.	580.	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	370.	ug/l

Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

Z Korab
8/11/99

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

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



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LLI Sample No. WW 3178806

Collected: 6/22/99 at 09:40 by JA

Submitted: 6/23/99 Reported: 7/ 3/99
Discard: 8/ 3/99

TW-09-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
TW906 SDG#: MOS09-01

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	N.D.	2.	ug/l
0778	Ethylbenzene	9. J	2.	ug/l
0779	Total Xylenes	24. J	6.	ug/l

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

*J. K. De
8/1/99*

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

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



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LLI Sample No. WW 3178806

Collected: 06/22/99 at 09:40 by JA

Submitted: 06/23/99

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

TW-09-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
TW906 SDG#: MOS09-01

CAT NO	ANALYSIS NAME	METHOD	TRIAL ID	ANALYSIS		ANALYST
				DATE	AND TIME	
1861	PAH's in Water	SW-846 8310	1	06/28/99	1018	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	06/24/99	1200	Anita M. Dale
8213	BTEX (8021)	SW-846 8021B	1	06/29/99	0757	Jodie L. Larsen



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LLI Sample No. 3178806

TW-09-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671392
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: 991750002A									

3280	Naphthalene										
4,700.	ug/l	N.D.					80	80	0	45	111
3281	Acenaphthylene										
4,700.	ug/l	N.D.					92	89	4	59	114
3282	Acenaphthene										
4,700.	ug/l	N.D.					88	86	2	50	120
3283	Fluorene										
990.	ug/l	N.D.					95	92	4	64	117
3284	Phenanthrene										
270.	ug/l	N.D.					98	92	6	75	114
3285	Anthracene										
180.	ug/l	N.D.					92	87	5	64	104
3286	Fluoranthene										
120.	ug/l	N.D.					95	89	6	43	147
3287	Pyrene										
1,000.	ug/l	N.D.					93	88	6	39	149
3288	Benzo(a)anthracene										
100.	ug/l	N.D.					91	86	6	73	117
3289	Chrysene										
340.	ug/l	N.D.					92	87	6	68	125
3290	Benzo(b)fluoranthene										
200.	ug/l	N.D.					96	90	6	71	123
3291	Benzo(k)fluoranthene										
160.	ug/l	N.D.					97	91	6	75	118
3292	Benzo(a)pyrene										
130.	ug/l	N.D.					105	99	7	61	127
3293	Dibenzo(a,h)anthracene										
270.	ug/l	N.D.					93	88	6	71	121
3294	Benzo(g,h,i)perylene										
580.	ug/l	N.D.					106	101	5	70	125
3295	Indeno(1,2,3-cd)pyrene										
370.	ug/l	N.D.					105	99	6	73	125

8213 BTEX (8021)		Batch: 99179A68									

0776	Benzene										
2.	ug/l	N.D.	110	109		1	92			81	124
0777	Toluene										
2.	ug/l	N.D.	110	110		0	92			81	122
0778	Ethylbenzene										
2.	ug/l	N.D.	107	107		0	90			79	123
0779	Total Xylenes										
6.	ug/l	N.D.	106	106		0	90			80	123



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LLI Sample No. 3178806

TW-09-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671392
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	0	29	136
		Triphenyle	(5)	33	139
8213 BTEX (8021)		TFT	95	77	118

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



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LLI Sample No. WW 3178814

Collected: 6/22/99 h/1A

Submitted: 6/23/99 Reported: 7/3/99

Discard: 8/3/99

FD-01-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
FD-01 SDG#: MOS09-09

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
07:30:56 D 0003 11 128410 671392
232 0.00 00021753 ASR000

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



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LLI Sample No. WW 3178814
 Collected: 6/22/99

Submitted: 6/23/99 Reported: 7/3/99
 Discard: 8/3/99

FD-01-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
 FD-01 SDG#: MOS09-09

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

P.O. MOSS-AMERICAN
 Ref.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD	DETECTION LIMIT UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.90	ug/l
3281	Acenaphthylene	N.D.	0.90	ug/l
3282	Acenaphthene	N.D.	0.90	ug/l
3283	Fluorene	N.D.	0.19	ug/l
3284	Phenanthrene	N.D.	0.052	ug/l
3285	Anthracene	N.D.	0.035	ug/l
3286	Fluoranthene	N.D.	0.023	ug/l
3287	Pyrene	N.D.	0.20	ug/l
3288	Benzo(a)anthracene	N.D.	0.020	ug/l
3289	Chrysene	N.D.	0.067	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.040	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.030	ug/l
3292	Benzo(a)pyrene	N.D.	0.025	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.053	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.11	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.072	ug/l

Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

J. Korolk
 6/11/99

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

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



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 717-656-2300 Fax: 717-656-2681

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LLI Sample No. WW **3178814**
Collected: 6/22/99 by JA

Submitted: 6/23/99 Reported: 7/ 3/99
Discard: 8/ 3/99

FD-01-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
FD-01 SDG#: MOS09-09

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

zk
5/14/99

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



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

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

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LLI Sample No. WW **3178814**
Collected: 06/22/99 by JA

Submitted: 06/23/99

FD-01-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
FD-01 SDG#: MOS09-09

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	06/25/99 1819	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	06/24/99 1200	Anita M. Dale
8213	BTEX (8021)	SW-846 8021B	1	06/28/99 1646	Jodie L. Larsen



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LLI Sample No. **3178814**

FD-01-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671392
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH
-----		Batch: 991750002A									
1861 PAH's in Water											

3280	Naphthalene										
	0.90 ug/l	N.D.					80	80	0	45	111
3281	Acenaphthylene										
	0.90 ug/l	N.D.					92	89	4	59	114
3282	Acenaphthene										
	0.90 ug/l	N.D.					88	86	2	50	120
3283	Fluorene										
	0.19 ug/l	N.D.					95	92	4	64	117
3284	Phenanthrene										
	0.052 ug/l	N.D.					98	92	6	75	114
3285	Anthracene										
	0.035 ug/l	N.D.					92	87	5	64	104
3286	Fluoranthene										
	0.023 ug/l	N.D.					95	89	6	43	147
3287	Pyrene										
	0.20 ug/l	N.D.					93	88	6	39	149
3288	Benzo(a)anthracene										
	0.020 ug/l	N.D.					91	86	6	73	117
3289	Chrysene										
	0.067 ug/l	N.D.					92	87	6	68	125
3290	Benzo(b)fluoranthene										
	0.040 ug/l	N.D.					96	90	6	71	123
3291	Benzo(k)fluoranthene										
	0.030 ug/l	N.D.					97	91	6	75	118
3292	Benzo(a)pyrene										
	0.025 ug/l	N.D.					105	99	7	61	127
3293	Dibenzo(a,h)anthracene										
	0.053 ug/l	N.D.					93	88	6	71	121
3294	Benzo(g,h,i)perylene										
	0.11 ug/l	N.D.					106	101	5	70	125
3295	Indeno(1,2,3-cd)pyrene										
	0.072 ug/l	N.D.					105	99	6	73	125
-----		Batch: 99179A68									
8213 BTEX (8021)											

0776	Benzene										
	0.2 ug/l	N.D.		110	109		1	92		81	124
0777	Toluene										
	0.2 ug/l	N.D.		110	110		0	92		81	122
0778	Ethylbenzene										
	0.2 ug/l	N.D.		107	107		0	90		79	123
0779	Total Xylenes										
	0.6 ug/l	N.D.		106	106		0	90		80	123



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LLI Sample No. 3178814

FD-01-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671392
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	91	29	136
		Triphenyle	104	33	139
8213 BTEX (8021)		TFT	96	77	118



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LLI Sample No. WW **3179687**
Collected: 6/23/99 by JA

Account No: 07802

Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
Rel.

Submitted: 6/24/99 Reported: 7/13/99
Discard: 8/13/99

FD-02-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
FD-02 SDG#: MOS09-19

	AS RECEIVED	
	METHOD	
RESULTS	DETECTION LIMIT	UNITS

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

1 COPY TO	Kerr-McGee Corporation	ATTN: Garet Van de Steeg, PhD
1 COPY TO	Roy F. Weston	ATTN: Mr. Tom Graan
1 COPY TO	Data Package Group	

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
03:12:58 D 0003 12 128410 671615
232 0.00 00021753 ASR000



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



LLI Sample No. WW **3179687**
 Collected: 6/23/99 by JA

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

P.O. MOSS-AMERICAN
 Rel.

Submitted: 6/24/99 Reported: 7/13/99
 Discard: 8/13/99

FD-02-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
 FD-02 SDG#: MOS09-19

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD	DETECTION LIMIT UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.83	ug/l
3281	Acenaphthylene	N.D.	0.83	ug/l
3282	Acenaphthene	N.D.	0.83	ug/l
3283	Fluorene	N.D.	0.18	ug/l
3284	Phenanthrene	N.D.	0.048	ug/l
3285	Anthracene	N.D.	0.032	ug/l
3286	Fluoranthene	0.024 J	0.021	ug/l
3287	Pyrene	N.D.	0.19	ug/l
3288	Benzo(a)anthracene	N.D.	0.019	ug/l
3289	Chrysene	N.D.	0.061	ug/l
3290	Benzo(b)fluoranthene	0.041 J	0.036	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.028	ug/l
3292	Benzo(a)pyrene	0.046 J	0.023	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.049	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.10	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.067	ug/l

J. Hess
 8/14/99

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



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Respectfully Submitted
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 Group Leader Pesticides/PCBs

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LLI Sample No. WW **3179687**
Collected: 6/23/99 by JA

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

P.O. MOSS-AMERICAN
Rel.

Submitted: 6/24/99 Reported: 7/13/99
Discard: 8/13/99

FD-02-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
FD-02 SDG#: MOS09-19

AS RECEIVED

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18

CAT NO.	ANALYSIS NAME	RESULTS	DETECTION LIMIT	METHOD	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	

Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

Handwritten signature
8/11/99

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82
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Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

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



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LLI Sample No. WW **3179687**
Collected: 06/23/99 by JA

Submitted: 06/24/99

FD-02-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
FD-02 SDG#: MOS09-19

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		
			TRIAL ID	DATE AND TIME	ANALYST
1861	PAH's in Water	SW-846 8310	1	06/27/99 2239	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	06/25/99 2350	Darin P. Wagner
8213	BTEX (8021)	SW-846 8021B	1	07/07/99 0140	Barry R. Shoemaker



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LLI Sample No. 3179687
 FD-02-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671615
 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: 991760012A									

3280	Naphthalene										
	0.83 ug/l	N.D.		99	101	2	78			45	111
3281	Acenaphthylene										
	0.83 ug/l	N.D.		107	108	1	89			59	114
3282	Acenaphthene										
	0.83 ug/l	N.D.		101	104	2	88			50	120
3283	Fluorene										
	0.18 ug/l	N.D.		107	120 (2)	2	93			64	117
3284	Phenanthrene										
	0.048 ug/l	N.D.		98	103	3	93			75	114
3285	Anthracene										
	0.032 ug/l	N.D.		121	124	1	91			64	104
3286	Fluoranthene										
	0.021 ug/l	N.D.		284	283 (2)	0	87			43	147
3287	Pyrene										
	0.19 ug/l	N.D.		116	115	1	85			39	149
3288	Benzo(a)anthracene										
	0.019 ug/l	N.D.		176	184	2	85			73	117
3289	Chrysene										
	0.061 ug/l	0.067 J ug/l		110	108	2	84			68	125
3290	Benzo(b)fluoranthene										
	0.036 ug/l	N.D.		140	140	0	88			71	123
3291	Benzo(k)fluoranthene										
	0.028 ug/l	N.D.		117	117	0	89			75	118
3292	Benzo(a)pyrene										
	0.023 ug/l	N.D.		146	148	0	92			61	127
3293	Dibenzo(a,h)anthracene										
	0.049 ug/l	N.D.		85	88	3	87			71	121
3294	Benzo(g,h,i)perylene										
	0.10 ug/l	N.D.		102	102	0	99			70	125
3295	Indeno(1,2,3-cd)pyrene										
	0.067 ug/l	N.D.		100	101	0	97			73	125

8213 BTEX (8021)		Batch: 99187A69									

0776	Benzene										
	0.2 ug/l	N.D.					104	105	1	81	124
0777	Toluene										
	0.2 ug/l	N.D.					111	114	2	81	122
0778	Ethylbenzene										
	0.2 ug/l	N.D.					107	108	1	79	123
0779	Total Xylenes										
	0.6 ug/l	N.D.					98	97	1	80	123

(2) The background result was more than four times the spike added.



LLI Sample No. **3179687**

FD-02-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671615
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	92	29	136
		Triphenyle	97	33	139
8213 BTEX (8021)		TFT	98	77	118



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LLI Sample No. WW 3178815

Collected: 6/22/99 at 16:45 by JA

Submitted: 6/23/99 Reported: 7/ 3/99

Discard: 8/ 3/99

FB-01-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
FB-01 SDG#: MOS09-10FB

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
07:31:36 D 0003 11 128410 671392
232 0.00 00021753 ASR000

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



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LLI Sample No. WW 3178815

Collected: 6/22/99 at 16:45 by JA

Submitted: 6/23/99 Reported: 7/ 3/99
Discard: 8/ 3/99

FB-01-06 Grab Water Sample

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

P.O. MOSS-AMERICAN
Rel.

Moss-American Superfund Site - Milwaukee, WI
FB-01 SDG#: MOS09-10FB

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	DETECTION LIMIT	METHOD 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.	0.044	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.	0.057	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.	0.045	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

Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

J. Hess
8/14/99

Questions? Contact your Client Services Representative
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Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs



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LLI Sample No. WW 3178815

Collected: 6/22/99 at 16:45 by JA

Submitted: 6/23/99 Reported: 7/ 3/99

Discard: 8/ 3/99

FB-01-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
FB-01 SDG#: MOS09-10FB

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

*J. Karoll
8/11/99*

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



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

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LLI Sample No. WW 3178815

Collected: 06/22/99 at 16:45 by JA

Submitted: 06/23/99

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

FB-01-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
FB-01 SDG#: MOS09-10FB

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	06/25/99 1841	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	06/24/99 1200	Anita M. Dale
8213	BTEX (8021)	SW-846 8021B	1	06/28/99 1611	Jodie L. Larsen



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LLI Sample No. 3178815

FB-01-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671392
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: 991750002A									

3280	Naphthalene										
	0.77 ug/l	N.D.					80	80	0	45	111
3281	Acenaphthylene										
	0.77 ug/l	N.D.					92	89	4	59	114
3282	Acenaphthene										
	0.77 ug/l	N.D.					88	86	2	50	120
3283	Fluorene										
	0.16 ug/l	N.D.					95	92	4	64	117
3284	Phenanthrene										
	0.044 ug/l	N.D.					98	92	6	75	114
3285	Anthracene										
	0.030 ug/l	N.D.					92	87	5	64	104
3286	Fluoranthene										
	0.019 ug/l	N.D.					95	89	6	43	147
3287	Pyrene										
	0.17 ug/l	N.D.					93	88	6	39	149
3288	Benzo(a)anthracene										
	0.017 ug/l	N.D.					91	86	6	73	117
3289	Chrysene										
	0.057 ug/l	N.D.					92	87	6	68	125
3290	Benzo(b)fluoranthene										
	0.034 ug/l	N.D.					96	90	6	71	123
3291	Benzo(k)fluoranthene										
	0.026 ug/l	N.D.					97	91	6	75	118
3292	Benzo(a)pyrene										
	0.021 ug/l	N.D.					105	99	7	61	127
3293	Dibenzo(a,h)anthracene										
	0.045 ug/l	N.D.					93	88	6	71	121
3294	Benzo(g,h,i)perylene										
	0.096 ug/l	N.D.					106	101	5	70	125
3295	Indeno(1,2,3-cd)pyrene										
	0.062 ug/l	N.D.					105	99	6	73	125

8213 BTEX (8021)		Batch: 99179A68									

0776	Benzene										
	0.2 ug/l	N.D.		110	109	1	92			81	124
0777	Toluene										
	0.2 ug/l	N.D.		110	110	0	92			81	122
0778	Ethylbenzene										
	0.2 ug/l	N.D.		107	107	0	90			79	123
0779	Total Xylenes										
	0.6 ug/l	N.D.		106	106	0	90			80	123



LLI Sample No. **3178815**

FB-01-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671392
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	91	29	136
	Triphenyle	96	33	139
8213 BTEX (8021)	TFT	95	77	118



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LLI Sample No. WW 3179688
Collected: 6/23/99 at 14:00 by JA

Submitted: 6/24/99 Reported: 7/13/99
Discard: 8/13/99

FB-02-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
FB-02 SDG#: MOS09-20FB

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
03:13:39 D 0003 12 128410 671615
232 0.00 00021753 ASR000



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



LLI Sample No. WW 3179688
 Collected: 6/23/99 at 14:00 by JA

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

P.O. MOSS-AMERICAN
 Rel.

Submitted: 6/24/99 Reported: 7/13/99
 Discard: 8/13/99

FB-02-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
 FB-02 SDG#: MOS09-20FB

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	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.	0.044	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.	0.057	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.	0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.095	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.062	ug/l

AKO
8/11/99

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

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



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LLI Sample No. WW 3179688

Collected: 6/23/99 at 14:00 by JA

Submitted: 6/24/99 Reported: 7/13/99
Discard: 8/13/99

FB-02-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
FB-02 SDG#: MOS09-20FB

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

Z. Kowalski
8/10/99

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

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



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LLI Sample No. WW 3179688

Collected: 06/23/99 at 14:00 by JA

Submitted: 06/24/99

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

FB-02-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
FB-02 SDG#: MOS09-20FB

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS		ANALYST
				ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1		06/27/99 2301	Michelle J. Kolodziejwski
3337	PAH Water Extraction	SW-846 3510C	1		06/25/99 2350	Darin P. Wagner
8213	BTEX (8021)	SW-846 8021B	1		06/28/99 1537	Jodie L. Larsen



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LLI Sample No. 3179688
 FB-02-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671615
 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: 991760012A									

3280	Naphthalene										
	0.77 ug/l	N.D.		99	101	2	78			45	111
3281	Acenaphthylene										
	0.77 ug/l	N.D.		107	108	1	89			59	114
3282	Acenaphthene										
	0.77 ug/l	N.D.		101	104	2	88			50	120
3283	Fluorene										
	0.16 ug/l	N.D.		107	120 (2)	2	93			64	117
3284	Phenanthrene										
	0.044 ug/l	N.D.		98	103	3	93			75	114
3285	Anthracene										
	0.030 ug/l	N.D.		121	124	1	91			64	104
3286	Fluoranthene										
	0.019 ug/l	N.D.		284	283 (2)	0	87			43	147
3287	Pyrene										
	0.17 ug/l	N.D.		116	115	1	85			39	149
3288	Benzo(a)anthracene										
	0.017 ug/l	N.D.		176	184	2	85			73	117
3289	Chrysene										
	0.057 ug/l	0.067 J ug/l		110	108	2	84			68	125
3290	Benzo(b)fluoranthene										
	0.034 ug/l	N.D.		140	140	0	88			71	123
3291	Benzo(k)fluoranthene										
	0.026 ug/l	N.D.		117	117	0	89			75	118
3292	Benzo(a)pyrene										
	0.021 ug/l	N.D.		146	148	0	92			61	127
3293	Dibenzo(a,h)anthracene										
	0.045 ug/l	N.D.		85	88	3	87			71	121
3294	Benzo(g,h,i)perylene										
	0.095 ug/l	N.D.		102	102	0	99			70	125
3295	Indeno(1,2,3-cd)pyrene										
	0.062 ug/l	N.D.		100	101	0	97			73	125

8213 BTEX (8021)		Batch: 99179A68									

0776	Benzene										
	0.2 ug/l	N.D.		110	109	1	92			81	124
0777	Toluene										
	0.2 ug/l	N.D.		110	110	0	92			81	122
0778	Ethylbenzene										
	0.2 ug/l	N.D.		107	107	0	90			79	123
0779	Total Xylenes										
	0.6 ug/l	N.D.		106	106	0	90			80	123

(2) The background result was more than four times the spike added.



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LLI Sample No. 3179688
FB-02-06 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671615
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	87	29	136
		Triphenyle	96	33	139
8213 BTEX (8021)		TFT	96	77	118



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LLI Sample No. WW 3178816
Collected:

Submitted: 6/23/99 Reported: 7/ 3/99
Discard: 8/ 3/99

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI
TB-01 SDG#: MOS09-11TB

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
8213	BTEX (8021)			See Page	2

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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
07:32:17 D 0003 11 128410 671392
232 0.00 00005933 ASR000

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



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LLI Sample No. WW 3178816

Collected:

Submitted: 6/23/99 Reported: 7/ 3/99
Discard: 8/ 3/99

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI
TB-01 SDG#: MOS09-11TB

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

Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

Handwritten signature
8/16/99

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

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

MEMBER

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LLI Sample No. WW 3178816

Collected:

Submitted: 06/23/99

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI
TB-01 SDG#: MOS09-11TB

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	
8213	BTEX (8021)	SW-846 8021A	1		06/24/99 2129	Donald L. Shelly., Jr.



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LLI Sample No. **3178816**

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671392
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: 99175A02									
0776	Benzene										
	0.2 ug/l	N.D.					100	97	3	81	124
0777	Toluene										
	0.2 ug/l	N.D.					106	102	3	81	122
0778	Ethylbenzene										
	0.2 ug/l	N.D.					105	101	4	79	123
0779	Total Xylenes										
	0.6 ug/l	N.D.					103	101	3	80	123



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2216 Rev. 3/23/99



LLI Sample No. 3178816

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671392
Kerr-McGee Corporation

TRIAL ID	SURROGATE SUMMARY		SURROGATE LIMITS	
	SURROGATE	RECOVERY %	LOW	HIGH
8213 BTEX (8021)	TFT	101	77	118



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LLI Sample No. WW 3179689

Collected: 6/23/99

Submitted: 6/24/99 Reported: 7/13/99

Discard: 8/13/99

TB-02 Water Sample

Moss-American Superfund Site - Milwaukee, WI
TB-02 SDG#: MOS09-21TB*

Account No: 07802

Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. MOSS-AMERICAN
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METHOD

RESULTS DETECTION LIMIT UNITS

CAT
NO. ANALYSIS NAME

8213 BTEX (8021)

See Page 2

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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
03:14:19 D 0003 12 128410 671615
232 0.00 00005933 ASR000

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



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LLI Sample No. WW 3179689
Collected: 6/23/99

Submitted: 6/24/99 Reported: 7/13/99
Discard: 8/13/99

TB-02 Water Sample

Moss-American Superfund Site - Milwaukee, WI
TB-02 SDG#: MOS09-21TB*

Account No: 07802
Kerr-McGee Corporation
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Oklahoma City OK 73125

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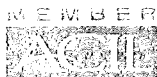
AS RECEIVED

CAT NO.	ANALYSIS NAME	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

Handwritten signature: Hancock 8/14/99

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

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



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LLI Sample No. WW 3179689

Collected: 06/23/99

Submitted: 06/24/99

TB-02 Water Sample

Moss-American Superfund Site - Milwaukee, WI
TB-02 SDG#: MOS09-21TB*

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	06/28/99 1245	Jodie L. Larsen



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LLI Sample No. 3179689

TB-02 Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671615
Kerr-McGee Corporation

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

8213 BTEX (8021)		Batch: 99179A68									
0776	Benzene										
	0.2 ug/l	N.D.		110	109	1	92			81	124
0777	Toluene										
	0.2 ug/l	N.D.		110	110	0	92			81	122
0778	Ethylbenzene										
	0.2 ug/l	N.D.		107	107	0	90			79	123
0779	Total Xylenes										
	0.6 ug/l	N.D.		106	106	0	90			80	123



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LLI Sample No. 3179689

TB-02 Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 671615
Kerr-McGee Corporation

TRIAL ID	SURROGATE SUMMARY		SURROGATE LIMITS	
	SURROGATE	RECOVERY %	LOW	HIGH
8213 BTEX (8021)	TFT	94	77	118



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