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12 November 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, 3<sup>rd</sup> 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 third quarter 1999 groundwater monitoring event completed at the above referenced project in September 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 third quarter 1999 reflect conditions at the site after the free-product recovery system was running for approximately four months.

## 1.0 BACKGROUND

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

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





Mr. Russell D. Hart  
U.S. EPA

-2-

12 November, 1999

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

## 2.0 GROUNDWATER MONITORING RESULTS

The third quarter 1999 groundwater monitoring event at the Moss-American site was completed between 20 September and 23 September 1999. Tasks completed during the field effort for this event included the collection of groundwater elevation data from all the shallow monitoring wells and five of the six intermediate wells. Following groundwater elevation data measurements, groundwater samples were collected from 16 of the 17 shallow monitoring wells and the five intermediate wells. Groundwater sample was not collected from well MW-8S because this well had approximately 2.5 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 MW-7I because of a compressed riser. The results of the groundwater samples that were collected and analyzed from the shallow and intermediate wells are described in the following subsections.

### 2.1 GROUNDWATER ELEVATION MEASUREMENTS

The depth to water was measured in each of the monitoring wells mentioned in Section 1.0 of this report. The measurements were conducted on 20 September 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 Menominee River. In the topographically higher, western portion of the site, the horizontal hydraulic gradient of the potentiometric surface is relatively steep at approximately 0.027 feet per foot (ft/ft). The gradient flattens near the river, as does the ground surface, with an average of approximately 0.012 ft/ft.



Mr. Russell D. Hart  
U.S. EPA

-3-

12 November, 1999

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 0.107 ft/day. Near the river, the velocity of groundwater flow is calculated to be approximately 0.048 ft/day.

## 2.2 GROUNDWATER SAMPLE ANALYSES RESULTS

Groundwater samples were collected from sixteen shallow monitoring wells (MW-3S, MW-4S, MW-5S, MW-6S, MW-7S, MW-9S, MW-10S, MW-13S, MW-20S, MW-25S, MW-26S, MW-27S, MW-28S, MW-29S, TW-05, and TW-09) and five intermediate monitoring wells (MW-3I, MW-4I, MW-8I, MW-9I, MW-20I) screened within the shallow and intermediate groundwater-bearing zones, respectively. In addition, for quality assurance/quality control (QA/QC) purposes, three sample duplicates (identified by a FD prefix), one matrix spike/matrix spike duplicate (MS/MSD), and three 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 6.4 to 7.5 standard pH units (S.U.) in the shallow groundwater samples and 8.0 to 9.7 S.U in intermediate wells. The specific conductivity ranged from 0.21 to 0.76 mΩ/cm in the shallow groundwater samples and 0.23 to 0.44 mΩ/cm in the intermediate monitoring wells. Groundwater temperatures ranged from 6.5 to 8.7° C in the shallow groundwater and 11.2 to 22.1° C in the intermediate monitoring wells. The redox potentials of the groundwater ranged from -81 to 277 millivolts (mV) in shallow groundwater samples and -20 to 153 mV in the intermediate monitoring wells. Dissolved oxygen levels ranged from 1.1 to 4.7 mg/L in the shallow monitoring wells and 1.2 to 4 mg/L in the intermediate monitoring wells. Turbidity ranged from 291 to 2,900 nephelometric turbidity units (NTU) in the shallow groundwater samples and 50 to 840 NTU in the intermediate monitoring wells.



Mr. Russell D. Hart  
U.S. EPA

-4-

12 November, 1999

## 2.2.2 Laboratory Analyses

Each groundwater sample collected during the third 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. Groundwater sampling results during this quarter were also compared to the ES and PAL standards provided by the WDNR for anthracene, fluoranthene, pyrene, chrysene and benzo(b)fluoranthene. These results are summarized in the following paragraphs. The laboratory reports are presented in Attachment A.

### Groundwater Sample Results

As Table 3 shows, primarily benzene, naphthalene, fluorene, anthracene, pyrene, chrysene, benzo (b)fluoranthene 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, MW-7S and TW-09.
- 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.
- Anthracene was detected at concentrations exceeding WDNR PAL of 600 µg/L in groundwater sample collected from TW-09.
- Pyrene was detected at concentrations exceeding WDNR PAL of 50 µg/L in groundwater sample collected from MW-4S, TW-05 and TW-09.
- Chrysene was detected at concentrations exceeding WDNR PAL of 0.02 µg/L in groundwater sample collected from MW-3S, MW-4S, MW-4I, MW-28S, TW-05, FD-01 (Field duplicate of MW-9I) and TW-09.

Mr. Russell D. Hart  
U.S. EPA

-5-

12 November, 1999

- Benzo(b)fluoranthene 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-27S, MW-29S, TW-05 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-4I, MW-13S, MW-20S, MW-29S, TW-05 and TW-09.

ES Exceedances:

- Benzene was detected at concentrations exceeding the WDNR PAL of 5 µg/L in groundwater sample 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.
- Anthracene was detected at concentrations exceeding WDNR PAL of 3,000 µg/L in groundwater sample collected from TW-09.
- Pyrene was detected at concentrations exceeding WDNR PAL of 250 µg/L in groundwater sample collected from MW-4S and TW-09.
- Chrysene was detected at concentrations exceeding WDNR PAL of 0.2 µg/L in groundwater sample collected from MW-4S, TW-05 and TW-09.
- Benzo(b)fluoranthene was detected at concentrations exceeding the WDNR PAL of 0.2 µg/L in groundwater samples collected from monitoring wells MW-4S, TW-05 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-13S, TW-05 and TW-09.



Mr. Russell D. Hart  
U.S. EPA

-6-

12 November, 1999

For the most part, the detected plume boundary is an area encompassing the five impacted wells (MW-4S, MW-7S, MW-8S, TW-05, and TW-09). Groundwater from monitoring wells MW-28S, MW-3S, MW-4I, MW-13S, MW-27S, MW-28S, MW-29S indicated concentration for one or two PAHs above the WDNR PAL and/or ES. These exceedances may be attributed to seasonal fluctuations of the groundwater table. Based on these detected concentrations, the width of the contaminant plume generally indicates an easterly trend as indicated in Figure 1 as well as during the previous six quarterly groundwater-sampling events.

A summary of the concentration of contaminants at wells that have regularly exceeded PALs and/or ES during the four quarters of 1998 and three quarters 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. Additionally, we note an increase in concentration of PAHs at monitoring well TW-09 and a decrease in naphthalene concentration at monitoring well MW-7S. 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.

A handwritten signature in black ink, appearing to read "Thomas P. Graan".

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

TPG/sl  
Attachments

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

**Table 1**

**Groundwater Elevation Measurements  
Third 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	8.31	723.19	ND
MW-4S	731.00	732.86	5.70	727.16	ND
MW-5S	723.00	724.70	6.21	718.49	ND
MW-6S	727.00	724.28	5.32	718.96	ND
MW-7S	720.00	721.70	7.32	714.38	ND
MW-8S	718.00	721.73	5.75	715.98	2.5
MW-9S	720.00	721.71	7.77	713.94	ND
MW-10S	723.00	726.58	11.71	714.87	ND
MW-13S	737.00	738.68	5.23	733.45	ND
MW-20S	716.00	719.94	5.91	714.03	ND
MW-25S	736.83	739.24	5.30	733.94	ND
MW-26S	732.31	731.66	5.85	725.81	ND
MW-27S	720.59	723.15	5.20	717.95	ND
MW-28S	720.04	722.65	3.97	718.68	ND
MW-29S	720.01	722.39	5.04	717.35	ND
TW-05	721.76	724.16	3.86	720.30	ND
TW-09	717.61	719.96	5.52	714.44	0.70

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**  
**Third 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	7.2	0.67	13.0	271	2.7	1,100
MW-4S	7.5	0.76	15.6	-81	3.1	1,799
MW-5S	7.2	0.54	12.8	80	3.0	1,200
MW-6S	7.5	0.41	14.7	160	2.4	1,306
MW-7S	6.7	0.88	18.7	-60	2.0	642
MW-8S	NM	NM	NM	NM	NM	NM
MW-9S	6.7	0.67	10.0	-59	0.9	1,107
MW-10S	6.4	0.52	6.5	-69	3.9	2,900
MW-13S	7.2	0.67	15.0	220	3.8	738
MW-20S	7.0	0.21	15.4	21	2.4	291
MW-25S	7.0	0.67	15.4	252	2.7	963
MW-26S	7.1	0.54	18.2	277	2.8	1,117
MW-27S	6.9	0.71	16.0	-92	1.1	513
MW-28S	7.4	0.41	16.1	64	4.7	1,098
MW-29S	7.0	0.49	12.3	130	1.2	812
TW-05	7.0	0.71	15.1	-73	1.9	565
TW-09	NM	NM	NM	NM	NM	NM
MW-3I	8.8	0.27	20.9	4.0	4.0	465
MW-4I	9.7	0.44	15.2	135	2.1	840
MW-8I	8.0	0.23	22.1	153	1.7	333
MW-9I	8.0	0.28	11.2	118	1.2	50
MW-20I	8.7	0.25	15.4	-20	1.2	521

S - Shallow well

I - Intermediate Well

TW - Temporary Well (Shallow)

NM - Not measured because of product

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

Sample ID:	MW-3S-07	MW-3I-07	MW-4S-07	MW-4I-07	MW-5S-07	MW-6S-07	WDNR PAL ug/L	WDNR ES ug/L					
Sample Matrix:	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater							
Sample Date:	9/22/99	9/22/99	9/22/99	9/22/99	9/22/99	9/21/99							
Units of Measure:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L							
Parameters													
VOCs													
Benzene	0.2	U	0.2	U	3		0.2	U	0.2	U	0.5	5	
Toluene	0.2	U	0.2	U	4		0.2	U	0.2	U	0.2	68.6	
Ethylbenzene	0.2	U	0.2	U	12		0.2	U	0.2	U	0.2	140	
Total Xylenes	0.6	U	0.6	U	12		0.6	U	0.6	U	0.6	124	
PAHs													
Naphthalene	0.80	U	0.76	U	418	J	0.76	U	8.0	U	0.86	U	8.0
Acenaphthylene	0.80	U	0.76	U	136	J	0.76	U	8.0	U	0.86	U	NA
Acenaphthene	0.80	U	0.76	U	940		0.76	U	8.0	U	0.86	U	NA
Fluorene	0.17	U	0.16	U	651		0.16	U	1.7	U	0.18	U	80
Phenanthrene	0.046	U	0.044	U	239		0.147	J	0.46	U	0.127	U	NA
Anthracene	0.031	U	0.030	U	135		0.031	J	0.31	U	0.033	U	600
Fluoranthene	0.069	J	0.019	U	593		0.071	J	0.20	U	0.021	U	80
Pyrene	0.18	U	0.17	U	522		0.17	U	1.8	U	0.19	U	50
Benzo(a)anthracene	0.022	J	0.017	U	102		0.021	J	0.18	U	0.019	U	NA
Chrysene	0.060	J	0.056	U	101		0.106	J	0.59	U	0.063	U	0.02
Benzo(b)fluoranthene	0.038	J	0.033	U	39.1		0.033	U	0.35	U	0.038	U	0.02
Benzo(k)fluoranthene	0.027	U	0.026	U	20.5		0.026	U	0.27	U	0.029	U	NA
Benzo(a)pyrene	0.034	J	0.021	U	40.5		0.041	J	0.22	U	0.024	U	0.02
Dibenzo(a,h)anthracene	0.047	U	0.045	U	4.9	J	0.045	U	0.47	U	0.050	U	NA
Benzo(g,h,i)perylene	0.099	U	0.095	U	16.0	J	0.095	U	1.0	U	0.11	U	NA
Indeno(1,2,3-cd)pyrene	0.064	U	0.061	U	16.9	J	0.061	U	0.64	U	0.069	U	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**  
**Third Quarter 1999**  
**Moss-American Site**  
**Milwaukee, Wisconsin**

Sample ID:	MW-7S-07	MW-8I-07	MW-9S-07	MW-9I-07	MW-13S-07	MW-20S-07	WDNR PAL ug/L	WDNR ES ug/L		
Sample Matrix:	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater				
Sample Date:	9/21/99	9/22/99	9/21/99	9/21/99	9/22/99	9/23/99				
Units of Measure:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L				
<b>Parameters</b>										
<b>VOCs</b>										
Benzene	9		0.2	U	0.2	U	0.2	U	0.5	5
Toluene	1		0.2	U	0.2	U	0.2	U	68.6	343
Ethylbenzene	29		0.2	U	0.2	U	0.2	U	140	700
Total Xylenes	86		0.6	U	3.0	U	0.6	U	124	620
<b>PAHs</b>										
Naphthalene	0.80	U	0.78	U	0.77	U	0.78	U	8.0	40
Acenaphthylene	0.80	U	0.78	U	0.77	U	0.78	U	8.0	NA
Acenaphthene	200		0.78	U	0.77	U	0.78	U	0.77	NA
Fluorene	39.2		0.17	U	0.16	U	0.17	U	1.7	80
Phenanthrene	0.046	U	0.045	U	0.044	U	0.045	U	0.46	400
Anthracene	0.031	U	0.030	U	0.030	U	0.030	U	0.31	NA
Fluoranthene	0.035	U	0.019	U	0.019	U	0.101	U	0.75	NA
Pyrene	0.41	J	0.18	U	0.17	U	0.18	U	1.8	80
Benzo(a)anthracene	0.018	U	0.018	U	0.017	U	0.018	U	0.31	NA
Chrysene	0.059	U	0.058	U	0.056	U	0.058	U	0.78	0.2
Benzo(b)fluoranthene	0.035	U	0.034	U	0.033	U	0.034	U	0.51	NA
Benzo(k)fluoranthene	0.027	U	0.026	U	0.026	U	0.026	U	0.27	0.02
Benzo(a)pyrene	0.022	U	0.021	U	0.021	U	0.022	U	0.42	NA
Dibenzo(a,h)anthracene	0.047	U	0.046	U	0.045	U	0.046	U	0.47	NA
Benzo(g,h,i)perylene	0.098	U	0.096	U	0.095	U	0.097	U	1.0	NA
Indeno(1,2,3-cd)pyrene	0.064	U	0.062	U	0.061	U	0.063	U	0.64	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**  
**Third Quarter 1999**  
**Moss-American Site**  
**Milwaukee, Wisconsin**

Sample ID:	MW-20I-07	MW-25S-07	MW-26S-07	MW-27S-07	MW-28S-07	MW-29S-07	WDNR PAL ug/L	WDNR ES ug/L
Sample Matrix:	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater		
Sample Date:	9/23/99	9/22/99	9/22/99	9/21/99	9/21/99	9/21/99		
Units of Measure:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L		
Parameters								
VOCs								
Benzene	0.2	U	0.2	U	0.2	U	0.2	U
Toluene	0.2	U	0.2	U	0.2	U	0.2	U
Ethylbenzene	0.2	U	0.2	U	0.2	U	0.2	U
Total Xylenes	0.6	U	0.6	U	0.6	U	0.6	U
PAHs								
Naphthalene	0.79	U	0.80	U	8.0	U	0.85	U
Acenaphthylene	1.35	J	0.80	U	8.0	U	0.85	U
Acenaphthene	0.79	U	0.80	U	8.0	U	0.85	U
Fluorene	0.17	U	0.17	U	1.7	U	0.18	U
Phenanthrene	0.046	U	0.046	U	0.46	U	0.049	U
Anthracene	0.109	J	0.031	U	0.31	U	0.033	U
Fluoranthene	0.020	U	0.020	U	0.20	U	0.095	U
Pyrene	0.18	U	0.18	U	1.8	U	0.34	J
Benzo(a)anthracene	0.018	U	0.018	U	0.18	U	0.023	U
Chrysene	0.058	U	0.059	U	0.59	U	0.063	U
Benzo(b)fluoranthene	0.035	U	0.035	U	0.35	U	0.062	J
Benzo(k)fluoranthene	0.027	U	0.027	U	0.27	U	0.029	U
Benzo(a)pyrene	0.030	J	0.022	U	0.22	U	0.051	U
Dibenzo(a,h)anthracene	0.046	U	0.047	U	0.47	U	0.050	U
Benzo(g,h,i)perylene	0.098	U	0.099	U	1.0	U	0.11	U
Indeno(1,2,3-cd)pyrene	0.063	U	0.064	U	0.64	U	0.068	U
							0.188	U
							0.081	J
							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**  
**Third Quarter 1999**  
**Moss-American Site**  
**Milwaukee, Wisconsin**

Sample ID:	TW-05-07		TW-09-07		FD-01-07		FD-02-07		FB-01-07		FB-02-07		WDNR PAL ug/L	WDNR ES ug/L										
Sample Matrix:	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater													
Sample Date:	9/21/99		9/21/99		9/21/99		9/22/99		9/21/99		9/22/99													
Units of Measure:	ug/L		ug/L		ug/L		ug/L		ug/L		ug/L													
<b>Parameters</b>																								
<b>VOCs</b>																								
Benzene	0.2	U	<b>0.8</b>	J	0.2	U	0.2	U	0.2	U	0.2	U	0.5	5										
Toluene	0.2	J	<b>3</b>		0.2	U	0.2	U	0.2	U	0.2	U	68.6	343										
Ethylbenzene	0.2	U	<b>11</b>		0.2	U	0.2	U	0.2	U	0.2	U	140	700										
Total Xylenes	0.6	U	<b>30</b>		0.6	U	0.6	U	0.6	U	0.6	U	124	620										
<b>PAHs</b>																								
Naphthalene	7.9	U	<b>126,000</b>		0.78	U	0.80	U	0.81	U	0.83	U	8.0	40										
Acenaphthylene	25.3	J	<b>9,500</b>	U	0.78	U	0.80	U	0.81	U	0.83	U	NA	NA										
Acenaphthene	220		<b>62,000</b>	J	0.78	U	0.80	U	0.81	U	0.83	U	NA	NA										
Fluorene	<b>136</b>		<b>47,700</b>		0.17	U	0.17	U	0.17	U	0.18	U	80	400										
Phenanthrene	0.45	U	<b>130,000</b>		0.046	U	0.046	U	0.172	J	0.048	U	NA	NA										
Anthracene	0.31	U	<b>14,300</b>		0.064	J	0.032	J	0.031	U	0.032	U	600	3000										
Fluoranthene	58.6		<b>60,200</b>		0.166	U	0.026	J	0.162	J	0.021	U	80	400										
Pyrene	<b>88.3</b>		<b>106,000</b>		0.18	U	0.18	U	0.18	U	0.19	U	50	250										
Benzo(a)anthracene	9.36		<b>10,600</b>		0.021	U	0.018	U	0.039	J	0.019	U	NA	NA										
Chrysene	<b>16.7</b>		<b>16,300</b>		<b>0.090</b>	J	0.059	U	0.060	U	0.062	U	0.02	0.2										
Benzo(b)fluoranthene	<b>3.69</b>		<b>3,340</b>		0.034	U	0.035	U	0.156	U	0.036	U	0.02	0.2										
Benzo(k)fluoranthene	1.95		<b>1,820</b>		0.026	U	0.027	U	0.027	U	0.028	U	NA	NA										
Benzo(a)pyrene	<b>4.33</b>		<b>3,610</b>		0.022	U	0.022	U	0.024	J	0.023	U	0.02	0.2										
Dibenzo(a,h)anthracene	0.57	J	<b>560</b>	U	0.046	U	0.047	U	0.048	U	0.049	U	NA	NA										
Benzo(g,h,i)perylene	2.4	J	<b>1,200</b>	J	0.097	U	0.099	U	0.10	J	0.10	U	NA	NA										
Indeno(1,2,3-cd)pyrene	1.93	J	<b>1,200</b>	J	0.063	U	0.064	U	0.065	U	0.067	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.

Bold values indicate concentration exceeding PAL

Bold and shaded values indicate concentration exceeding PAL and ES

FD-01 is field duplicate of MW-9I, and FD-02 is a field duplicate of MW-25S

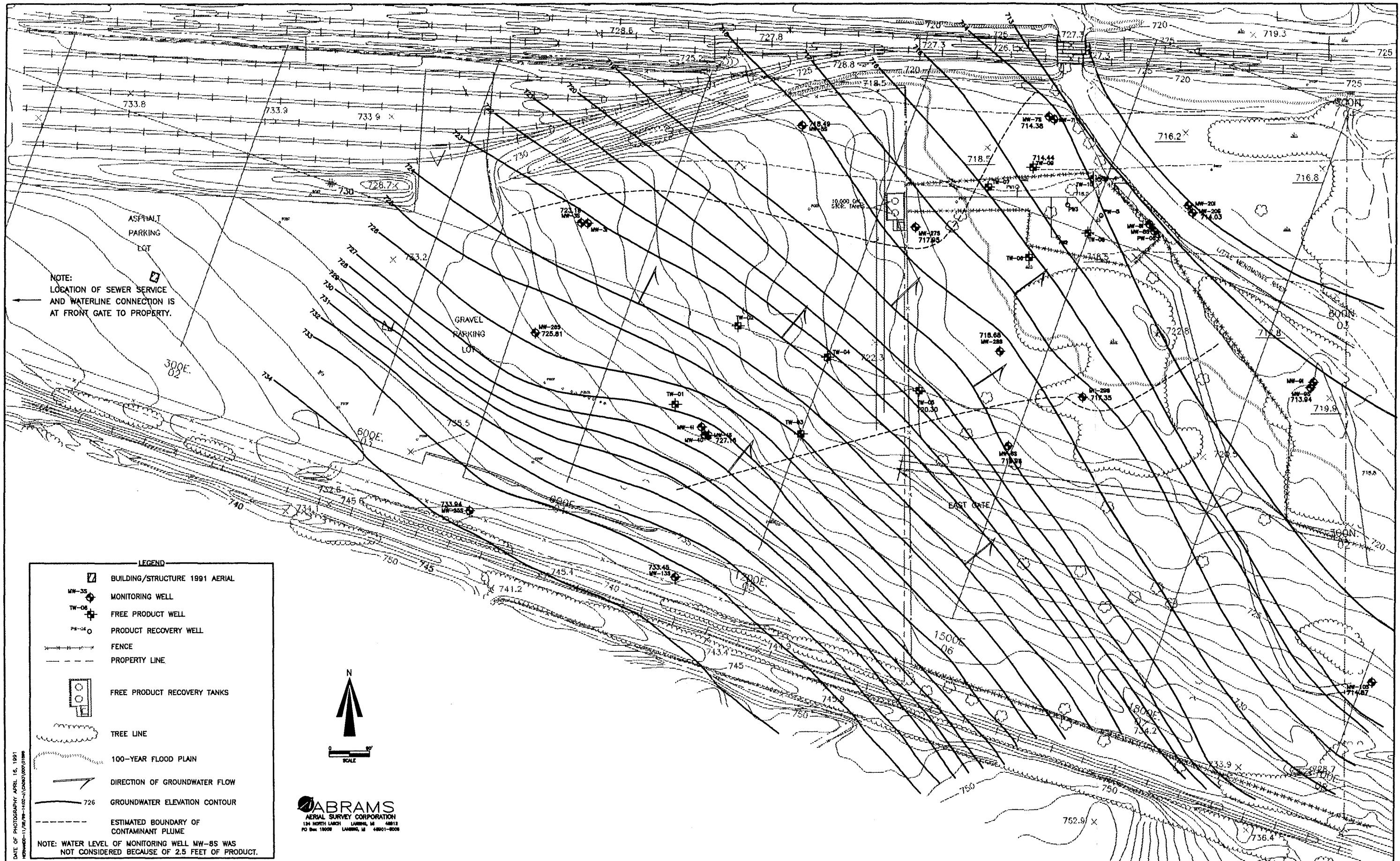
**Table 4**  
**Concentration Trends in Groundwater Samples**  
**Four quarters of 1998/ Three quarters of 1999**  
**Moss-American Site**  
**Milwaukee, Wisconsin**

	<b>MW-4S</b>	<b>MW-7S</b>	<b>TW-05</b>	<b>TW-09</b>
<b>Benzene</b>				
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
Third Quarter (September '99)	3	9	0.2 U	0.8 J
<b>Naphthalene</b>				
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
Third Quarter (September '99)	418 J	0.80 U	7.9 U	126,000
<b>Fluorene</b>				
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
Third Quarter (September '99)	651	39.2	136	47,700
<b>Benzo(a) pyrene</b>				
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
Third Quarter (September '99)	40.5	0.022 U	4.33	3,610

NS = Not Sampled

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

J = Estimated Concentration



NO.	DATE	APPR.	REASON	VERNON HILLS

MOSS - AMERICAN SITE  
Milwaukee, Wisconsin



ONCALL	DATE	CLIENT APPROVAL	DATE
DEL. ENCL.			
PROJ. ENCL.			
PROJ. MNL.			
APPROVED			
APPROVED		ISSUED FOR	DATE

GROUNDWATER ELEVATION CONTOUR MAP  
3RD QUARTER 1999

DRAWN	D.G.H.	DATE	JUNE 99	CRNL. NO.	1	REV. NO.
SCALE	1" = 60'	E.O. NO.	028870070030002	SHR.	OF	

**ATTACHMENT A**

**LABORATORY REPORTS**

**Kerr-McGee**  
**Moss American Site**  
**Milwaukee, Wisconsin**  
**SDG# MOS10/11**

**27 water samples – BTEX**

**Method SW846 8021B**

**1. Holding Times:**

<u>Lab ID</u>	<u>Client ID</u>	<u>Sample Date</u>	<u>Analysis Date</u>
3236062	MW13S-07	9/22/99	9/27/99
3236063	MW25S-07	9/22/99	9/27/99
3236064	MW26S-07	9/22/99	9/27/99
3236065	MW03S-07	9/22/99	9/27/99
3236066	MW03I-07	9/22/99	9/27/99
3236067	MW05S-07	9/22/99	9/27/99
3236068	MW04S-07	9/22/99	9/28/99
3236069	MW04I-07	9/22/99	9/27/99
3236070	MW08I-07	9/22/99	9/27/99
3236071	FD02-07	9/22/99	9/27/99
3236072	FB02-07	9/22/99	9/27/99
3236073	TB02-07	9/22/99	9/27/99
3237294	MW20S-07	9/23/99	9/29/99
3237295	MW20I-07	9/23/99	9/29/99
3237296	TB03-07	9/23/99	9/29/99
3235155	MW09S-07	9/21/99	9/25/99
3235156	MW09I-07	9/21/99	9/25/99
3235157	MW29S-07	9/21/99	9/24/99
3235160	MW06S-07	9/21/99	9/25/99
3235161	TW05S-07	9/21/99	9/25/99
3235162	MW27-07	9/21/99	9/25/99
3235163	MW28S-07	9/21/99	9/25/99
3235164	MW07S-07	9/21/99	9/25/99
3235165	TW09-07	9/21/99	9/25/99
3235166	FB01-07	9/21/99	9/25/99
3235167	FD01-07	9/21/99	9/25/99
3235168	TB01-07	9/21/99	9/25/99

All samples were analyzed within the required holding times.

**2. Method Blank:**

Six method blanks were associated with the BTEX samples (BLK5510, BLK5511, BLK5655, BLK5656, BLK6801, and BLK6802. All six blanks were free of contamination.

**Kerr-McGee  
Moss American Site  
Milwaukee, Wisconsin  
SDG# MOS10/11  
BTEX Cont.**

**3. Initial and Continuing Calibration:**

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

**4. Surrogate Recovery-:**

The surrogate recoveries for the BTEX surrogate (TFT) were all within the required QC limits of 77% to 118 %.

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

Sample MW29S-07 was used for the MS/MSD audit in one batch. Laboratory QC was used for the second batch. All MS and MSD recoveries were acceptable.

**6. Laboratory Control Sample:**

All laboratory control sample results were acceptable.

**7. Trip Blanks:**

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

**8. Field Blanks:**

FB01-07and FB02-07 were field blanks. All BTEX results were non-detect. All results are acceptable.

**9. Field Duplicates:**

Samples MW09I-07 and FD01-07 and MW25S-07 and FD02-07 are field duplicates. Overall, results show good correlation. No qualifications are applied based on this criterion.

**Kerr-McGee**  
**Moss American Site**  
**Milwaukee, Wisconsin**  
**SDG# MOS10/11**

**24 Water Samples – Polynuclear Aromatic Hydrocarbons (PAHs by HPLC)**

**Method SW846 3510C/8310**

1. Holding Times:

<u>Lab ID</u>	<u>Client ID</u>	<u>Sample Date</u>	<u>Extraction Date</u>	<u>Analysis Date</u>
3236062	MW13S-07	9/22/99	9/24/99	9/28/99
3236063	MW25S-07	9/22/99	9/24/99	9/28/99
3236064	MW26S-07	9/22/99	9/24/99	9/28/99
3236065	MW03S-07	9/22/99	9/24/99	9/28/99
3236066	MW03I-07	9/22/99	9/24/99	9/28/99
3236067	MW05S-07	9/22/99	9/24/99	9/28/99
3236068	MW04S-07	9/22/99	9/24/99	9/29/99
3236069	MW04I-07	9/22/99	9/24/99	9/28/99
3236070	MW08I-07	9/22/99	9/24/99	9/28/99
3236071	FD02-07	9/22/99	9/24/99	9/28/99
3236072	FB02-07	9/22/99	9/24/99	9/28/99
3237294	MW20S-07	9/23/99	9/27/99	9/28/99
3237295	MW20I-07	9/23/99	9/27/99	9/28/99
3235155	MW09S-07	9/21/99	9/24/99	9/27/99
3235156	MW09I-07	9/21/99	9/24/99	9/27/99
3235157	MW29S-07	9/21/99	9/24/99	9/27/99
3235160	MW06S-07	9/21/99	9/24/99	9/27/99
3235161	TW05S-07	9/21/99	9/24/99	9/29/99
3235162	MW27-07	9/21/99	9/24/99	9/27/99
3235163	MW28S-07	9/21/99	9/24/99	9/27/99
3235164	MW07S-07	9/21/99	9/24/99	9/27/99
3235165	TW09-07	9/21/99	9/24/99	9/29/99
3235166	FB01-07	9/21/99	9/24/99	9/27/99
3235167	FD01-07	9/21/99	9/24/99	9/27/99

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

2. Method Blank:

There are multiple water method blanks associated with the PAH fraction (PBLKBK, PBLKC2 and PBLKBB). All method blanks were free of contamination.

**Kerr-McGee  
Moss American Site  
Milwaukee, Wisconsin  
SDG# MOS10/11  
PAHs Cont.**

**3. Initial and Continuing Calibration:**

For the PAH samples, all initial and continuing calibration criteria was achieved.

**4. Surrogate Recovery:**

The surrogates for PAHs include nitrobenzene and triphenylene. Nitrobenzene results were acceptable except for MW29S-07 and TW09-07 (diluted out). All nitrobenzene results on the secondary column indicated a reduced sensitivity (zero percent recovery or diluted out). The laboratory narrative states that the nitrobenzene surrogate is not visible on the fluorescence or confirmation detector. Triphenylene results were acceptable except for MW29S-07 (initial and confirmation), FB02-07, FD02-07 and MW04-07 (initial and confirmation results were diluted out).

**5. Matrix Spike/Matrix Spike Duplicate:**

Sample MW29S-07 was used for the MS/MSD audit. This MS/MSD sample corresponds to the samples collected on 9/21/99. All MS/MSD results were within required QC limits. There was not enough sample volume to perform an MS/MSD with the samples collected on 9/22 and 9/23. Therefore, the lab generated a MS/MSD sample. following MS/MSD results were outside QC limits: phenanthrene (183/148), anthracene (40/45) benzo(b)fluoranthene (208), benzo(k)fluoranthene (208/175), and benzo(a)pyrene (253/153). The lab assumes these results to be attributed to interference form the background matrix. The corresponding LCS results are all acceptable. No qualifications are required.

**6. Laboratory Control Sample:**

All laboratory control results (LCS30, LCS45, and LCS3F) are acceptable.

**Kerr-McGee  
Moss American Site  
Milwaukee, Wisconsin  
SDG# MOS10/11  
PAHs Cont.**

**7. Field Blanks:**

FB01-07 and FB02-07 were field blanks. The following compounds were detected in FB01-07: phenanthrene (0.172), fluoranthene (0.162), benzo(a)anthracene (.039), benzo(a)pyrene (0.024), and indeno(1,2,3-cd) pyrene (0.132). Sample results less than 5 times the amount found in the blank are qualified as non-detect, U in samples MW09S-07, MW09I-07, MW29S-07, TW05-07, MW6S-07, MW27S-07, MW28S-07, MW07S-07, TW09-07, and FD01-07. All FB02-07 results were non-detect.

**8. Field Duplicates:**

Samples MW09I-07 and FD01-07 and MW25S-07 and FD02-07 are field duplicates. Overall, results show good correlation. However, there were several compounds detected in each field duplicate sample that was not detected in the original sample. No qualifications are applied based on this criterion.

**9. Other:**

Samples MW13S-07, MW26S-07, and MW05S-07 were extracted using 100 ml instead of 1000 mL. According to the laboratory, the prep log states that these samples had heavy sediment. This type of matrix can clog the stopcock and cause severe emulsions. Therefore, the reduced aliquot raises the detection limit. The following samples underwent dilutions: TW05-07, (10), TW09-07 (5000), and MW04-07 (100). The undiluted results were off the scale and not usable due to the PAH content. For the larger dilutions, the lesser dilution trials were off scale and unusable due to the amount of unresolved area. Therefore, the diluted sample results also have elevated detection limits, even for the non-detected compounds.

**Kay Hower**

**From:** Jenifer E. Hess  
**Sent:** Wednesday, November 03, 1999 4:16 PM  
**To:** Kay Hower  
**Cc:** Jon S. Kauffman; Michelle J. Kolodziejski  
**Subject:** Kerr McGee Questions

For the samples where only 100ml was extracted instead of 1000ml, the prep log notes that these had heavy sediment content. When the matrix is like this they will not be able to extract a full liter as the sediment will clog the stopcock and cause severe emulsions. 3236062,64,67

3236068 - a df100 was performed to bring target PAHs into calibration range. In this dilution 4 compounds are J values all other target PAHs are detected above the LOQ. A lesser dilution was unusable since the baseline was way off scale due to the PAH content.

3235161 - a df10 was performed to bring targets into range. Again, the undiluted was off scale and not usable due to the PAH content.

3236165 - a df5000 was performed to bring target PAHs into range. 5 compounds are either J values or below the MDL. a lesser dilution(df1000) was still off scale and unusable due to the amount of unresolved area.

In all diluted samples basically there is a hit for every PAH at some level, and the c-grams contain a large "hump" probably of petroleum hydrocarbons, with the PAHs eluting on top. To go back to a lesser dilution is not useful since the area for those compounds reported below the LOQ in the dilution is off scale and unresolved.

I hope this helps them understand what we did. Definitely did not overdilute.

**LLI Sample No. WW 3236065**

Collected: 09/22/99 at 10:15 by JA

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

MW-3S-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
Rel.Moss-American Superfund Site - Milwaukee, WI  
W3S07 SDG#: MOS11-4

## AS RECEIVED

CAT NO. ANALYSIS NAME      RESULTS      METHOD  
RESULTS      DETECTION LIMIT UNITS1861 PAH's in Water      See Page 2  
8213 BTEX (8021)      See Page 31 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 GroupQuestions? Contact your Client Services Representative  
Kay G. Hower      at (717) 656-2300  
11:09:38 D 0003 12      128410 683940  
232 0.00 00021753 ASR000Respectfully Submitted  
Jenifer E. Hess, B.S.  
Group Leader Pesticides/PCBsLancaster Laboratories  
2425 New Holland Pike  
PO Box 12425

Lancaster, PA 17605-2425

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

Lancaster Laboratories is a subsidiary of Thermo TerraTech Inc., a Thermo Electron Company.  
See reverse side for explanation of symbols and abbreviations.



LLI Sample No. WW 3236065

Collected: 09/22/99 at 10:15 by JA

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

MW-3S-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
ReL.Moss-American Superfund Site - Milwaukee, WI  
W3S07 SDG#: MOS11-4

## AS RECEIVED

CAT NO. ANALYSIS NAME      RESULTS      METHOD DETECTION LIMIT UNITS

## PAH's in Water

3280	Naphthalene		N.D.	0.80	ug/l	
3281	Acenaphthylene		N.D.	0.80	ug/l	
3282	Acenaphthene		N.D.	0.80	ug/l	
3283	Fluorene		N.D.	0.17	ug/l	
3284	Phenanthrene		N.D.	0.046	ug/l	
3285	Anthracene		N.D.	0.031	ug/l	
3286	Fluoranthene	0.069	J	0.020	ug/l	
3287	Pyrene		N.D.	0.18	ug/l	
3288	Benzo(a)anthracene		0.022	J	0.018	ug/l
3289	Chrysene		0.060	J	0.059	ug/l
3290	Benzo(b)fluoranthene		0.038	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	Dibenz(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	

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.

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



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2425 New Holland Pike  
PO Box 12425

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

**LLI Sample No. WW 3236065**

Collected: 09/22/99 at 10:15 by JA

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

MW-3S-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
Rel.Moss-American Superfund Site - Milwaukee, WI  
W3S07 SDG#: MOS11-4

## 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

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.

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  
Michele Turner, B.A.  
Manager, Volatiles



Page: 4 of 6

**LLI Sample No. WW 3236065**

Collected: 09/22/99 at 10:15 by JA

Submitted: 09/23/99

MW-3S-07 Grab Water Sample

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

Moss-American Superfund Site - Milwaukee, WI  
 W3S07 SDG#: MOS11-4

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS ID	DATE AND TIME	ANALYST
1861	PAH's in Water	SW-846 8310	1		09/28/99 1108	Michelle J. Kolodziejjski
3337	PAH Water Extraction	SW-846 3510C	1		09/24/99 1500	Anita M. Dale
8213	BTEX (8021)	SW-846 8021B	1		09/27/99 0237	Patrick N. Evans



Lancaster Laboratories  
 2425 New Holland Pike  
 PO Box 12425

Lancaster, PA 17605-2425  
 717-656-2300 Fax: 717-656-2681

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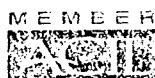
## LLI Sample No. 3236065

MW-3S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683940  
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MS MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LIMITS HIGH
1861 PAH's in Water		Batch: 992670001A									
3280 Naphthalene											
0.80 ug/l		N.D.					74	72	4	45	111
3281 Acenaphthylene											
0.80 ug/l		N.D.					80	79	1	59	114
3282 Acenaphthene											
0.80 ug/l		1.1 J ug/l					80	78	2	50	120
3283 Fluorene											
0.17 ug/l		N.D.					86	86	0	64	117
3284 Phenanthrene											
0.046 ug/l		N.D.					89	90	2	75	114
3285 Anthracene											
0.031 ug/l		N.D.					87	88	1	64	104
3286 Fluoranthene											
0.020 ug/l		N.D.					86	89	3	43	147
3287 Pyrene											
0.18 ug/l		N.D.					81	83	3	39	149
3288 Benzo(a)anthracene											
0.018 ug/l		N.D.					88	90	3	73	117
3289 Chrysene											
0.059 ug/l		N.D.					90	92	3	68	125
3290 Benzo(b)fluoranthene											
0.035 ug/l		N.D.					92	95	3	71	123
3291 Benzo(k)fluoranthene											
0.027 ug/l		N.D.					91	94	4	75	118
3292 Benzo(a)pyrene											
0.022 ug/l		N.D.					98	101	3	61	127
3293 Dibenz(a,h)anthracene											
0.047 ug/l		N.D.					90	93	4	71	121
3294 Benzo(g,h,i)perylene											
0.099 ug/l		N.D.					92	96	4	70	125
3295 Indeno(1,2,3-cd)pyrene											
0.064 ug/l		N.D.					98	101	3	73	125
8213 BTEX (8021)		Batch: 99269A55									
0776 Benzene											
0.2 ug/l		N.D.					100	96	4	81	124
0777 Toluene											
0.2 ug/l		N.D.					101	97	4	81	122
0778 Ethylbenzene											
0.2 ug/l		N.D.					100	97	4	79	123
0779 Total Xylenes											
0.6 ug/l		N.D.					101	97	4	80	123

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Page: 6 of 1

LLI Sample No. 3236065

MW-3S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683940  
Kerr-McGee Corporation

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	97	29	136
	Triphenyle	95	33	139
8213 BTEX (8021)	TFT-P	104	77	118

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Page: 1 of 6

**LLI Sample No. WW 3236066**

Collected: 09/22/99 at 11:00 by JA

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

MW-3I-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
ReL.Moss-American Superfund Site - Milwaukee, WI  
W3I07 SDG#: MOS11-5

## AS RECEIVED

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  
 11:12:15 D 0003 12 128410 683940  
 232 0.00 00021753 ASR000

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



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Page: 2 of 6

**LLI Sample No. WW 3236066**

Collected: 09/22/99 at 11:00 by JA

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

MW-31-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
Re1.Moss-American Superfund Site - Milwaukee, WI  
W3I07 SDG#: MOS11-5

## AS RECEIVED

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

## PAH's in Water

3280	Naphthalene	N.D.	0.76	ug/l
3281	Acenaphthylene	N.D.	0.76	ug/l
3282	Acenaphthene	N.D.	0.76	ug/l
3283	Fluorene	N.D.	0.16	ug/l
3284	Phenanthrene	N.D.	0.044	ug/l
3285	Anthracene	N.D.	0.030	ug/l
3286	Fluoranthene	N.D.	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	N.D.	0.056	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.033	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.021	ug/l
3293	Dibenz(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.	0.061	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.

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 3236066

Collected: 09/22/99 at 11:00 by JA

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

MW-3I-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
ReL.Moss-American Superfund Site - Milwaukee, WI  
W3I07 SDG#: MOS11-5

## AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
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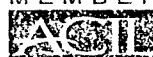
## BTEX (8021)

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.

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

MEMBER



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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 3236066**

Collected: 09/22/99 at 11:00 by JA

Submitted: 09/23/99

MW-3I-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
W3I07 SDG#: MOS11-5

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

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS ID	DATE AND TIME	ANALYST
1861	PAH's in Water	SW-846 8310	1	09/28/99 1151	Michelle J. Kolodziejjski	
3337	PAH Water Extraction	SW-846 3510C	1	09/24/99 1500	Anita M. Dale	
8213	BTEX (8021)	SW-846 8021B	1	09/27/99 0314	Patrick N. Evans	



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## LLI Sample No. 3236066

MW-3I-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683940  
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LIMITS HIGH
<b>1861 PAH's in Water</b>											
		Batch: 992670001A									
3280	Naphthalene 0.76 ug/l	N.D.					74	72	4	45	111
3281	Acenaphthylene 0.76 ug/l	N.D.					80	79	1	59	114
3282	Acenaphthene 0.76 ug/l	1.1 J ug/l					80	78	2	50	120
3283	Fluorene 0.16 ug/l	N.D.					86	86	0	64	117
3284	Phenanthrene 0.044 ug/l	N.D.					89	90	2	75	114
3285	Anthracene 0.030 ug/l	N.D.					87	88	1	64	104
3286	Fluoranthene 0.019 ug/l	N.D.					86	89	3	43	147
3287	Pyrene 0.17 ug/l	N.D.					81	83	3	39	149
3288	Benzo(a)anthracene 0.017 ug/l	N.D.					88	90	3	73	117
3289	Chrysene 0.056 ug/l	N.D.					90	92	3	68	125
3290	Benzo(b)fluoranthene 0.033 ug/l	N.D.					92	95	3	71	123
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.					91	94	4	75	118
3292	Benzo(a)pyrene 0.021 ug/l	N.D.					98	101	3	61	127
3293	Dibenzo(a,h)anthracene 0.045 ug/l	N.D.					90	93	4	71	121
3294	Benzo(g,h,i)perylene 0.095 ug/l	N.D.					92	96	4	70	125
3295	Indeno(1,2,3-cd)pyrene 0.061 ug/l	N.D.					98	101	3	73	125
<b>8213 BTEX (8021)</b>											
		Batch: 99269A55									
0776	Benzene 0.2 ug/l	N.D.					100	96	4	81	124
0777	Toluene 0.2 ug/l	N.D.					101	97	4	81	122
0778	Ethylbenzene 0.2 ug/l	N.D.					100	97	4	79	123
0779	Total Xylenes 0.6 ug/l	N.D.					101	97	4	80	123

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LLI Sample No. 3236066

MW-3I-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683940  
Kerr-McGee Corporation

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	94	29	136
	Triphenyle	94	33	139
8213 BTEX (8021)	TFT-P	105	77	118

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2216 Rev. 5.23/



LLI Sample No. WW 3236068  
Collected: 09/22/99 at 12:15 by JA

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

MW-4S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
W4S07 SDG#: MOS11-7

Account No: 07802

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

P.O. MOSS-AMERICAN  
Re1.

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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  
11:17:47 D 0003 12 128410 683940  
232 0.00 00021753 ASR000

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



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**LLI Sample No. WW 3236068**

Collected: 09/22/99 at 12:15 by JA

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

MW-4S-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
Rel.Moss-American Superfund Site - Milwaukee, WI  
W4S07 SDG#: MOS11-7

## AS RECEIVED

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

## PAH's in Water

3280	Naphthalene	418.	J	84.	ug/l
3281	Acenaphthylene	136.	J	84.	ug/l
3282	Acenaphthene	940.		84.	ug/l
3283	Fluorene	651.		18.	ug/l
3284	Phenanthrene	239.		4.8	ug/l
3285	Anthracene	135.		3.2	ug/l
3286	Fluoranthene	593.		2.1	ug/l
3287	Pyrene	522.		19.	ug/l
3288	Benzo(a)anthracene	102.		1.9	ug/l
3289	Chrysene	101.		6.2	ug/l
3290	Benzo(b)fluoranthene	39.1		3.7	ug/l
3291	Benzo(k)fluoranthene	20.5		2.8	ug/l
3292	Benzo(a)pyrene	40.5		2.3	ug/l
3293	Dibenz(a,h)anthracene		N.D.	4.9	ug/l
3294	Benzo(g,h,i)perylene	16.	J	10.	ug/l
3295	Indeno(1,2,3-cd)pyrene	16.9	J	6.7	ug/l

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

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425Lancaster, PA 17605-2425  
717-656-2300 Fax: 717-656-2681Respectfully Submitted  
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Group Leader Pesticides/PCBsLancaster Laboratories is a subsidiary of Thermo TerraTech Inc., a Thermo Electron Company.  
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LLI Sample No. WW 3236068

Collected: 09/22/99 at 12:15 by JA

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

MW-4S-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
ReL.Moss-American Superfund Site - Milwaukee, WI  
W4S07 SDG#: MOS11-7

## AS RECEIVED

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

## BTEX (8021)

0776	Benzene	3.	0.2	ug/l
0777	Toluene	4.	0.2	ug/l
0778	Ethylbenzene	12.	0.2	ug/l
0779	Total Xylenes	12.	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.

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 3236068**

Collected: 09/22/99 at 12:15 by JA

Submitted: 09/23/99

MW-4S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
W4S07 SDG#: MOS11-7

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

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS ID	DATE AND TIME	ANALYST
1861	PAH's in Water	SW-846 8310	1		09/29/99 0032	Michelle J. Kolodziejek
3337	PAH Water Extraction	SW-846 3510C	1		09/24/99 1500	Anita M. Dale
8213	BTEX (8021)	SW-846 8021B	1		09/28/99 0013	Patrick N. Evans



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## LLI Sample No. 3236068

MW-4S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683940  
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: 992670001A									
3280 Naphthalene											
84.	ug/l	N.D.					74	72	4	45	111
3281 Acenaphthylene											
84.	ug/l	N.D.					80	79	1	59	114
3282 Acenaphthene											
84.	ug/l	1.1 J ug/l					80	78	2	50	120
3283 Fluorene											
18.	ug/l	N.D.					86	86	0	64	117
3284 Phenanthrene											
4.8	ug/l	N.D.					89	90	2	75	114
3285 Anthracene											
3.2	ug/l	N.D.					87	88	1	64	104
3286 Fluoranthene											
2.1	ug/l	N.D.					86	89	3	43	147
3287 Pyrene											
19.	ug/l	N.D.					81	83	3	39	149
3288 Benzo(a)anthracene											
1.9	ug/l	N.D.					88	90	3	73	117
3289 Chrysene											
6.2	ug/l	N.D.					90	92	3	68	125
3290 Benzo(b)fluoranthene											
3.7	ug/l	N.D.					92	95	3	71	123
3291 Benzo(k)fluoranthene											
2.8	ug/l	N.D.					91	94	4	75	118
3292 Benzo(a)pyrene											
2.3	ug/l	N.D.					98	101	3	61	127
3293 Dibenz(a,h)anthracene											
4.9	ug/l	N.D.					90	93	4	71	121
3294 Benzo(g,h,i)perylene											
10.	ug/l	N.D.					92	96	4	70	125
3295 Indeno(1,2,3-cd)pyrene											
6.7	ug/l	N.D.					98	101	3	73	125
8213 BTEX (8021)		Batch: 99269A55									
0776 Benzene											
0.2	ug/l	N.D.					100	96	4	81	124
0777 Toluene											
0.2	ug/l	N.D.					101	97	4	81	122
0778 Ethylbenzene											
0.2	ug/l	N.D.					100	97	4	79	123
0779 Total Xylenes											
0.6	ug/l	N.D.					101	97	4	80	123

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LLI Sample No. 323606

MW-4S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683940  
Kerr-McGee Corporation

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz Triphenyle	89 (5)	29 33	136 139
8213 BTEX (8021)	TFT-P	106	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 3236069

Collected: 09/22/99 at 12:45 by JA

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

MW-4I-07 Grab Water Sample

Account No: 07802

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

P.O. MOSS-AMERICAN  
Re1.

Moss-American Superfund Site - Milwaukee, WI  
W4I07 SDG#: MOS11-8

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CAT NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT UNITS
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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  
11:19:37 D 0003 12 128410 683940  
232 0.00 00021753 ASR000



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



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Page: 2 of 6

LLI Sample No. WW 3236069

Collected: 09/22/99 at 12:45 by JA

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

MW-4I-07 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  
W4I07 SDG#: MOS11-8

AS RECEIVED

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

PAH's in Water

3280	Naphthalene	N.D.	0.76	ug/l
3281	Acenaphthylene	N.D.	0.76	ug/l
3282	Acenaphthene	N.D.	0.76	ug/l
3283	Fluorene	N.D.	0.16	ug/l
3284	Phenanthrene	0.147 J	0.044	ug/l
3285	Anthracene	0.031 J	0.030	ug/l
3286	Fluoranthene	0.071 J	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	0.021 J	0.017	ug/l
3289	Chrysene	0.106 J	0.056	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.033	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	0.041 J	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.	0.061	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.

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



Lancaster Laboratories  
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PO Box 12425

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

**LLI Sample No. WW 3236069**

Collected: 09/22/99 at 12:45 by JA

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

MW-4I-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
ReL.Moss-American Superfund Site - Milwaukee, WI  
W4I07 SDG#: MOS11-8

## 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

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.

Questions? Contact your Client Services Representative  
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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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Page: 4 of 6

**LLI Sample No. WW 3236069**

Collected: 09/22/99 at 12:45 by JA

Submitted: 09/23/99

MW-4I-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
W4I07 SDG#: MOS11-8

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
1861	PAH's in Water	SW-846 8310	1	09/28/99 1300	Michelle J. Kolodziejjsk,
3337	PAH Water Extraction	SW-846 3510C	1	09/24/99 1500	Anita M. Dale
8213	BTEX (8021)	SW-846 8021B	1	09/27/99 0700	Patrick N. Evans



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## LLI Sample No. 3236069

MW-41-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683940  
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH
<b>1861 PAH's in Water</b>											
3280	Naphthalene 0.76 ug/l	N.D.					74	72	4	45	111
3281	Acenaphthylene 0.76 ug/l	N.D.					80	79	1	59	114
3282	Acenaphthene 0.76 ug/l	1.1 J ug/l					80	78	2	50	120
3283	Fluorene 0.16 ug/l	N.D.					86	86	0	64	117
3284	Phenanthrene 0.044 ug/l	N.D.					89	90	2	75	114
3285	Anthracene 0.030 ug/l	N.D.					87	88	1	64	104
3286	Fluoranthene 0.019 ug/l	N.D.					86	89	3	43	147
3287	Pyrene 0.17 ug/l	N.D.					81	83	3	39	149
3288	Benzo(a)anthracene 0.017 ug/l	N.D.					88	90	3	73	117
3289	Chrysene 0.056 ug/l	N.D.					90	92	3	68	125
3290	Benzo(b)fluoranthene 0.033 ug/l	N.D.					92	95	3	71	123
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.					91	94	4	75	118
3292	Benzo(a)pyrene 0.021 ug/l	N.D.					98	101	3	61	127
3293	Dibenzo(a,h)anthracene 0.045 ug/l	N.D.					90	93	4	71	121
3294	Benzo(g,h,i)perylene 0.095 ug/l	N.D.					92	96	4	70	125
3295	Indeno(1,2,3-cd)pyrene 0.061 ug/l	N.D.					98	101	3	73	125
<b>8213 BTEX (8021)</b>											
0776	Benzene 0.2 ug/l	N.D.					100	96	4	81	124
0777	Toluene 0.2 ug/l	N.D.					101	97	4	81	122
0778	Ethylbenzene 0.2 ug/l	N.D.					100	97	4	79	123
0779	Total Xylenes 0.6 ug/l	N.D.					101	97	4	80	123

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Page: 6 of 1

LLI Sample No. 3236069

MW-4I-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683940  
Kerr-McGee Corporation

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz Triphenyle	94 96	29 33	136 139
8213 BTEX (8021)	TFT-P	105	77	118



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2216 Rev. 13



LLI Sample No. WW 3236067  
Collected: 09/22/99 at 11:45 by JA

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

MW-5S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
W5S07 SDG#: MOS11-6

Account No: 07802

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED		METHOD	
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  
11:15:37 D 0003 12 128410 683940  
232 0.00 00021753 ASR000



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

**LLI Sample No. WW 3236067**

Collected: 09/22/99 at 11:45 by JA

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

MW-5S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
W5S07 SDG#: MOS11-6

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
Rel.**AS RECEIVED**

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

**PAH's in Water**

3280	Naphthalene	N.D.	8.0	ug/l
3281	Acenaphthylene	N.D.	8.0	ug/l
3282	Acenaphthene	N.D.	8.	ug/l
3283	Fluorene	N.D.	1.7	ug/l
3284	Phenanthrene	N.D.	0.46	ug/l
3285	Anthracene	N.D.	0.31	ug/l
3286	Fluoranthene	N.D.	0.20	ug/l
3287	Pyrene	N.D.	1.8	ug/l
3288	Benzo(a)anthracene	N.D.	0.18	ug/l
3289	Chrysene	N.D.	0.59	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.35	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.27	ug/l
3292	Benzo(a)pyrene	N.D.	0.22	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.47	ug/l
3294	Benzo(g,h,i)perylene	N.D.	1.0	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.64	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.

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



Page: 3 of 6

**LLI Sample No. WW 3236067**

Collected: 09/22/99 at 11:45 by JA

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

MW-5S-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
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## AS RECEIVED

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

**BTEX (8021)**

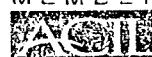
0776	Benzene	N.D.	0.2	ug/l
0777	Toluene	N.D.	0.2	ug/l
0778	Ethylbenzene	N.D.	0.2	ug/l
0779	Total Xylenes	N.D.	0.6	ug/l

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.

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 3236067

Collected: 09/22/99 at 11:45 by JA

Submitted: 09/23/99

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

MW-5S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 W5S07 SDG#: MOS11-6

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS ID	DATE AND TIME	ANALYST
1861	PAH's in Water	SW-846 8310	1		09/28/99 1213	Michelle J. Kolodziejjski
3337	PAH Water Extraction	SW-846 3510C	1		09/24/99 1500	Anita M. Dale
8213	BTEX (8021)	SW-846 8021B	1		09/27/99 0545	Patrick N. Evans

MEMBER



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## LLI Sample No. 3236067

MW-5S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683940  
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: 992670001A
3280	Naphthalene 8.0 ug/l	N.D.					74	72	4	45	111
3281	Acenaphthylene 8.0 ug/l	N.D.					80	79	1	59	114
3282	Acenaphthene 8. ug/l	1.1 J ug/l					80	78	2	50	120
3283	Fluorene 1.7 ug/l	N.D.					86	86	0	64	117
3284	Phenanthrene 0.46 ug/l	N.D.					89	90	2	75	114
3285	Anthracene 0.31 ug/l	N.D.					87	88	1	64	104
3286	Fluoranthene 0.20 ug/l	N.D.					86	89	3	43	147
3287	Pyrene 1.8 ug/l	N.D.					81	83	3	39	149
3288	Benzo(a)anthracene 0.18 ug/l	N.D.					88	90	3	73	117
3289	Chrysene 0.59 ug/l	N.D.					90	92	3	68	125
3290	Benzo(b)fluoranthene 0.35 ug/l	N.D.					92	95	3	71	123
3291	Benzo(k)fluoranthene 0.27 ug/l	N.D.					91	94	4	75	118
3292	Benzo(a)pyrene 0.22 ug/l	N.D.					98	101	3	61	127
3293	Dibenz(a,h)anthracene 0.47 ug/l	N.D.					90	93	4	71	121
3294	Benzo(g,h,i)perylene 1.0 ug/l	N.D.					92	96	4	70	125
3295	Indeno(1,2,3-cd)pyrene 0.64 ug/l	N.D.					98	101	3	73	125
8213 BTEX (8021)											Batch: 99269A55
0776	Benzene 0.2 ug/l	N.D.					100	96	4	81	124
0777	Toluene 0.2 ug/l	N.D.					101	97	4	81	122
0778	Ethylbenzene 0.2 ug/l	N.D.					100	97	4	79	123
0779	Total Xylenes 0.6 ug/l	N.D.					101	97	4	80	123

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Page: 6 of 1

LLI Sample No. 3236067

MW-5S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683940  
Kerr-McGee Corporation

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz Triphenyle	91 92	29 33	136 139
8213 BTEX (8021)	TFT-P	103	77	118

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2216 Rev. L 23



## LLI Sample No. WW 3235160

Collected: 09/21/99 at 11:10 by JA

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

MW-6S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
6S07- SDG#: MOS10-04

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
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## AS RECEIVED

CAT NO. ANALYSIS NAME      RESULTS      METHOD      DETECTION LIMIT UNITS

1861 PAH's in Water      See Page 2  
8213 BTEX (8021)      See Page 31 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 GroupQuestions? Contact your Client Services Representative  
Kay G. Hower      at (717) 656-2300  
10:52:04 D 0003 14      128410 683731  
232 0.00 00021753 ASR000Respectfully Submitted  
Jenifer E. Hess, B.S.  
Group Leader Pesticides/PCBsLancaster Laboratories  
2425 New Holland Pike  
PO Box 12425Lancaster, PA 17605-2425  
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LLI Sample No. WW 3235160

Collected: 09/21/99 at 11:10 by JA

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

MW-6S-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
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Oklahoma City OK 73125P.O. MOSS-AMERICAN  
ReL.Moss-American Superfund Site - Milwaukee, WI  
6S07- SDG#: MOS10-04

## AS RECEIVED

RESULTS      METHOD  
DETECTION LIMIT UNITSCAT  
NO. ANALYSIS NAME

## 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	0.127	0.049	ug/l
3285	Anthracene	N.D.	0.033	ug/l
3286	Fluoranthene	N.D.	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.	0.063	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.	0.050	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

7.3  
10/31Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300Lancaster Laboratories  
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PO Box 12425Lancaster, PA 17605-2425  
717-656-2300 Fax: 717-656-2681Lancaster Laboratories is a subsidiary of Thermo TerraTech Inc., a Thermo Electron Company.  
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Jenifer E. Hess, B.S.  
Group Leader Pesticides/PCBs



LLI Sample No. WW 3235160

Collected: 09/21/99 at 11:10 by JA

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

MW-6S-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
Rel.Moss-American Superfund Site - Milwaukee, WI  
6S07- SDG#: MOS10-04

## 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

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425Lancaster, PA 17605-2425  
717-656-2300 Fax: 717-656-2681Respectfully Submitted  
Michele Turner, B.A.  
Manager, VolatilesLancaster Laboratories is a subsidiary of Thermo Terralech Inc., a Thermo Electron Company.  
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Page: 4 of 6

**LLI Sample No. ww 3235160**

Collected: 09/21/99 at 11:10 by JA

Submitted: 09/22/99

MW-6S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
6S07- SDG#: MOS10-04
 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
1861	PAH's in Water	SW-846 8310	1	09/27/99 1802	Michelle J. Kolodziejski
3337	PAH Water Extraction	SW-846 3510C	1	09/24/99 0020	Sorina A. Haskins
8213	BTEX (8021)	SW-846 8021B	1	09/25/99 0243	Martha L. Bennett


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2216 Rev. 23



## LLI Sample No. 3235160

MW-6S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683731  
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MS MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LIMITS HIGH
<b>1861 PAH's in Water</b>											
				Batch: 992660011A							
3280	Naphthalene 0.86 ug/l	N.D.		89	81	13	83			45	111
3281	Acenaphthylene 0.86 ug/l	N.D.		97	88	13	92			59	114
3282	Acenaphthene 0.86 ug/l	N.D.		98	90	12	93			50	120
3283	Fluorene 0.18 ug/l	N.D.		100	92	12	97			64	117
3284	Phenanthrene 0.049 ug/l	N.D.		99	91	12	98			75	114
3285	Anthracene 0.033 ug/l	N.D.		95	87	12	95			64	104
3286	Fluoranthene 0.021 ug/l	N.D.		104	92	15	101			43	147
3287	Pyrene 0.19 ug/l	N.D.		107	97	13	107			39	149
3288	Benzo(a)anthracene 0.019 ug/l	N.D.		95	85	14	95			73	117
3289	Chrysene 0.063 ug/l	N.D.		90	71	25	97			68	125
3290	Benzo(b)fluoranthene 0.038 ug/l	N.D.		96	88	12	99			71	123
3291	Benzo(k)fluoranthene 0.029 ug/l	N.D.		100	92	12	100			75	118
3292	Benzo(a)pyrene 0.024 ug/l	N.D.		92	84	12	97			61	127
3293	Dibenzo(a,h)anthracene 0.050 ug/l	N.D.		93	87	11	96			71	121
3294	Benzo(g,h,i)perylene 0.11 ug/l	N.D.		93	87	10	98			70	125
3295	Indeno(1,2,3-cd)pyrene 0.069 ug/l	N.D.		95	89	10	98			73	125
<b>8213 BTEX (8021)</b>											
				Batch: 99268A68							
0776	Benzene 0.2 ug/l	N.D.		104	104	0	102	104	2	81	124
0777	Toluene 0.2 ug/l	N.D.		101	102	1	100	103	2	81	122
0778	Ethylbenzene 0.2 ug/l	N.D.		99	100	1	99	100	2	79	123
0779	Total Xylenes 0.6 ug/l	N.D.		97	99	2	98	100	2	80	123

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Page: 6 of 1

LLI Sample No. 3235160

MW-6S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683731  
Kerr-McGee Corporation

1861 PAH's in Water

8213 BTEX (8021)

## SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS
			LOW
			HIGH
1861 PAH's in Water	Nitrobenz	107	29
	Triphenyle	119	33
8213 BTEX (8021)	TFT-P	99	77
			136
			139
			118

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2216 Rev. 3





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Page: 1 of 6

LLI Sample No. WW 3235164

Collected: 09/21/99 at 13:55 by JAS

Submitted: 09/22/99    Reported: 10/05/99  
Discard: 11/05/99

MW-7S-07 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  
7-S-- SDG#: MOS10-08

AS RECEIVED

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

1 COPY TO Kerr-McGee Corporation ATTN: Garet Van De Steeg, Ph  
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  
11:02:39 D 0003 14 128410 683731  
232 0.00 00021753 ASR000

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

MEMBER

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LLI Sample No. WW 3235164

Collected: 09/21/99 at 13:55 by JA

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

Account No: 07802

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P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
Rel.

MW-7S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
7-S-- SDG#: MOS10-08

## AS RECEIVED

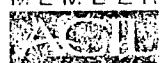
CAT NO. ANALYSIS NAME      RESULTS      METHOD  
DETECTION LIMIT UNITS

## PAH's in Water

3280	Naphthalene	N.D.	0.80	ug/l
3281	Acenaphthylene	N.D.	0.80	ug/l
3282	Acenaphthene	200.	0.80	ug/l
3283	Fluorene	39.2	0.17	ug/l
3284	Phenanthrene	N.D.	0.046	ug/l
3285	Anthracene	N.D.	0.031	ug/l
3286	Fluoranthene	0.035 X U	0.020	ug/l
3287	Pyrene	0.41 J	0.18	ug/l
3288	Benzo(a)anthracene	N.D.	0.018	ug/l
3289	Chrysene	N.D.	0.059	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.035	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.027	ug/l
3292	Benzo(a)pyrene	N.D.	0.022	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.047	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.098	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.064	ug/l

1.B  
10/31Questions? Contact your Client Services Representative  
Kay G. Hower  
at (717) 656-2300Respectfully Submitted  
Jenifer E. Hess, B.S.  
Group Leader Pesticides/PCBs

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## LLI Sample No. WW 3235164

Collected: 09/21/99 at 13:55 by JA

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

MW-7S-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
Rel.Moss-American Superfund Site - Milwaukee, WI  
7-S-- SDG#: MOS10-08

## AS RECEIVED

RESULTS      METHOD  
DETECTION LIMIT UNITS

## BTEX (8021)

CAT NO.	ANALYSIS NAME	RESULTS	METHOD DETECTION LIMIT	UNITS
0776	Benzene	9.	0.2	ug/l
0777	Toluene	1.	0.2	ug/l
0778	Ethylbenzene	29.	0.2	ug/l
0779	Total Xylenes	86.	0.6	ug/l

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300Lancaster 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, VolatilesLancaster Laboratories is a subsidiary of Thermo TerraTech Inc., a Thermo Electron Company.  
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Page: 4 of 6

**LLI Sample No. WW 3235164**

Collected: 09/21/99 at 13:55 by JA

Submitted: 09/22/99

MW-7S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
7-S-- SDG#: MOS10-08

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
1861	PAH's in Water	SW-846 8310	1		09/27/99 1950
3337	PAH Water Extraction	SW-846 3510C	1		09/24/99 0020
8213	BTEX (8021)	SW-846 8021B	1		09/25/99 0935
					Martha L. Bennett



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LLI Sample No. 3235164

MW-7S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683731  
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: 992660011A									
3280 Naphthalene		N.D.		89	81	13	83			45	111
0.80 ug/l											
3281 Acenaphthylene		N.D.		97	88	13	92			59	114
0.80 ug/l											
3282 Acenaphthene		N.D.		98	90	12	93			50	120
0.80 ug/l											
3283 Fluorene		N.D.		100	92	12	97			64	117
0.17 ug/l											
3284 Phenanthrene		N.D.		99	91	12	98			75	114
0.046 ug/l											
3285 Anthracene		N.D.		95	87	12	95			64	104
0.031 ug/l											
3286 Fluoranthene		N.D.		104	92	15	101			43	147
0.020 ug/l											
3287 Pyrene		N.D.		107	97	13	107			39	149
0.18 ug/l											
3288 Benzo(a)anthracene		N.D.		95	85	14	95			73	117
0.018 ug/l											
3289 Chrysene		N.D.		90	71	25	97			68	125
0.059 ug/l											
3290 Benzo(b)fluoranthene		N.D.		96	88	12	99			71	123
0.035 ug/l											
3291 Benzo(k)fluoranthene		N.D.		100	92	12	100			75	118
0.027 ug/l											
3292 Benzo(a)pyrene		N.D.		92	84	12	97			61	127
0.022 ug/l											
3293 Dibenzo(a,h)anthracene		N.D.		93	87	11	96			71	121
0.047 ug/l											
3294 Benzo(g,h,i)perylene		N.D.		93	87	10	98			70	125
0.098 ug/l											
3295 Indeno(1,2,3-cd)pyrene		N.D.		95	89	10	98			73	125
0.064 ug/l											
8213 BTEX (8021)		Batch: 99268A68									
0776 Benzene		N.D.		104	104	0	102	104	2	81	124
0.2 ug/l											
0777 Toluene		N.D.		101	102	1	100	103	2	81	122
0.2 ug/l											
0778 Ethylbenzene		N.D.		99	100	1	99	100	2	79	123
0.2 ug/l											
0779 Total Xylenes		N.D.		97	99	2	98	100	2	80	123
0.6 ug/l											

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LLI Sample No. 3235164

MW-75-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683731  
Kerr-McGee Corporation1861 PAH's in Water  
8213 BTEX (8021)

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
	Nitrobenz	113	29	136
	Triphenyle	98	33	139
	TFT-P	98	77	118

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**LLI Sample No. WW 3236070**

Collected: 09/22/99 at 14:40 by JA

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

MW-8I-07 Grab Water Sample

Account No: 07802

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

## AS RECEIVED

CAT NO. ANALYSIS NAME      RESULTS      METHOD

RESULTS      DETECTION LIMIT UNITS

1861 PAH's in Water      See Page 2  
8213 BTEX (8021)      See Page 31 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 GroupQuestions? Contact your Client Services Representative  
Kay G. Hower      at (717) 656-2300  
11:22:06 D 0003 12      128410 683940  
232 0.00 00021753 ASR000Respectfully Submitted  
Jenifer E. Hess, B.S.  
Group Leader Pesticides/PCBsLancaster Laboratories  
2425 New Holland Pike  
PO Box 12425Lancaster, PA 17605-2425  
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LLI Sample No. WW 3236070

Collected: 09/22/99 at 14:40 by JA

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

MW-8I-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
ReL.Moss-American Superfund Site - Milwaukee, WI  
W8I07 SDG#: MOS11-9

## AS RECEIVED

CAT NO. ANALYSIS NAME      RESULTS      METHOD      DETECTION LIMIT UNITS

## PAH's in Water

3280	Naphthalene	N.D.	0.78	ug/l
3281	Acenaphthylene	N.D.	0.78	ug/l
3282	Acenaphthene	N.D.	0.78	ug/l
3283	Fluorene	N.D.	0.17	ug/l
3284	Phenanthrene	N.D.	0.045	ug/l
3285	Anthracene	N.D.	0.030	ug/l
3286	Fluoranthene	N.D.	0.019	ug/l
3287	Pyrene	N.D.	0.18	ug/l
3288	Benzo(a)anthracene	N.D.	0.018	ug/l
3289	Chrysene	N.D.	0.058	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.034	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.021	ug/l
3293	Dibenz(a,h)anthracene	N.D.	0.046	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.096	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.062	ug/l

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.

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 3236070**

Collected: 09/22/99 at 14:40 by JA

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

MW-8I-07 Grab Water Sample

Account No: 07802

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W8I07 SDG#: MOS11-9

## 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

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.

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 3236070

Collected: 09/22/99 at 14:40 by JA

Submitted: 09/23/99

MW-8I-07 Grab Water Sample

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

Moss-American Superfund Site - Milwaukee, WI  
 W8I07 SDG#: MOS11-9

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		
			TRIAL	ID	DATE AND TIME
1861	PAH's in Water	SW-846 8310	1	09/28/99 1321	Michelle J. Kolodziejski
3337	PAH Water Extraction	SW-846 3510C	1	09/24/99 1500	Anita M. Dale
8213	BTEX (8021)	SW-846 8021B	1	09/27/99 0737	Patrick N. Evans



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## LLI Sample No. 3236070

MW-81-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683940  
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS LCS DUP	LCS RPD	LCS LOW	LCS HIGH
<b>1861 PAH's in Water</b>										
3280	Naphthalene 0.78 ug/l	N.D.				74	72	4	45	111
3281	Acenaphthylene 0.78 ug/l	N.D.				80	79	1	59	114
3282	Acenaphthene 0.78 ug/l	1.1 J ug/l				80	78	2	50	120
3283	Fluorene 0.17 ug/l	N.D.				86	86	0	64	117
3284	Phenanthrene 0.045 ug/l	N.D.				89	90	2	75	114
3285	Anthracene 0.030 ug/l	N.D.				87	88	1	64	104
3286	Fluoranthene 0.019 ug/l	N.D.				86	89	3	43	147
3287	Pyrene 0.18 ug/l	N.D.				81	83	3	39	149
3288	Benzo(a)anthracene 0.018 ug/l	N.D.				88	90	3	73	117
3289	Chrysene 0.058 ug/l	N.D.				90	92	3	68	125
3290	Benzo(b)fluoranthene 0.034 ug/l	N.D.				92	95	3	71	123
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.				91	94	4	75	118
3292	Benzo(a)pyrene 0.021 ug/l	N.D.				98	101	3	61	127
3293	Dibenzo(a,h)anthracene 0.046 ug/l	N.D.				90	93	4	71	121
3294	Benzo(g,h,i)perylene 0.096 ug/l	N.D.				92	96	4	70	125
3295	Indeno(1,2,3-cd)pyrene 0.062 ug/l	N.D.				98	101	3	73	125
<b>8213 BTEX (8021)</b>										
0776	Benzene 0.2 ug/l	N.D.				100	96	4	81	124
0777	Toluene 0.2 ug/l	N.D.				101	97	4	81	122
0778	Ethylbenzene 0.2 ug/l	N.D.				100	97	4	79	123
0779	Total Xylenes 0.6 ug/l	N.D.				101	97	4	80	123

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LLI Sample No. 3236070

MW-8I-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683940  
Kerr-McGee Corporation

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz Triphenyle	95 97	29 33	136 139
8213 BTEX (8021)	TFT-P	104	77	118



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LLI Sample No. WW 3235155  
Collected: 09/21/99 at 09:20 by JA

Collected: 09/21/99 at 09:20 by JA

Submitted: 09/22/99    Reported: 10/05/99  
Discard: 11/05/99

MW-9S-07 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  
9S-07 SDG#: MOS10-01

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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 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  
10:44:57 D 0003 14 128410 683731  
232 0.00 00021753 ASR000

A small rectangular logo containing the word "MEMBER" above the letters "ACHI".

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PO BOX 12425  
Lancaster, PA 17605-2425  
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Respectfully Submitted  
Jenifer E. Hess, B.S.  
Group Leader Pesticides/PCBs

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**LLI Sample No. WW 3235155**  
 Collected: 09/21/99 at 09:20 by JA

Submitted: 09/22/99 Reported: 10/05/99  
 Discard: 11/05/99

MW-9S-07 Grab Water Sample

Account No: 07802

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

P.O. MOSS-AMERICAN  
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Moss-American Superfund Site - Milwaukee, WI  
 9S-07 SDG#: MOS10-01

AS RECEIVED

CAT	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
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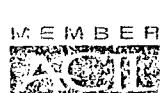
PAH's in Water

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.	0.056	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.033	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	0.021	0.021	ug/l
3293	Dibenz(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.	0.061	ug/l

*ANALYST* *J. H.*

*T.B*  
*10/31*

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 3235155  
Collected: 09/21/99 at 09:20 by JA

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

MW-9S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
9S-07 SDG#: MOS10-01

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.	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.	3.	ug/l

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

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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Page: 4 of 6

**LLI Sample No. WW 3235155**

Collected: 09/21/99 at 09:20 by JA

Submitted: 09/22/99

MW-9S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
9S-07 SDG#: MOS10-01

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

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS		ANALYST
				ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1		09/27/99 1719	Michelle J. Kolodziejksi
3337	PAH Water Extraction	SW-846 3510C	1		09/24/99 0020	Sorina A. Haskins
8213	BTEX (8021)	SW-846 8021B	1		09/25/99 0128	Martha L. Bennett



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 PO Box 12425

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2216 Rev 7/21



## LLI Sample No. 3235155

MW-9S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683731  
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH
<b>1861 PAH's in Water</b>											
			Batch: 992660011A								
3280	Naphthalene 0.77 ug/l	N.D.		89	81	13	83			45	111
3281	Acenaphthylene 0.77 ug/l	N.D.		97	88	13	92			59	114
3282	Acenaphthene 0.77 ug/l	N.D.		98	90	12	93			50	120
3283	Fluorene 0.16 ug/l	N.D.		100	92	12	97			64	117
3284	Phenanthrene 0.044 ug/l	N.D.		99	91	12	98			75	114
3285	Anthracene 0.030 ug/l	N.D.		95	87	12	95			64	104
3286	Fluoranthene 0.019 ug/l	N.D.		104	92	15	101			43	147
3287	Pyrene 0.17 ug/l	N.D.		107	97	13	107			39	149
3288	Benzo(a)anthracene 0.017 ug/l	N.D.		95	85	14	95			73	117
3289	Chrysene 0.056 ug/l	N.D.		90	71	25	97			68	125
3290	Benzo(b)fluoranthene 0.033 ug/l	N.D.		96	88	12	99			71	123
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.		100	92	12	100			75	118
3292	Benzo(a)pyrene 0.021 ug/l	N.D.		92	84	12	97			61	127
3293	Dibenzo(a,h)anthracene 0.045 ug/l	N.D.		93	87	11	96			71	121
3294	Benzo(g,h,i)perylene 0.095 ug/l	N.D.		93	87	10	98			70	125
3295	Indeno(1,2,3-cd)pyrene 0.061 ug/l	N.D.		95	89	10	98			73	125
<b>8213 BTEX (8021)</b>											
			Batch: 99268A68								
0776	Benzene 0.2 ug/l	N.D.		104	104	0	102	104	2	81	124
0777	Toluene 0.2 ug/l	N.D.		101	102	1	100	103	2	81	122
0778	Ethylbenzene 0.2 ug/l	N.D.		99	100	1	99	100	2	79	123
0779	Total Xylenes 3. ug/l	N.D.		97	99	2	98	100	2	80	123

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Page: 6 of

LLI Sample No. 3235155

MW-9S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683731  
Kerr-McGee Corporation

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz Triphenyle	82 96	29 33	136 139
8213 BTEX (8021)	TFT-P	99	77	118



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2216 Rev. 23



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LLI Sample No. WW 3235156

Collected: 09/21/99 at 09:40 by JAB

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

MW-91-07 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  
91-07 SDG#: MOS10-02

AS RECEIVED

## METHOD

#### RESULTS      DETECTION LIMIT UNITS

CAT

NO. ANALYSIS NAME

1861 PAH's in Water  
8213 BTEX (8021)

See Page 2  
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  
10:46:22 D 0003 14 128410 683731  
232 0.00 00021753 ASR000

MEMBER

Lancaster Laboratories  
2425 New Holland Pike  
Lancaster, PA 17601

PO Box 12425  
Lancaster, PA 17605-3425

Lancaster, PA 17603-2429  
717-656-2300 Fax: 717-6

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

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2216 Rev. 3/23



LLI Sample No. WW 3235156

Collected: 09/21/99 at 09:40 by JA

Submitted: 09/22/99 Reported: 10/05/99

Discard: 11/05/99

MW-9I-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
Rel.Moss-American Superfund Site - Milwaukee, WI  
9I-07 SDG#: MOS10-02

## AS RECEIVED

CAT NO. ANALYSIS NAME RESULTS METHOD

RESULTS DETECTION LIMIT UNITS

## PAH's in Water

3280	Naphthalene	N.D.	0.78	ug/l
3281	Acenaphthylene	N.D.	0.78	ug/l
3282	Acenaphthene	N.D.	0.78	ug/l
3283	Fluorene	N.D.	0.17	ug/l
3284	Phenanthrene	N.D.	0.045	ug/l
3285	Anthracene	N.D.	0.030	ug/l
3286	Fluoranthene	0.101 ✓ 0.020	0.020	ug/l
3287	Pyrene	N.D.	0.18	ug/l
3288	Benzo(a)anthracene	N.D.	0.018	ug/l
3289	Chrysene	N.D.	0.058	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.034	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.022	ug/l
3293	Dibenz(a,h)anthracene	N.D.	0.046	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.097	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.063	ug/l

0.101 u

T.B  
10/31Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425Lancaster, PA 17605-2425  
717-656-2300 Fax: 717-656-2684Respectfully Submitted  
Jenifer E. Hess, B.S.  
Group Leader Pesticides/PCBsLancaster Laboratories is a subsidiary of Thermo TerraTech Inc., a Thermo Electron Company.  
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**LLI Sample No. WW 3235156**  
Collected: 09/21/99 at 09:40 by JA

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

MW-9I-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
9I-07 SDG#: MOS10-02

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	RESULTS	METHOD	DETECTION LIMIT	UNITS
-----	-----	---------------	---------	--------	-----------------	-------

BTEX (8021)

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

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



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



Page: 4 of 6

**LLI Sample No. WW 3235156**

Collected: 09/21/99 at 09:40 by JA

Submitted: 09/22/99

MW-9I-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
9I-07 SDG#: MOS10-02

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
1861	PAH's in Water	SW-846 8310	1	09/27/99 1740	Michelle J. Kolodziejski
3337	PAH Water Extraction	SW-846 3510C	1	09/24/99 0020	Sorina A. Haskins
8213	BTEX (8021)	SW-846 8021B	1	09/25/99 0206	Martha L. Bennett



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## LLI Sample No. 3235156

MW-91-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683731  
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LIMITS HIGH
<b>1861 PAH's in Water</b>											
				Batch: 992660011A							
3280	Naphthalene 0.78 ug/l	N.D.		89	81	13	83			45	111
3281	Acenaphthylene 0.78 ug/l	N.D.		97	88	13	92			59	114
3282	Acenaphthene 0.78 ug/l	N.D.		98	90	12	93			50	120
3283	Fluorene 0.17 ug/l	N.D.		100	92	12	97			64	117
3284	Phenanthrene 0.045 ug/l	N.D.		99	91	12	98			75	114
3285	Anthracene 0.030 ug/l	N.D.		95	87	12	95			64	104
3286	Fluoranthene 0.020 ug/l	N.D.		104	92	15	101			43	147
3287	Pyrene 0.18 ug/l	N.D.		107	97	13	107			39	149
3288	Benz(a)anthracene 0.018 ug/l	N.D.		95	85	14	95			73	117
3289	Chrysene 0.058 ug/l	N.D.		90	71	25	97			68	125
3290	Benz(b)fluoranthene 0.034 ug/l	N.D.		96	88	12	99			71	123
3291	Benz(k)fluoranthene 0.026 ug/l	N.D.		100	92	12	100			75	118
3292	Benz(a)pyrene 0.022 ug/l	N.D.		92	84	12	97			61	127
3293	Dibenzo(a,h)anthracene 0.046 ug/l	N.D.		93	87	11	96			71	121
3294	Benz(g,h,i)perylene 0.097 ug/l	N.D.		93	87	10	98			70	125
3295	Indeno(1,2,3-cd)pyrene 0.063 ug/l	N.D.		95	89	10	98			73	125
<b>8213 BTEX (8021)</b>											
				Batch: 99268A68							
0776	Benzene 0.2 ug/l	N.D.		104	104	0	102	104	2	81	124
0777	Toluene 0.2 ug/l	N.D.		101	102	1	100	103	2	81	122
0778	Ethylbenzene 0.2 ug/l	N.D.		99	100	1	99	100	2	79	123
0779	Total Xylenes 0.6 ug/l	N.D.		97	99	2	98	100	2	80	123

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LLI Sample No. 3235156

MW-91-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683731  
Kerr-McGee Corporation

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz Triphenyle	65 67	29 33	136 139
8213 BTEX (8021)	TFT-P	99	77	118



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**LLI Sample No. WW 3236062**

Collected: 09/22/99 at 08:30 by JA

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

MW-13S-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
Rel.Moss-American Superfund Site - Milwaukee, WI  
13507 SDG#: MOS11-1

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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

1861	PAH's in Water
8213	BTEX (8021)

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  
11:04:29 D 0003 12 128410 683940  
232 0.00 00021753 ASR000



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



LLI Sample No. WW 3236062

Collected: 09/22/99 at 08:30 by JA

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

MW-13S-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
Rel.Moss-American Superfund Site - Milwaukee, WI  
13507 SDG#: MOS11-1

## AS RECEIVED

CAT NO. ANALYSIS NAME RESULTS METHOD DETECTION LIMIT UNITS

## PAH's in Water

3280	Naphthalene	N.D.	8.0	ug/l
3281	Acenaphthylene	N.D.	8.0	ug/l
3282	Acenaphthene	N.D.	8.	ug/l
3283	Fluorene	N.D.	1.7	ug/l
3284	Phenanthrene	N.D.	0.46	ug/l
3285	Anthracene	N.D.	0.31	ug/l
3286	Fluoranthene	0.75 J	0.20	ug/l
3287	Pyrene	N.D.	1.8	ug/l
3288	Benzo(a)anthracene	0.31 J	0.18	ug/l
3289	Chrysene	0.78 J	0.59	ug/l
3290	Benzo(b)fluoranthene	0.51 J	0.35	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.27	ug/l
3292	Benzo(a)pyrene	0.42 J	0.22	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.47	ug/l
3294	Benzo(g,h,i)perylene	N.D.	1.0	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.64	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.

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 3236062**

Collected: 09/22/99 at 08:30 by JA

 Submitted: 09/23/99 Reported: 10/06/99  
 Discard: 11/06/99

MW-13S-07 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  
 13507 SDG#: MOS11-1

**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

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.

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


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Lancaster, PA 17605-2425

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

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Page: 4 of 6

**LLI Sample No. WW 3236062**

Collected: 09/22/99 at 08:30 by JA

Submitted: 09/23/99

MW-13S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
13507 SDG#: MOS11-1

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

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS ID	DATE AND TIME	ANALYST
1861	PAH's in Water	SW-846 8310	1	09/28/99 1004	Michelle J. Kolodziejski	
3337	PAH Water Extraction	SW-846 3510C	1	09/24/99 1500	Anita M. Dale	
8213	BTEX (8021)	SW-846 8021B	1	09/27/99 0044	Patrick N. Evans	



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2216 Rev /23



LLI Sample No. 3236062

MW-13S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683940  
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH
1861 PAH's in Water		Batch: 992670001A								
3280	Naphthalene 8.0 ug/l	N.D.				74	72	4	45	111
3281	Acenaphthylene 8.0 ug/l	N.D.				80	79	1	59	114
3282	Acenaphthene 8. ug/l	1.1 J ug/l				80	78	2	50	120
3283	Fluorene 1.7 ug/l	N.D.				86	86	0	64	117
3284	Phenanthrene 0.46 ug/l	N.D.				89	90	2	75	114
3285	Anthracene 0.31 ug/l	N.D.				87	88	1	64	104
3286	Fluoranthene 0.20 ug/l	N.D.				86	89	3	43	147
3287	Pyrene 1.8 ug/l	N.D.				81	83	3	39	149
3288	Benzo(a)anthracene 0.18 ug/l	N.D.				88	90	3	73	117
3289	Chrysene 0.59 ug/l	N.D.				90	92	3	68	125
3290	Benzo(b)fluoranthene 0.35 ug/l	N.D.				92	95	3	71	123
3291	Benzo(k)fluoranthene 0.27 ug/l	N.D.				91	94	4	75	118
3292	Benzo(a)pyrene 0.22 ug/l	N.D.				98	101	3	61	127
3293	Dibenz(a,h)anthracene 0.47 ug/l	N.D.				90	93	4	71	121
3294	Benzo(g,h,i)perylene 1.0 ug/l	N.D.				92	96	4	70	125
3295	Indeno(1,2,3-cd)pyrene 0.64 ug/l	N.D.				98	101	3	73	125
8213 BTEX (8021)		Batch: 99269A55								
0776	Benzene 0.2 ug/l	N.D.				100	96	4	81	124
0777	Toluene 0.2 ug/l	N.D.				101	97	4	81	122
0778	Ethylbenzene 0.2 ug/l	N.D.				100	97	4	79	123
0779	Total Xylenes 0.6 ug/l	N.D.				101	97	4	80	123

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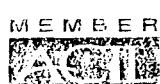
**LLI Sample No. 3236062**

MW-13S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683940  
Kerr-McGee Corporation

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz Triphenyle	95 93	29 33	136 139
8213 BTEX (8021)	TFT-P	104	77	118



Lancaster Laboratories  
2425 River Holland Drive  
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 3237294  
Collected: 09/23/99 at 09:40 by JC

Submitted: 09/24/99 Reported: 10/07/99  
Discard: 11/07/99

MW-20S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
20S07 SDG#: MOS11-13

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		METHOD	DETECTION LIMIT UNITS
		RESULTS			
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  
20:27:33 D 0003 3 128410 684175  
232 0.00 00021753 ASR000



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

**LLI Sample No. WW 3237294**  
Collected: 09/23/99 at 09:40 by JC

Submitted: 09/24/99 Reported: 10/07/99  
Discard: 11/07/99

MW-20S-07 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  
20S07 SDG#: MOS11-13

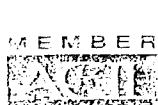
AS RECEIVED

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

PAH's in Water

3280	Naphthalene	N.D.	0.77	ug/l	
3281	Acenaphthylene	N.D.	0.77	ug/l	
3282	Acenaphthene	N.D.	0.77	ug/l	
3283	Fluorene	N.D.	0.16	ug/l	
3284	Phenanthrene	0.088	J	0.044	ug/l
3285	Anthracene	N.D.	0.030	ug/l	
3286	Fluoranthene	0.045	J	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	Dibenz(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.	0.061	ug/l	

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 3237294

Collected: 09/23/99 at 09:40 by JC

Submitted: 09/24/99 Reported: 10/07/99  
Discard: 11/07/99

MW-20S-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
Rel.Moss-American Superfund Site - Milwaukee, WI  
20S07 SDG#: MOS11-13

## AS RECEIVED

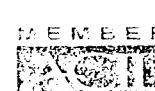
CAT NO. ANALYSIS NAME      RESULTS      METHOD  
DETECTION LIMIT UNITS

## 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

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

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



Page: 4 of 6

**LLI Sample No. WW 3237294**

Collected: 09/23/99 at 09:40 by JC

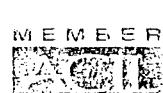
Submitted: 09/24/99

MW-20S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
20S07 SDG#: MOS11-13

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

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS		ANALYST
				ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1		09/28/99 1635	Michelle J. Kolodziejski
3337	PAH Water Extraction	SW-846 3510C	1		09/27/99 0200	Sorina A. Haskins
8213	BTEX (8021)	SW-846 8021B	1		09/29/99 1539	Patrick N. Evans



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2216 Rev 7/23



LLI Sample No. 3237294

MW-20S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 684175  
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: 992680002A									
3280	Naphthalene 0.77 ug/l	N.D.		90	92	3	72			45	111
3281	Acenaphthylene 0.77 ug/l	N.D.		68	62	4	80			59	114
3282	Acenaphthene 0.77 ug/l	N.D.		126	120	4	81			50	120
3283	Fluorene 0.16 ug/l	N.D.		112	101	5	85			64	117
3284	Phenanthrene 0.044 ug/l	N.D.		179	144	7	85			75	114
3285	Anthracene 0.030 ug/l	N.D.		40	48	3	84			64	104
3286	Fluoranthene 0.019 ug/l	N.D.		118	110	2	82			43	147
3287	Pyrene 0.17 ug/l	N.D.		90	94	3	76			39	149
3288	Benzo(a)anthracene 0.017 ug/l	N.D.		120	100	8	82			73	117
3289	Chrysene 0.057 ug/l	N.D.		99	97	0	83			68	125
3290	Benzo(b)fluoranthene 0.034 ug/l	N.D.		208	130	25	84			71	123
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.		205	170	17	84			75	118
3292	Benzo(a)pyrene 0.021 ug/l	N.D.		253	150	29	88			61	127
3293	Dibenz(a,h)anthracene 0.045 ug/l	N.D.		107	96	10	83			71	121
3294	Benzo(g,h,i)perylene 0.095 ug/l	N.D.		111	93	14	85			70	125
3295	Indeno(1,2,3-cd)pyrene 0.061 ug/l	N.D.		131	101	20	90			73	125
8213 BTEX (8021)		Batch: 99271A56									
0776	Benzene 0.2 ug/l	N.D.		116			113	110	2	81	124
0777	Toluene 0.2 ug/l	N.D.		111			108	104	4	81	122
0778	Ethylbenzene 0.2 ug/l	N.D.		106			104	99	4	79	123
0779	Total Xylenes 0.6 ug/l	N.D.		108			106	101	4	80	123

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Lancaster, PA 17605-2425



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Page: 6 of

**LLI Sample No. 3237294**

MW-20S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 684175  
Kerr-McGee Corporation

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz Triphenyle	101 101	29 33	136 139
8213 BTEX (8021)	TFT-P	90	77	118



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2216 Rev. 23

**LLI Sample No. WW 3237295**

Collected: 09/23/99 at 10:15 by JC

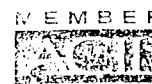
Submitted: 09/24/99 Reported: 10/07/99  
Discard: 11/07/99

MW-201-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
Rel.Moss-American Superfund Site - Milwaukee, WI  
20I07 SDG#: MOS11-14

## AS RECEIVED

CAT NO. ANALYSIS NAME      RESULTS      METHOD  
RESULTS      DETECTION LIMIT UNITS1861 PAH's in Water      See Page 2  
8213 BTEX (8021)      See Page 31 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 GroupQuestions? Contact your Client Services Representative  
Kay G. Hower      at (717) 656-2300  
20:28:34 D 0003 3      128410 684175  
232 0.00 00021753 ASR000Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425Lancaster, PA 17605-2425  
717-656-2300 Fax: 717-656-2681Respectfully Submitted  
Jenifer E. Hess, B.S.  
Group Leader Pesticides/PCBsLancaster Laboratories is a subsidiary of Thermo Terreiccii Inc., a Thermo Electron Company.  
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**LLI Sample No. WW 3237295**

Collected: 09/23/99 at 10:15 by JC

Submitted: 09/24/99 Reported: 10/07/99  
Discard: 11/07/99

MW-20I-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
ReL.Moss-American Superfund Site - Milwaukee, WI  
20I07 SDG#: MOS11-14

## AS RECEIVED

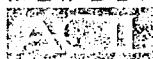
CAT NO.	ANALYSIS NAME	RESULTS	METHOD DETECTION LIMIT UNITS
---------	---------------	---------	---------------------------------

## PAH's in Water

3280	Naphthalene	N.D.	0.79	ug/l
3281	Acenaphthylene	1.35	J 0.79	ug/l
3282	Acenaphthene	N.D.	0.79	ug/l
3283	Fluorene	N.D.	0.17	ug/l
3284	Phenanthrene	N.D.	0.046	ug/l
3285	Anthracene	0.109	J 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	0.030	J 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

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

MEMBER



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12423

Lancaster PA 17605-2425  
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Respectfully Submitted  
Jenifer E. Hess, B.S.  
Group Leader Pesticides/PCBs

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LLI Sample No. WW 3237295

Collected: 09/23/99 at 10:15 by JC

Submitted: 09/24/99 Reported: 10/07/99  
Discard: 11/07/99

MW-20I-07 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  
20I07 SDG#: MOS11-14

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

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

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



Page: 4 of 6

**LLI Sample No. WW 3237295**

Collected: 09/23/99 at 10:15 by JC

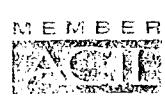
Submitted: 09/24/99

MW-20I-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
20I07 SDG#: MOS11-14

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
1861	PAH's in Water	SW-846 8310	1	09/28/99 1656	Michelle J. Kolodziejski
3337	PAH Water Extraction	SW-846 3510C	1	09/27/99 0200	Sorina A. Haskins
8213	BTEX (8021)	SW-846 8021B	1	09/29/99 1503	Patrick N. Evans



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2216 Rev. 5.2



LLI Sample No. 3237295

MW-201-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 684175  
Kerr-McGee Corporation

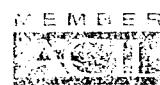
SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LIMITS HIGH	
1861 PAH's in Water		Batch: 992680002A									
3280	Naphthalene 0.79 ug/l	N.D.		90	92	3	72		45	111	
3281	Acenaphthylene 0.79 ug/l	N.D.		68	62	4	80		59	114	
3282	Acenaphthene 0.79 ug/l	N.D.		126	120	4	81		50	120	
3283	Fluorene 0.17 ug/l	N.D.		112	101	5	85		64	117	
3284	Phenanthrene 0.046 ug/l	N.D.		179	144	7	85		75	114	
3285	Anthracene 0.031 ug/l	N.D.		40	48	3	84		64	104	
3286	Fluoranthene 0.020 ug/l	N.D.		118	110	2	82		43	147	
3287	Pyrene 0.18 ug/l	N.D.		90	94	3	76		39	149	
3288	Benzo(a)anthracene 0.018 ug/l	N.D.		120	100	8	82		73	117	
3289	Chrysene 0.058 ug/l	N.D.		99	97	0	83		68	125	
3290	Benzo(b)fluoranthene 0.035 ug/l	N.D.		208	130	25	84		71	123	
3291	Benzo(k)fluoranthene 0.027 ug/l	N.D.		205	170	17	84		75	118	
3292	Benzo(a)pyrene 0.022 ug/l	N.D.		253	150	29	88		61	127	
3293	Dibenz(a,h)anthracene 0.046 ug/l	N.D.		107	96	10	83		71	121	
3294	Benzo(g,h,i)perylene 0.098 ug/l	N.D.		111	93	14	85		70	125	
3295	Indeno(1,2,3-cd)pyrene 0.063 ug/l	N.D.		131	101	20	90		73	125	
8213 BTEX (8021)		Batch: 99271A56									
0776	Benzene 0.2 ug/l	N.D.		116			113	110	2	81	124
0777	Toluene 0.2 ug/l	N.D.		111			108	104	4	81	122
0778	Ethylbenzene 0.2 ug/l	N.D.		106			104	99	4	79	123
0779	Total Xylenes 0.6 ug/l	N.D.		108			106	101	4	80	123

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PO Box 12425

Lancaster PA 17605-2425

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Page: 6 of

LLI Sample No. 3237295

MW-201-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 684175  
Kerr-McGee Corporation

SURROGATE SUMMARY			SURROGATE LIMITS	
TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water	Nitrobenz	90	29	136
	Triphenyle	79	33	139
8213 BTEX (8021)	TFT-P	90	77	118

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**LLI Sample No. WW 3236063**

Collected: 09/22/99 at 09:00 by JA

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

MW-25S-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
Rel.Moss-American Superfund Site - Milwaukee, WI  
25507 SDG#: MOS11-2

## AS RECEIVED

## METHOD

RESULTS DETECTION LIMIT UNITS

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  
11:06:12 D 0003 12 128410 683940  
232 0.00 00021753 ASR000



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PO Box 12425

Lancaster, PA 17605-2425

717-656-2300 Fax: 717-656-2684

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



LLI Sample No. WW 3236063

Collected: 09/22/99 at 09:00 by JA

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

MW-25S-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
Rel.Moss-American Superfund Site - Milwaukee, WI  
25507 SDG#: MOS11-2

## AS RECEIVED

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

## PAH's in Water

3280	Naphthalene	N.D.	0.80	ug/l
3281	Acenaphthylene	N.D.	0.80	ug/l
3282	Acenaphthene	N.D.	0.80	ug/l
3283	Fluorene	N.D.	0.17	ug/l
3284	Phenanthrene	N.D.	0.046	ug/l
3285	Anthracene	N.D.	0.031	ug/l
3286	Fluoranthene	N.D.	0.020	ug/l
3287	Pyrene	N.D.	0.18	ug/l
3288	Benzo(a)anthracene	N.D.	0.018	ug/l
3289	Chrysene	N.D.	0.059	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.035	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.027	ug/l
3292	Benzo(a)pyrene	N.D.	0.022	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.047	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.099	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.064	ug/l

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.

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



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PO Box 12425

Lancaster, PA 17605-2425

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

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

**LLI Sample No. WW 3236063**

Collected: 09/22/99 at 09:00 by JA

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

MW-25S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
25507 SDG#: MOS11-2

Account No: 07802

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

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.

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

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Michele Turner, B.A.  
Manager, VolatilesLancaster Laboratories is a subsidiary of Thermo TerraTech Inc., a Thermo Electron Company  
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Page: 4 of 6

**LLI Sample No. WW 3236063**

Collected: 09/22/99 at 09:00 by JA

Submitted: 09/23/99

MW-25S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
25507 SDG#: MOS11-2
 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
1861	PAH's in Water	SW-846 8310	1		09/28/99 1025
3337	PAH Water Extraction	SW-846 3510C	1		09/24/99 1500
8213	BTEX (8021)	SW-846 8021B	1		09/27/99 0122


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2216 Rev. 23



## LLI Sample No. 3236063

MW-25S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683940  
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: 992670001A								
3280 Naphthalene										
0.80 ug/l		N.D.					74	72	4	45 111
3281 Acenaphthylene										
0.80 ug/l		N.D.					80	79	1	59 114
3282 Acenaphthene										
0.80 ug/l		1.1 J ug/l					80	78	2	50 120
3283 Fluorene										
0.17 ug/l		N.D.					86	86	0	64 117
3284 Phenanthrene										
0.046 ug/l		N.D.					89	90	2	75 114
3285 Anthracene										
0.031 ug/l		N.D.					87	88	1	64 104
3286 Fluoranthene										
0.020 ug/l		N.D.					86	89	3	43 147
3287 Pyrene										
0.18 ug/l		N.D.					81	83	3	39 149
3288 Benzo(a)anthracene										
0.018 ug/l		N.D.					88	90	3	73 117
3289 Chrysene										
0.059 ug/l		N.D.					90	92	3	68 125
3290 Benzo(b)fluoranthene										
0.035 ug/l		N.D.					92	95	3	71 123
3291 Benzo(k)fluoranthene										
0.027 ug/l		N.D.					91	94	4	75 118
3292 Benzo(a)pyrene										
0.022 ug/l		N.D.					98	101	3	61 127
3293 Dibenz(a,h)anthracene										
0.047 ug/l		N.D.					90	93	4	71 121
3294 Benzo(g,h,i)perylene										
0.099 ug/l		N.D.					92	96	4	70 125
3295 Indeno(1,2,3-cd)pyrene										
0.064 ug/l		N.D.					98	101	3	73 125
8213 BTEX (8021)		Batch: 99269A55								
0776 Benzene										
0.2 ug/l		N.D.					100	96	4	81 124
0777 Toluene										
0.2 ug/l		N.D.					101	97	4	81 122
0778 Ethylbenzene										
0.2 ug/l		N.D.					100	97	4	79 123
0779 Total Xylenes										
0.6 ug/l		N.D.					101	97	4	80 123



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2216 Rev. 3/23



Page: 6 of 1

LLI Sample No. 3236063

MW-25S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

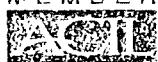
Group No. 683940  
Kerr-McGee Corporation

1861 PAH's in Water  
8213 BTEX (8021)

## SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz Triphenyle	97 95	29 33	136 139
8213 BTEX (8021)	TFT-P	107	77	118

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## LLI Sample No. WW 3236064

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

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

MW-26S-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
Rel.Moss-American Superfund Site - Milwaukee, WI  
26507 SDG#: MOS11-3

## AS RECEIVED

CAT NO. ANALYSIS NAME      RESULTS      METHOD  
DETECTION LIMIT UNITS

## PAH's in Water

3280	Naphthalene	N.D.	8.0	ug/l
3281	Acenaphthylene	N.D.	8.0	ug/l
3282	Acenaphthene	N.D.	8.	ug/l
3283	Fluorene	N.D.	1.7	ug/l
3284	Phenanthrene	N.D.	0.46	ug/l
3285	Anthracene	N.D.	0.31	ug/l
3286	Fluoranthene	N.D.	0.20	ug/l
3287	Pyrene	N.D.	1.8	ug/l
3288	Benzo(a)anthracene	N.D.	0.18	ug/l
3289	Chrysene	N.D.	0.59	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.35	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.27	ug/l
3292	Benzo(a)pyrene	N.D.	0.22	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.47	ug/l
3294	Benzo(g,h,i)perylene	N.D.	1.0	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.64	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.

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 3236064**

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

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

MW-26S-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
Rel.Moss-American Superfund Site - Milwaukee, WI  
26507 SDG#: MOS11-3

## 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

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.

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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 3236064**

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

Submitted: 09/23/99

MW-26S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
26507 SDG#: MOS11-3

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
1861	PAH's in Water	SW-846 8310	1	09/28/99 1047	Michelle J. Kolodziejski,
3337	PAH Water Extraction	SW-846 3510C	1	09/24/99 1500	Anita M. Dale
8213	BTEX (8021)	SW-846 8021B	1	09/27/99 0159	Patrick N. Evans



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**LLI Sample No. 3236064**

MW-26S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683940  
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: 992670001A									
3280 Naphthalene											
8.0 ug/l		N.D.					74	72	4	45	111
3281 Acenaphthylene											
8.0 ug/l		N.D.					80	79	1	59	114
3282 Acenaphthene											
8. ug/l		1.1 J ug/l					80	78	2	50	120
3283 Fluorene											
1.7 ug/l		N.D.					86	86	0	64	117
3284 Phenanthrene											
0.46 ug/l		N.D.					89	90	2	75	114
3285 Anthracene											
0.31 ug/l		N.D.					87	88	1	64	104
3286 Fluoranthene											
0.20 ug/l		N.D.					86	89	3	43	147
3287 Pyrene											
1.8 ug/l		N.D.					81	83	3	39	149
3288 Benzo(a)anthracene											
0.18 ug/l		N.D.					88	90	3	73	117
3289 Chrysene											
0.59 ug/l		N.D.					90	92	3	68	125
3290 Benzo(b)fluoranthene											
0.35 ug/l		N.D.					92	95	3	71	123
3291 Benzo(k)fluoranthene											
0.27 ug/l		N.D.					91	94	4	75	118
3292 Benzo(a)pyrene											
0.22 ug/l		N.D.					98	101	3	61	127
3293 Dibenz(a,h)anthracene											
0.47 ug/l		N.D.					90	93	4	71	121
3294 Benzo(g,h,i)perylene											
1.0 ug/l		N.D.					92	96	4	70	125
3295 Indeno(1,2,3-cd)pyrene											
0.64 ug/l		N.D.					98	101	3	73	125
-----											
8213 BTEX (8021)		Batch: 99269A55									
0776 Benzene											
0.2 ug/l		N.D.					100	96	4	81	124
0777 Toluene											
0.2 ug/l		N.D.					101	97	4	81	122
0778 Ethylbenzene											
0.2 ug/l		N.D.					100	97	4	79	123
0779 Total Xylenes											
0.6 ug/l		N.D.					101	97	4	80	123



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LLI Sample No. 3236064

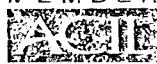
MW-26S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683940  
Kerr-McGee Corporation

SURROGATE SUMMARY			SURROGATE LIMITS	
TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water	Nitrobenz	91	29	136
	Triphenyle	90	33	139
8213 BTEX (8021)	TFT-P	106	77	118

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2216 Rev. 2/21



Page: 1 of 6

LLI Sample No. WW 3235162  
Collected: 09/21/99 at 12:30 by JA

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

MW-27-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
27-07 SDG#: MOS10-06

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		METHOD	DETECTION LIMIT	UNITS
		RESULTS				
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  
10:57:58 D 0003 14 128410 683731  
232 0.00 00021753 ASR000

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



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**LLI Sample No. WW 3235162**

Collected: 09/21/99 at 12:30 by JA

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

MW-27-07 Grab Water Sample

Account No: 07802

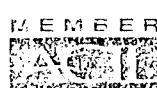
Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
ReL.Moss-American Superfund Site - Milwaukee, WI  
27-07 SDG#: MOS10-06

## AS RECEIVED

CAT	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
-----	---------------	---------	--------	-----------------	-------

## PAH's in Water

3280	Naphthalene	N.D.	0.85	ug/l	
3281	Acenaphthylene	N.D.	0.85	ug/l	
3282	Acenaphthene	N.D.	0.85	ug/l	
3283	Fluorene	N.D.	0.18	ug/l	
3284	Phenanthrene	N.D.	0.049	ug/l	
3285	Anthracene	N.D.	0.033	ug/l	
3286	Fluoranthene	0.095	J	0.021	ug/l
3287	Pyrene	0.34	J	0.19	ug/l
3288	Benzo(a)anthracene	0.023	J	0.019	ug/l
3289	Chrysene	N.D.	0.063	ug/l	
3290	Benzo(b)fluoranthene	0.062	J	0.037	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.029	ug/l	
3292	Benzo(a)pyrene	0.051	J	0.023	ug/l
3293	Dibenz(a,h)anthracene	N.D.	0.050	ug/l	
3294	Benzo(g,h,i)perylene	0.11	J	0.11	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.068	ug/l	

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300Respectfully Submitted  
Jenifer E. Hess, B.S.  
Group Leader Pesticides/PCBsLancaster Laboratories  
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LLI Sample No. WW 3235162  
Collected: 09/21/99 at 12:30 by JA

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

MW-27-07 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  
27-07 SDG#: MOS10-06

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

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 3235162**

Collected: 09/21/99 at 12:30 by JA

Submitted: 09/22/99

MW-27-07 Grab Water Sample

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

Moss-American Superfund Site - Milwaukee, WI  
 27-07 SDG#: MOS10-06

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		
			TRIAL	ID	DATE AND TIME
1861	PAH's in Water	SW-846 8310	1	09/27/99 1845	Michelle J. Kolodziejski
3337	PAH Water Extraction	SW-846 3510C	1	09/24/99 0020	Sorina A. Haskins
8213	BTEX (8021)	SW-846 8021B	1	09/25/99 0705	Martha L. Bennett



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**LLI Sample No. 3235162**

MW-27-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683731  
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MS MSD	MS RPD	LCS LCS	LCS LCS	LCS LIMITS
							DUP	RPD	LOW HIGH
1861 PAH's in Water		Batch: 992660011A							
3280 Naphthalene									
0.85 ug/l		N.D.		89	81	13	83		45 111
3281 Acenaphthylene									
0.85 ug/l		N.D.		97	88	13	92		59 114
3282 Acenaphthene									
0.85 ug/l		N.D.		98	90	12	93		50 120
3283 Fluorene									
0.18 ug/l		N.D.		100	92	12	97		64 117
3284 Phenanthrene									
0.049 ug/l		N.D.		99	91	12	98		75 114
3285 Anthracene									
0.033 ug/l		N.D.		95	87	12	95		64 104
3286 Fluoranthene									
0.021 ug/l		N.D.		104	92	15	101		43 147
3287 Pyrene									
0.19 ug/l		N.D.		107	97	13	107		39 149
3288 Benzo(a)anthracene									
0.019 ug/l		N.D.		95	85	14	95		73 117
3289 Chrysene									
0.063 ug/l		N.D.		90	71	25	97		68 125
3290 Benzo(b)fluoranthene									
0.037 ug/l		N.D.		96	88	12	99		71 123
3291 Benzo(k)fluoranthene									
0.029 ug/l		N.D.		100	92	12	100		75 118
3292 Benzo(a)pyrene									
0.023 ug/l		N.D.		92	84	12	97		61 127
3293 Dibenz(a,h)anthracene									
0.050 ug/l		N.D.		93	87	11	96		71 121
3294 Benzo(g,h,i)perylene									
0.11 ug/l		N.D.		93	87	10	98		70 125
3295 Indeno(1,2,3-cd)pyrene									
0.068 ug/l		N.D.		95	89	10	98		73 125
8213 BTEX (8021)		Batch: 99268A68							
0776 Benzene									
0.2 ug/l		N.D.		104	104	0	102	104	2 81 124
0777 Toluene									
0.2 ug/l		N.D.		101	102	1	100	103	2 81 122
0778 Ethylbenzene									
0.2 ug/l		N.D.		99	100	1	99	100	2 79 123
0779 Total Xylenes									
0.6 ug/l		N.D.		97	99	2	98	100	2 80 123



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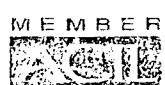
## LLI Sample No. 3235162

MW-27-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683731  
Kerr-McGee Corporation

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	115	29	136
	Triphenyle	118	33	139
8213 BTEX (8021)	TFT-P	100	77	118

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2216 Rev '21



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Page: 1 of 6

LLI Sample No. WW 3235163

Collected: 09/21/99 at 13:00 by JA

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

MW-28S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
28S-- SDG#: MOS10-07

Account No: 07802

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

P.O. MOSS-AMERICAN  
Rel.

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AS RECEIVED                   METHOD  
RESULTS      DETECTION LIMIT UNITS

CAT  
NO. ANALYSIS NAME

1861 PAH's in Water  
8213 BTEX (8021)

See Page 2  
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  
11:00:54 D 0003 14 128410 683731  
232 0.00 00021753 ASR000

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

MEMBER

Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425

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Lancaster, PA 17605-2425  
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LLI Sample No. WW 3235163

Collected: 09/21/99 at 13:00 by JA

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

MW-28S-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
ReL.Moss-American Superfund Site - Milwaukee, WI  
28S-- SDG#: MOS10-07

## AS RECEIVED

CAT NO. ANALYSIS NAME RESULTS      METHOD DETECTION LIMIT UNITS

## PAH's in Water

3280	Naphthalene	N.D.	0.87	ug/l
3281	Acenaphthylene	N.D.	0.87	ug/l
3282	Acenaphthene	N.D.	0.87	ug/l
3283	Fluorene	N.D.	0.18	ug/l
3284	Phenanthrene	N.D.	0.050	ug/l
3285	Anthracene	N.D.	0.034	ug/l
3286	Fluoranthene	0.124	J	0.022 ug/l
3287	Pyrene	0.26	J	0.20 ug/l
3288	Benzo(a)anthracene	0.029	J	0.020 ug/l
3289	Chrysene	0.137	J	0.064 ug/l
3290	Benzo(b)fluoranthene	0.168		0.038 ug/l
3291	Benzo(k)fluoranthene	0.058	J	0.029 ug/l
3292	Benzo(a)pyrene	0.131		0.024 ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.051	ug/l
3294	Benzo(g,h,i)perylene	0.25	J	0.11 ug/l
3295	Indeno(1,2,3-cd)pyrene	0.188	J	0.070 ug/l

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300Respectfully Submitted  
Jenifer E. Hess, B.S.  
Group Leader Pesticides/PCBsLancaster Laboratories  
2425 New Holland Pike  
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Lancaster, PA 17605-2425

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LLI Sample No. WW 3235163

Collected: 09/21/99 at 13:00 by JA

Submitted: 09/22/99 Reported: 10/05/99

Discard: 11/05/99

MW-28S-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
Rel.Moss-American Superfund Site - Milwaukee, WI  
28S-- SDG#: MOS10-07

## AS RECEIVED

CAT NO. ANALYSIS NAME      RESULTS      METHOD  
RESULTS      DETECTION LIMIT UNITS

## BTEX (8021)

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

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300Respectfully Submitted  
Michele Turner, B.A.  
Manager, VolatilesLancaster Laboratories  
2425 New Holland Pike  
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2216 Rev. 3/23



Page: 4 of 6

LLI Sample No. WW 3235163

Collected: 09/21/99 at 13:00 by JA

Submitted: 09/22/99

MW-28S-07 Grab Water Sample

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

Moss-American Superfund Site - Milwaukee, WI  
 28S-- SDG#: MOS10-07

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		
			TRIAL	ID	DATE AND TIME
1861	PAH's in Water	SW-846 8310	1	09/27/99 1928	Michelle J. Kolodziejek
3337	PAH Water Extraction	SW-846 3510C	1	09/24/99 0020	Sorina A. Haskins
8213	BTEX (8021)	SW-846 8021B	1	09/25/99 0742	Martha L. Bennett



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2216 Rev 23



LLI Sample No. 3235163

MW-28S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683731  
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LIMITS HIGH	
1861 PAH's in Water		Batch: 992660011A									
3280 Naphthalene 0.87 ug/l		N.D.		89	81	13	83		45	111	
3281 Acenaphthylene 0.87 ug/l		N.D.		97	88	13	92		59	114	
3282 Acenaphthene 0.87 ug/l		N.D.		98	90	12	93		50	120	
3283 Fluorene 0.18 ug/l		N.D.		100	92	12	97		64	117	
3284 Phenanthrene 0.050 ug/l		N.D.		99	91	12	98		75	114	
3285 Anthracene 0.034 ug/l		N.D.		95	87	12	95		64	104	
3286 Fluoranthene 0.022 ug/l		N.D.		104	92	15	101		43	147	
3287 Pyrene 0.20 ug/l		N.D.		107	97	13	107		39	149	
3288 Benzo(a)anthracene 0.020 ug/l		N.D.		95	85	14	95		73	117	
3289 Chrysene 0.064 ug/l		N.D.		90	71	25	97		68	125	
3290 Benzo(b)fluoranthene 0.038 ug/l		N.D.		96	88	12	99		71	123	
3291 Benzo(k)fluoranthene 0.029 ug/l		N.D.		100	92	12	100		75	118	
3292 Benzo(a)pyrene 0.024 ug/l		N.D.		92	84	12	97		61	127	
3293 Dibenz(a,h)anthracene 0.051 ug/l		N.D.		93	87	11	96		71	121	
3294 Benzo(g,h,i)perylene 0.11 ug/l		N.D.		93	87	10	98		70	125	
3295 Indeno(1,2,3-cd)pyrene 0.070 ug/l		N.D.		95	89	10	98		73	125	
8213 BTEX (8021)		Batch: 99268A68									
0776 Benzene 0.2 ug/l		N.D.		104	104	0	102	104	2	81	124
0777 Toluene 0.2 ug/l		N.D.		101	102	1	100	103	2	81	122
0778 Ethylbenzene 0.2 ug/l		N.D.		99	100	1	99	100	2	79	123
0779 Total Xylenes 0.6 ug/l		N.D.		97	99	2	98	100	2	80	123

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LLI Sample No. 3235163

MW-28S-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683731  
Kerr-McGee Corporation

## SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	113	29	136
	Triphenyle	117	33	139
8213 BTEX (8021)	TFT-P	99	77	118

MEMBER

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2216 Rev 1/23

**LLI Sample No. WW 3235157**

Collected: 09/21/99 at 10:40 by JA

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

MW-29S-07 Unspiked Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
ReL.Moss-American Superfund Site - Milwaukee, WI  
29S7- SDG#: MOS10-03BKG

## AS RECEIVED

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

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  
10:47:42 D 0003 14 128410 683731  
232 0.00 00021753 ASR000

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



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LLI Sample No. WW 3235157

Collected: 09/21/99 at 10:40 by JA

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

MW-29S-07 Unspiked 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  
29S7- SDG#: MOS10-03BKG

AS RECEIVED

CAT NO.	ANALYSIS NAME	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	0.077	J 0.046	ug/l
3285	Anthracene	0.041	J 0.031	ug/l
3286	Fluoranthene	0.179	J 0.020	ug/l
3287	Pyrene	0.21	J 0.18	ug/l
3288	Benzo(a)anthracene	0.043	J 0.018	ug/l
3289	Chrysene	0.56	0.059	ug/l
3290	Benzo(b)fluoranthene	0.041	J 0.035	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.027	ug/l
3292	Benzo(a)pyrene	0.044	J 0.022	ug/l
3293	Dibenz(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	0.081	J 0.064	ug/l

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

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 3235157**

Collected: 09/21/99 at 10:40 by JA

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

MW-29S-07 Unspiked Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
29S7- SDG#: MOS10-03BKG

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P. O. MOSS-AMERICAN  
Re1.

## AS RECEIVED

CAT	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

Questions? Contact your Client Services Representative  
Kay G. HowerRespectfully Submitted  
Michele Turner, B.A.  
Manager, VolatilesLancaster Laboratories  
2425 New Holland Pike  
PO Box 12425

Lancaster, PA 17605-2425

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Page: 4 of 6

**LLI Sample No. WW 3235157**

Collected: 09/21/99 at 10:40 by JA

Submitted: 09/22/99

MW-29S-07 Unspiked Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
29S7- SDG#: MOS10-03BKG

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		09/27/99 1614	Michelle J. Kolodziejjski
3337	PAH Water Extraction	SW-846 3510C	1		09/24/99 0020	Sorina A. Haskins
8213	BTEX (8021)	SW-846 8021B	1		09/24/99 2335	Martha L. Bennett



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## LLI Sample No. 3235157

MW-29S-07 Unspiked Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

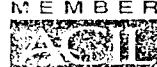
Group No. 683731  
Kerr-McGee Corporation

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: 992660011A									
3280 Naphthalene	0.80 ug/l	N.D.		89	81	13	83			45	111
3281 Acenaphthylene	0.80 ug/l	N.D.		97	88	13	92			59	114
3282 Acenaphthene	0.80 ug/l	N.D.		98	90	12	93			50	120
3283 Fluorene	0.17 ug/l	N.D.		100	92	12	97			64	117
3284 Phenanthrene	0.046 ug/l	N.D.		99	91	12	98			75	114
3285 Anthracene	0.031 ug/l	N.D.		95	87	12	95			64	104
3286 Fluoranthene	0.020 ug/l	N.D.		104	92	15	101			43	147
3287 Pyrene	0.18 ug/l	N.D.		107	97	13	107			39	149
3288 Benzo(a)anthracene	0.018 ug/l	N.D.		95	85	14	95			73	117
3289 Chrysene	0.059 ug/l	N.D.		90	71	25	97			68	125
3290 Benzo(b)fluoranthene	0.035 ug/l	N.D.		96	88	12	99			71	123
3291 Benzo(k)fluoranthene	0.027 ug/l	N.D.		100	92	12	100			75	118
3292 Benzo(a)pyrene	0.022 ug/l	N.D.		92	84	12	97			61	127
3293 Dibenz(a,h)anthracene	0.047 ug/l	N.D.		93	87	11	96			71	121
3294 Benzo(g,h,i)perylene	0.099 ug/l	N.D.		93	87	10	98			70	125
3295 Indeno(1,2,3-cd)pyrene	0.064 ug/l	N.D.		95	89	10	98			73	125
8213 BTEX (8021)		Batch: 99268A68									
0776 Benzene	0.2 ug/l	N.D.		104	104	0	102	104	2	81	124
0777 Toluene	0.2 ug/l	N.D.		101	102	1	100	103	2	81	122
0778 Ethylbenzene	0.2 ug/l	N.D.		99	100	1	99	100	2	79	123
0779 Total Xylenes	0.6 ug/l	N.D.		97	99	2	98	100	2	80	123

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LLI Sample No. 3235157

MW-29S-07 Unspiked Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683731  
Kerr-McGee Corporation

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	147	29	136
	Triphenyle	146	33	139
8213 BTEX (8021)	TFT-P	98	77	118

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2216 Rev /23



**LLI Sample No. WW 3235158**  
Collected: 09/21/99 at 10:40 by JA

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

MW-29S-07 Matrix Spike Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
29S7- SDG#: MOS10-03MS

Account No: 07802

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

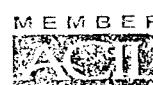
CAT NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
---------	---------------	---------	--------	-----------------	-------

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  
10:49:03 D 0003 14 128410 683731  
232 0.00 00021753 ASR000



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

**LLI Sample No. WW 3235158**

Collected: 09/21/99 at 10:40 by JA

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

MW-29S-07 Matrix Spike Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
29S7- SDG#: MOS10-03MS

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
Re1.

## AS RECEIVED

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

## PAH's in Water

3280	Naphthalene	185.	0.83	ug/l
3281	Acenaphthylene	201.	0.83	ug/l
3282	Acenaphthene	200.	0.83	ug/l
3283	Fluorene	20.8	0.18	ug/l
3284	Phenanthrene	6.24	0.048	ug/l
3285	Anthracene	2.99	0.032	ug/l
3286	Fluoranthene	3.41	0.021	ug/l
3287	Pyrene	22.5	0.19	ug/l
3288	Benzo(a)anthracene	1.52	0.019	ug/l
3289	Chrysene	6.18	0.061	ug/l
3290	Benzo(b)fluoranthene	1.24	0.036	ug/l
3291	Benzo(k)fluoranthene	1.24	0.028	ug/l
3292	Benzo(a)pyrene	1.48	0.023	ug/l
3293	Dibenz(a,h)anthracene	2.91	0.049	ug/l
3294	Benzo(g,h,i)perylene	11.6	0.10	ug/l
3295	Indeno(1,2,3-cd)pyrene	5.98	0.066	ug/l

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425Lancaster, PA 17605-2425  
717-656-2300 Fax: 717-656-2687Respectfully Submitted  
Jenifer E. Hess, B.S.  
Group Leader Pesticides/PCBsLancaster Laboratories is a subsidiary of Thermo TerraTech Inc., a Thermo Electron Company.  
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**LLI Sample No. WW 3235158**

Collected: 09/21/99 at 10:40 by JA

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

MW-29S-07 Matrix Spike Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
Ref.Moss-American Superfund Site - Milwaukee, WI  
29S7- SDG#: MOS10-03MS

## AS RECEIVED

CAT NO. ANALYSIS NAME      RESULTS      METHOD  
RESULTS      DETECTION LIMIT UNITS

## BTEX (8021)

0776	Benzene	21.	0.2	ug/l
0777	Toluene	20.	0.2	ug/l
0778	Ethylbenzene	20.	0.2	ug/l
0779	Total Xylenes	58.	0.6	ug/l

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

MEMBER

Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425Lancaster, PA 17605-2425  
717-656-2300 Fax: 717-656-2681Lancaster Laboratories is a subsidiary of Thermo TerraTech Inc., a Thermo Electron Company.  
See reverse side for explanation of symbols and abbreviationsRespectfully Submitted  
Michele Turner, B.A.  
Manager, Volatiles



Page: 4 of 6

**LLI Sample No. WW 3235158**

Collected: 09/21/99 at 10:40 by JA

Submitted: 09/22/99

MW-29S-07 Matrix Spike Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
29S7- SDG#: MOS10-03MS

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
1861	PAH's in Water	SW-846 8310	1	09/27/99 1636	Michelle J. Kolodziejjski
3337	PAH Water Extraction	SW-846 3510C	1	09/24/99 0020	Sorina A. Haskins
8213	BTEX (8021)	SW-846 8021B	1	09/25/99 0013	Martha L. Bennett

MEMBER



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 PC Box 12425

Lancaster, PA 17605-2425

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

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2216 Rev 2

**LLI Sample No. 3235158**

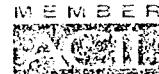
MW-29S-07 Matrix Spike Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683731  
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: 992660011A									
3280 Naphthalene	0.83 ug/l	N.D.		89	81	13	83			45	111
3281 Acenaphthylene	0.83 ug/l	N.D.		97	88	13	92			59	114
3282 Acenaphthene	0.83 ug/l	N.D.		98	90	12	93			50	120
3283 Fluorene	0.18 ug/l	N.D.		100	92	12	97			64	117
3284 Phenanthrene	0.048 ug/l	N.D.		99	91	12	98			75	114
3285 Anthracene	0.032 ug/l	N.D.		95	87	12	95			64	104
3286 Fluoranthene	0.021 ug/l	N.D.		104	92	15	101			43	147
3287 Pyrene	0.19 ug/l	N.D.		107	97	13	107			39	149
3288 Benzo(a)anthracene	0.019 ug/l	N.D.		95	85	14	95			73	117
3289 Chrysene	0.061 ug/l	N.D.		90	71	25	97			68	125
3290 Benzo(b)fluoranthene	0.036 ug/l	N.D.		96	88	12	99			71	123
3291 Benzo(k)fluoranthene	0.028 ug/l	N.D.		100	92	12	100			75	118
3292 Benzo(a)pyrene	0.023 ug/l	N.D.		92	84	12	97			61	127
3293 Dibenz(a,h)anthracene	0.049 ug/l	N.D.		93	87	11	96			71	121
3294 Benzo(g,h,i)perylene	0.10 ug/l	N.D.		93	87	10	98			70	125
3295 Indeno(1,2,3-cd)pyrene	0.066 ug/l	N.D.		95	89	10	98			73	125
8213 BTEX (8021)		Batch: 99268A68									
0776 Benzene	0.2 ug/l	N.D.		104	104	0	102	104	2	81	124
0777 Toluene	0.2 ug/l	N.D.		101	102	1	100	103	2	81	122
0778 Ethylbenzene	0.2 ug/l	N.D.		99	100	1	99	100	2	79	123
0779 Total Xylenes	0.6 ug/l	N.D.		97	99	2	98	100	2	80	123

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Page: 6 of

**LLI Sample No. 3235158**

MW-29S-07 Matrix Spike Grab Water Sample

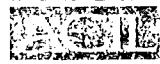
Moss-American Superfund Site - Milwaukee, WI

Group No. 683731  
Kerr-McGee Corporation

## SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz Triphenyle	96 100	29 33	136 139
8213 BTEX (8021)	TFT-P	100	77	118

M E M B E R

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2216 Rev 2



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Page: 1 of 6

LLI Sample No. WW 3235159

Collected: 09/21/99 at 10:40 by JA

Submitted: 09/22/99    Reported: 10/05/99  
Discard: 11/05/99

MW-29S-07 Matrix Spike Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
29S7- SDG#: MOS10-03MSD

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	AS RECEIVED			METHOD
		RESULTS	DETECTION LIMIT	UNITS	
1861	PAH's in Water				See Page
8213	BTEX (8021)				See Page

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  
10:50:29 D 0003 14 128410 683731  
232 0.00 00021753 ASR000

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2425 New Holland Pike  
PO Box 12425

PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2305 Fax: 717-6

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

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**LLI Sample No. WW 3235159**

Collected: 09/21/99 at 10:40 by JA

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

MW-29S-07 Matrix Spike Duplicate 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  
29S7- SDG#: MOS10-03MSD

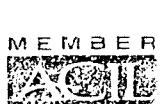
AS RECEIVED

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

PAH's in Water

3280	Naphthalene	162.	0.80	ug/l
3281	Acenaphthylene	177.	0.80	ug/l
3282	Acenaphthene	180.	0.8	ug/l
3283	Fluorene	18.5	0.17	ug/l
3284	Phenanthrene	5.53	0.046	ug/l
3285	Anthracene	2.66	0.031	ug/l
3286	Fluoranthene	2.94	0.020	ug/l
3287	Pyrene	19.7	0.18	ug/l
3288	Benzo(a)anthracene	1.32	0.018	ug/l
3289	Chrysene	4.80	0.059	ug/l
3290	Benzo(b)fluoranthene	1.09	0.035	ug/l
3291	Benzo(k)fluoranthene	1.10	0.027	ug/l
3292	Benzo(a)pyrene	1.31	0.022	ug/l
3293	Dibenz(a,h)anthracene	2.60	0.047	ug/l
3294	Benzo(g,h,i)perylene	10.5	0.099	ug/l
3295	Indeno(1,2,3-cd)pyrene	5.43	0.064	ug/l

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 3235159  
Collected: 09/21/99 at 10:40 by JA

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

MW-29S-07 Matrix Spike Duplicate 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  
29S7- SDG#: MOS10-03MSD

AS RECEIVED

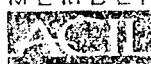
CAT	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT UNITS
-----	---------------	---------	--------	-----------------------

BTEX (8021)

0776	Benzene	21.	0.2	ug/l
0777	Toluene	20.	0.2	ug/l
0778	Ethylbenzene	20.	0.2	ug/l
0779	Total Xylenes	59.	0.6	ug/l

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



Page: 4 of 6

**LLI Sample No. WW 3235159**

Collected: 09/21/99 at 10:40 by JA

Submitted: 09/22/99

MW-29S-07 Matrix Spike Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
29S7- SDG#: MOS10-03MSD

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

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS ID	DATE AND TIME	ANALYST
1861	PAH's in Water	SW-846 8310	1	09/27/99 1657	Michelle J. Kolodziejski	
3337	PAH Water Extraction	SW-846 3510C	1	09/24/99 0020	Sorina A. Haskins	
8213	BTEX (8021)	SW-846 8021B	1	09/25/99 0050	Martha L. Bennett	



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## LLI Sample No. 3235159

MW-29S-07 Matrix Spike Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683731  
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LIMITS HIGH
<b>1861 PAH's in Water</b>											
		Batch: 992660011A									
3280	Naphthalene 0.80 ug/l	N.D.		89	81	13	83			45	111
3281	Acenaphthylene 0.80 ug/l	N.D.		97	88	13	92			59	114
3282	Acenaphthene 0.8 ug/l	N.D.		98	90	12	93			50	120
3283	Fluorene 0.17 ug/l	N.D.		100	92	12	97			64	117
3284	Phenanthrene 0.046 ug/l	N.D.		99	91	12	98			75	114
3285	Anthracene 0.031 ug/l	N.D.		95	87	12	95			64	104
3286	Fluoranthene 0.020 ug/l	N.D.		104	92	15	101			43	147
3287	Pyrene 0.18 ug/l	N.D.		107	97	13	107			39	149
3288	Benzo(a)anthracene 0.018 ug/l	N.D.		95	85	14	95			73	117
3289	Chrysene 0.059 ug/l	N.D.		90	71	25	97			68	125
3290	Benzo(b)fluoranthene 0.035 ug/l	N.D.		96	88	12	99			71	123
3291	Benzo(k)fluoranthene 0.027 ug/l	N.D.		100	92	12	100			75	118
3292	Benzo(a)pyrene 0.022 ug/l	N.D.		92	84	12	97			61	127
3293	Dibenzo(a,h)anthracene 0.047 ug/l	N.D.		93	87	11	96			71	121
3294	Benzo(g,h,i)perylene 0.099 ug/l	N.D.		93	87	10	98			70	125
3295	Indeno(1,2,3-cd)pyrene 0.064 ug/l	N.D.		95	89	10	98			73	125
<b>8213 BTEX (8021)</b>											
		Batch: 99268A68									
0776	Benzene 0.2 ug/l	N.D.		104	104	0	102	104	2	81	124
0777	Toluene 0.2 ug/l	N.D.		101	102	1	100	103	2	81	122
0778	Ethylbenzene 0.2 ug/l	N.D.		99	100	1	99	100	2	79	123
0779	Total Xylenes 0.6 ug/l	N.D.		97	99	2	98	100	2	80	123

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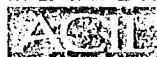
Page: 6 of

## LLI Sample No. 3235159

MW-29S-07 Matrix Spike Duplicate Grab Water Sample  
Moss-American Superfund Site - Milwaukee, WIGroup No. 683731  
Kerr-McGee Corporation

SURROGATE SUMMARY			SURROGATE LIMITS	
TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water	Nitrobenz	85	29	136
	Triphenyle	93	33	139
8213 BTEX (8021)	TFT-P	101	77	118

M E M B E R

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Page: 1 of 6

LLI Sample No. WW 3235161

Collected: 09/21/99 at 12:00 by JA

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

TW-05-07 Grab Water Sample

Account No: 07802

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

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Rel.

Moss-American Superfund Site - Milwaukee, WI  
05TWC SDG#: MOS10-05

AS RECEIVED

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  
10:54:22 D 0003 14 128410 683731  
232 0.00 00021753 ASR000

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



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2425 New Holland Pike  
PO Box 12425

Lancaster, PA 17605-2425  
717-656-2300 Fax: 717-656-2681

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LLI Sample No. WW 3235161

Collected: 09/21/99 at 12:00 by JA

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

TW-05-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
ReL.Moss-American Superfund Site - Milwaukee, WI  
05TWC SDG#: MOS10-05

## AS RECEIVED

CAT NO. ANALYSIS NAME RESULTS METHOD DETECTION LIMIT UNITS

## PAH's in Water

3280	Naphthalene		N.D.	7.9	ug/l
3281	Acenaphthylene	25.3	J	7.9	ug/l
3282	Acenaphthene	220.		7.9	ug/l
3283	Fluorene	136.		1.7	ug/l
3284	Phenanthrene		N.D.	0.45	ug/l
3285	Anthracene		N.D.	0.31	ug/l
3286	Fluoranthene	58.6		0.20	ug/l
3287	Pyrene	88.3		1.8	ug/l
3288	Benzo(a)anthracene	9.36		0.18	ug/l
3289	Chrysene	16.7		0.58	ug/l
3290	Benzo(b)fluoranthene	3.69		0.35	ug/l
3291	Benzo(k)fluoranthene	1.95		0.27	ug/l
3292	Benzo(a)pyrene	4.33		0.22	ug/l
3293	Dibenzo(a,h)anthracene	0.57	J	0.46	ug/l
3294	Benzo(g,h,i)perylene	2.4	J	1.0	ug/l
3295	Indeno(1,2,3-cd)pyrene	1.93	J	0.63	ug/l

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

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425Lancaster, PA 17605-2425  
717-656-2300 Fax: 717-656-2681Lancaster Laboratories is a subsidiary of Thermo TerraTech Inc., a Thermo Electron Company  
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Jenifer E. Hess, B.S.  
Group Leader Pesticides/PCBs

**LLI Sample No. WW 3235161**

Collected: 09/21/99 at 12:00 by JA

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

TW-05-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
05TWC SDG#: MOS10-05

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.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	0.2	J	0.2	ug/l
0778	Ethylbenzene	N.D.	0.2	ug/l	
0779	Total Xylenes	N.D.	0.6	ug/l	

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300Respectfully Submitted  
Michele Turner, B.A.  
Manager, VolatilesLancaster Laboratories  
2425 New Holland Pike  
PO Box 12425Lancaster, PA 17605-2425  
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Page: 4 of 6

**LLI Sample No. WW 3235161**

Collected: 09/21/99 at 12:00 by JA

Submitted: 09/22/99

TW-05-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
05TWC SDG#: MOS10-05

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

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS ID	DATE AND TIME	ANALYST
1861	PAH's in Water	SW-846 8310	1		09/29/99 1950	Michelle J. Kolodziejski
3337	PAH Water Extraction	SW-846 3510C	1		09/24/99 0020	Sorina A. Haskins
8213	BTEX (8021)	SW-846 8021B	1		09/25/99 0320	Martha L. Bennett



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LLI Sample No. 3235161

TW-05-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683731  
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: 992660011A									
3280	Naphthalene 7.9 ug/l	N.D.		89	81	13	83			45	111
3281	Acenaphthylene 7.9 ug/l	N.D.		97	88	13	92			59	114
3282	Acenaphthene 7.9 ug/l	N.D.		98	90	12	93			50	120
3283	Fluorene 1.7 ug/l	N.D.		100	92	12	97			64	117
3284	Phenanthrene 0.45 ug/l	N.D.		99	91	12	98			75	114
3285	Anthracene 0.31 ug/l	N.D.		95	87	12	95			64	104
3286	Fluoranthene 0.20 ug/l	N.D.		104	92	15	101			43	147
3287	Pyrene 1.8 ug/l	N.D.		107	97	13	107			39	149
3288	Benzo(a)anthracene 0.18 ug/l	N.D.		95	85	14	95			73	117
3289	Chrysene 0.58 ug/l	N.D.		90	71	25	97			68	125
3290	Benzo(b)fluoranthene 0.35 ug/l	N.D.		96	88	12	99			71	123
3291	Benzo(k)fluoranthene 0.27 ug/l	N.D.		100	92	12	100			75	118
3292	Benzo(a)pyrene 0.22 ug/l	N.D.		92	84	12	97			61	127
3293	Dibenz(a,h)anthracene 0.46 ug/l	N.D.		93	87	11	96			71	121
3294	Benzo(g,h,i)perylene 1.0 ug/l	N.D.		93	87	10	98			70	125
3295	Indeno(1,2,3-cd)pyrene 0.63 ug/l	N.D.		95	89	10	98			73	125
8213 BTEX (8021)		Batch: 99268A68									
0776	Benzene 0.2 ug/l	N.D.		104	104	0	102	104	2	81	124
0777	Toluene 0.2 ug/l	N.D.		101	102	1	100	103	2	81	122
0778	Ethylbenzene 0.2 ug/l	N.D.		99	100	1	99	100	2	79	123
0779	Total Xylenes 0.6 ug/l	N.D.		97	99	2	98	100	2	80	123



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Page: 6 of

LLI Sample No. 3235161

TW-05-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683731  
Kerr-McGee Corporation

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz Triphenyle	121 381	29 33	136 139
8213 BTEX (8021)	TFT-P	99	77	118



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**LLI Sample No. WW 3235165**  
 Collected: 09/21/99 at 14:10 by JA

Submitted: 09/22/99 Reported: 10/05/99  
 Discard: 11/05/99

TW-09-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 907TW SDG#: MOS10-09

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  
 11:04:00 D 0003 14 128410 683731  
 232 0.00 00021753 ASR000

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



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**LLI Sample No. WW 3235165**

Collected: 09/21/99 at 14:10 by JA

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

TW-09-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
Rel.Moss-American Superfund Site - Milwaukee, WI  
907TW SDG#: MOS10-09

## AS RECEIVED

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

## PAH's in Water

3280	Naphthalene	126,000.		9,500.	ug/l
3281	Acenaphthylene		N.D.	9,500.	ug/l
3282	Acenaphthene	62,000.	J	9,500.	ug/l
3283	Fluorene	47,700.		2,000.	ug/l
3284	Phenanthrene	130,000.		550.	ug/l
3285	Anthracene	14,800.		370.	ug/l
3286	Fluoranthene	60,200.		240.	ug/l
3287	Pyrene	106,000.		2,100.	ug/l
3288	Benzo(a)anthracene	10,600.		210.	ug/l
3289	Chrysene	16,300.		700.	ug/l
3290	Benzo(b)fluoranthene	3,340.		420.	ug/l
3291	Benzo(k)fluoranthene	1,820.		320.	ug/l
3292	Benzo(a)pyrene	3,610.		260.	ug/l
3293	Dibenz(a,h)anthracene		N.D.	560.	ug/l
3294	Benzo(g,h,i)perylene	1,200.	J	1,200.	ug/l
3295	Indeno(1,2,3-cd)pyrene	1,200.	J	760.	ug/l

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

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 3235165**  
 Collected: 09/21/99 at 14:10 by JA

Submitted: 09/22/99 Reported: 10/05/99  
 Discard: 11/05/99

TW-09-07 Grab Water Sample

Account No: 07802

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

P.O. MOSS-AMERICAN  
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Moss-American Superfund Site - Milwaukee, WI  
 907TW SDG#: MOS10-09

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
<b>BTEX (8021)</b>					
0776	Benzene	0.8	J	0.2	ug/l
0777	Toluene	3.		0.2	ug/l
0778	Ethylbenzene	11.		0.2	ug/l
0779	Total Xylenes	30.		0.6	ug/l

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



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 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 3235165**

Collected: 09/21/99 at 14:10 by JA

Submitted: 09/22/99

TW-09-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
907TW SDG#: MOS10-09

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
1861	PAH's in Water	SW-846 8310	1		09/29/99 2012
3337	PAH Water Extraction	SW-846 3510C	1		09/24/99 0020
8213	BTEX (8021)	SW-846 8021B	1		09/25/99 1012
					Martha L. Bennett



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2216 Rev /2



## LLI Sample No. 3235165

TW-09-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683731  
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LIMITS HIGH
<b>1861 PAH's in Water</b>											
			Batch: 992660011A								
3280	Naphthalene										
9,500.	ug/l	N.D.		89	81	13	83			45	111
3281	Acenaphthylene										
9,500.	ug/l	N.D.		97	88	13	92			59	114
3282	Acenaphthene										
9,500.	ug/l	N.D.		98	90	12	93			50	120
3283	Fluorene										
2,000.	ug/l	N.D.		100	92	12	97			64	117
3284	Phenanthrene										
550.	ug/l	N.D.		99	91	12	98			75	114
3285	Anthracene										
370.	ug/l	N.D.		95	87	12	95			64	104
3286	Fluoranthene										
240.	ug/l	N.D.		104	92	15	101			43	147
3287	Pyrene										
2,100.	ug/l	N.D.		107	97	13	107			39	149
3288	Benzo(a)anthracene										
210.	ug/l	N.D.		95	85	14	95			73	117
3289	Chrysene										
700.	ug/l	N.D.		90	71	25	97			68	125
3290	Benzo(b)fluoranthene										
420.	ug/l	N.D.		96	88	12	99			71	123
3291	Benzo(k)fluoranthene										
320.	ug/l	N.D.		100	92	12	100			75	118
3292	Benzo(a)pyrene										
260.	ug/l	N.D.		92	84	12	97			61	127
3293	Dibenzo(a,h)anthracene										
560.	ug/l	N.D.		93	87	11	96			71	121
3294	Benzo(g,h,i)perylene										
1,200.	ug/l	N.D.		93	87	10	98			70	125
3295	Indeno(1,2,3-cd)pyrene										
760.	ug/l	N.D.		95	89	10	98			73	125
<b>8213 BTEX (8021)</b>											
			Batch: 99268A68								
0776	Benzene										
0.2	ug/l	N.D.		104	104	0	102	104	2	81	124
0777	Toluene										
0.2	ug/l	N.D.		101	102	1	100	103	2	81	122
0778	Ethylbenzene										
0.2	ug/l	N.D.		99	100	1	99	100	2	79	123
0779	Total Xylenes										
0.6	ug/l	N.D.		97	99	2	98	100	2	80	123

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LLI Sample No. 3235165

TW-09-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683731  
Kerr-McGee Corporation

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz Triphenyle	206 (5)	29 33	136 139
8213 BTEX (8021)	TFT-P	96	77	118

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



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2216 Rev '21



Page: 1 of 6

LLI Sample No. WW **3235167**  
Collected: 09/21/99 by JA

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

FD-01-07 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  
907FD SDG#: MOS10-11

## AS RECEIVED

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                   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  
11:07:05 D 0003 14                                  128410 683731  
232 0.00 00021753 ASR000

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



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LLI Sample No. WW 3235167

Collected: 09/21/99 by JA

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

FD-01-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
ReL.Moss-American Superfund Site - Milwaukee, WI  
907FD SDG#: MOS10-11

## AS RECEIVED

CAT NO. ANALYSIS NAME      RESULTS      METHOD

DETECTION LIMIT UNITS

## PAH's in Water

3280	Naphthalene	N.D.	0.78	ug/l
3281	Acenaphthylenne	N.D.	0.78	ug/l
3282	Acenaphthene	N.D.	0.78	ug/l
3283	Fluorene	N.D.	0.17	ug/l
3284	Phenanthrene	0.46	0.045	ug/l
3285	Anthracene	0.064 J	0.030	ug/l
3286	Fluoranthene	0.166 J	0.020	ug/l
3287	Pyrene	N.D.	0.18	ug/l
3288	Benzo(a)anthracene	0.021 J	0.018	ug/l
3289	Chrysene	0.090 J	0.058	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.034	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.022	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.046	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.097	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.063	ug/l

10/31

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300Lancaster Laboratories  
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717-656-2300 Fax: 717-656-2681Lancaster Laboratories is a subsidiary of Thermo TerraTech Inc., a Thermo Electron Company.  
See reverse side for explanation of symbols and abbreviationsRespectfully Submitted  
Jenifer E. Hess, B.S.  
Group Leader Pesticides/PCBs



LLI Sample No. WW **3235167**  
Collected: 09/21/99 by JA

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

FD-01-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
907FD SDG#: MOS10-11

Account No: 07802

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

P.O. MOSS-AMERICAN  
Re1.

AS RECEIVED  
RESULTS      METHOD  
DETECTION LIMIT UNITS

BTEX (8021)

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

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

MEMBER



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Lancaster, PA 17605-2425

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



Page: 4 of 6

LLI Sample No. WW 3235167

Collected: 09/21/99 by JA

Submitted: 09/22/99

FD-01-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
907FD SDG#: MOS10-11

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
1861	PAH's in Water	SW-846 8310	1	09/27/99 2055	Michelle J. Kolodziejski
3337	PAH Water Extraction	SW-846 3510C	1	09/24/99 0020	Sorina A. Haskins
8213	BTEX (8021)	SW-846 8021B	1	09/25/99 0857	Martha L. Bennett



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2216 Rev 2



LLI Sample No. 3235167

FD-01-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683731  
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH		
<b>1861 PAH's in Water</b>													
				Batch: 992660011A									
3280	Naphthalene 0.78 ug/l	N.D.		89	81	13	83			45	111		
3281	Acenaphthylene 0.78 ug/l	N.D.		97	88	13	92			59	114		
3282	Acenaphthene 0.78 ug/l	N.D.		98	90	12	93			50	120		
3283	Fluorene 0.17 ug/l	N.D.		100	92	12	97			64	117		
3284	Phenanthrene 0.045 ug/l	N.D.		99	91	12	98			75	114		
3285	Anthracene 0.030 ug/l	N.D.		95	87	12	95			64	104		
3286	Fluoranthene 0.020 ug/l	N.D.		104	92	15	101			43	147		
3287	Pyrene 0.18 ug/l	N.D.		107	97	13	107			39	149		
3288	Benzo(a)anthracene 0.018 ug/l	N.D.		95	85	14	95			73	117		
3289	Chrysene 0.058 ug/l	N.D.		90	71	25	97			68	125		
3290	Benzo(b)fluoranthene 0.034 ug/l	N.D.		96	88	12	99			71	123		
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.		100	92	12	100			75	118		
3292	Benzo(a)pyrene 0.022 ug/l	N.D.		92	84	12	97			61	127		
3293	Dibenz(a,h)anthracene 0.046 ug/l	N.D.		93	87	11	96			71	121		
3294	Benzo(g,h,i)perylene 0.097 ug/l	N.D.		93	87	10	98			70	125		
3295	Indeno(1,2,3-cd)pyrene 0.063 ug/l	N.D.		95	89	10	98			73	125		
<b>8213 BTEX (8021)</b>													
				Batch: 99268A68									
0776	Benzene 0.2 ug/l	N.D.		104	104	0	102	104	2	81	124		
0777	Toluene 0.2 ug/l	N.D.		101	102	1	100	103	2	81	122		
0778	Ethylbenzene 0.2 ug/l	N.D.		99	100	1	99	100	2	79	123		
0779	Total Xylenes 0.6 ug/l	N.D.		97	99	2	98	100	2	80	123		

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Page: 6 of

**LLI Sample No. 3235167**

FD-01-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683731  
Kerr-McGee Corporation

TRIAL ID	SURROGATE SUMMARY		SURROGATE LIMITS	
	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water	Nitrobenz Triphenyle	121 134	29 33	136 139
8213 BTEX (8021)	TFT-P	100	77	118



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2216 Rev. 23



LLI Sample No. WW **3236071**  
Collected: 09/22/99 by JA

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

FD-02-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
FD207 SDG#: MOS11-10FD

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
---------	---------------	---------	--------	-----------------	-------

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  
11:26:17 D 0003 12 128410 683940  
232 0.00 00021753 ASR000

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425

Lancaster, PA 17605-2425  
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LLI Sample No. WW 3236071  
Collected: 09/22/99 by JA

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

FD-02-07 Grab Water Sample

Account No: 07802

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

P.O. MOSS-AMERICAN  
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Moss-American Superfund Site - Milwaukee, WI  
FD207 SDG#: MOS11-10FD

## AS RECEIVED

CAT	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT UNITS
-----	---------------	---------	--------	-----------------------

## PAH's in Water

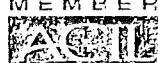
3280	Naphthalene	N.D.	0.80	ug/l
3281	Acenaphthylene	N.D.	0.80	ug/l
3282	Acenaphthene	N.D.	0.80	ug/l
3283	Fluorene	N.D.	0.17	ug/l
3284	Phenanthrene	N.D.	0.046	ug/l
3285	Anthracene	0.032 J	0.031	ug/l
3286	Fluoranthene	0.026 J	0.020	ug/l
3287	Pyrene	N.D.	0.18	ug/l
3288	Benzo(a)anthracene	N.D.	0.018	ug/l
3289	Chrysene	N.D.	0.059	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.035	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.027	ug/l
3292	Benzo(a)pyrene	N.D.	0.022	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.047	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.099	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.064	ug/l

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.

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

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

MEMBER



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LLI Sample No. WW **3236071**  
Collected: 09/22/99 by JA

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

FD-02-07 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  
FD207 SDG#: MOS11-10FD

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

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.

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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Page: 4 of 6

**LLI Sample No. ww 3236071**

Collected: 09/22/99 by JA

Submitted: 09/23/99

FD-02-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
FD207 SDG#: MOS11-10FD
 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	09/28/99 1343	Michelle J. Kolodziejski
3337	PAH Water Extraction	SW-846 3510C	1	09/24/99 1500	Anita M. Dale
8213	BTEX (8021)	SW-846 8021B	1	09/27/99 0815	Patrick N. Evans


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2216 Rev. 5.23



## LLI Sample No. 3236071

FD-02-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683940  
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS LCS DUP	LCS RPD	LCS LCS LOW	LIMITS HIGH
<b>1861 PAH's in Water</b>										
		Batch: 992670001A								
3280	Naphthalene 0.80 ug/l	N.D.					74	72	4	45 111
3281	Acenaphthylene 0.80 ug/l	N.D.					80	79	1	59 114
3282	Acenaphthene 0.80 ug/l	1.1 J ug/l					80	78	2	50 120
3283	Fluorene 0.17 ug/l	N.D.					86	86	0	64 117
3284	Phenanthrene 0.046 ug/l	N.D.					89	90	2	75 114
3285	Anthracene 0.031 ug/l	N.D.					87	88	1	64 104
3286	Fluoranthene 0.020 ug/l	N.D.					86	89	3	43 147
3287	Pyrene 0.18 ug/l	N.D.					81	83	3	39 149
3288	Benzo(a)anthracene 0.018 ug/l	N.D.					88	90	3	73 117
3289	Chrysene 0.059 ug/l	N.D.					90	92	3	68 125
3290	Benzo(b)fluoranthene 0.035 ug/l	N.D.					92	95	3	71 123
3291	Benzo(k)fluoranthene 0.027 ug/l	N.D.					91	94	4	75 118
3292	Benzo(a)pyrene 0.022 ug/l	N.D.					98	101	3	61 127
3293	Dibenzo(a,h)anthracene 0.047 ug/l	N.D.					90	93	4	71 121
3294	Benzo(g,h,i)perylene 0.099 ug/l	N.D.					92	96	4	70 125
3295	Indeno(1,2,3-cd)pyrene 0.064 ug/l	N.D.					98	101	3	73 125
<b>8213 BTEX (8021)</b>										
		Batch: 99269A55								
0776	Benzene 0.2 ug/l	N.D.					100	96	4	81 124
0777	Toluene 0.2 ug/l	N.D.					101	97	4	81 122
0778	Ethylbenzene 0.2 ug/l	N.D.					100	97	4	79 123
0779	Total Xylenes 0.6 ug/l	N.D.					101	97	4	80 123



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**LLI Sample No. 3236071**

FD-02-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683940  
Kerr-McGee Corporation

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz Triphenyle	94 93	29 33	136 139
8213 BTEX (8021)	TFT-P	109	77	118

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2216 Rev. 13





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LII Sample No. WW 3235166

Collected: 09/21/99 at 14:30 by JA

Submitted: 09/22/99    Reported: 10/05/99  
Discard: 11/05/99

FB-01-07 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
907FB SDG#: MOS10-10FB

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			METHOD
		RESULTS	DETECTION LIMIT	UNITS	
1861	PAH's in Water				See Page
8213	BTEX (8021)				See Page

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  
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11:05:32 D 0003 14 128410 683731  
232 0.00 00021753 ASR000

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



## LLI Sample No. WW 3235166

Collected: 09/21/99 at 14:30 by JA

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

FB-01-07 Field Blank Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
Rel.Moss-American Superfund Site - Milwaukee, WI  
907FB SDG#: MOS10-10FB

## AS RECEIVED

CAT NO. ANALYSIS NAME      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	0.172 J	0.047	ug/l
3285	Anthracene	N.D.	0.031	ug/l
3286	Fluoranthene	0.162 J	0.020	ug/l
3287	Pyrene	N.D.	0.18	ug/l
3288	Benzo(a)anthracene	0.039 J	0.018	ug/l
3289	Chrysene	N.D.	0.060	ug/l
3290	Benzo(b)fluoranthene	0.156	0.035	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.027	ug/l
3292	Benzo(a)pyrene	0.024 J	0.022	ug/l
3293	Dibenz(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	0.132 J	0.065	ug/l

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425Lancaster, PA 17605-2425  
717-656-2300 Fax: 717-655-2681Respectfully Submitted  
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**LLI Sample No. WW 3235166**

Collected: 09/21/99 at 14:30 by JA

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

FB-01-07 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
907FB SDG#: MOS10-10FB

Account No: 07802

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

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

**BTEX (8021)**

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

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

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

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**LLI Sample No. WW 3235166**

Collected: 09/21/99 at 14:30 by JA

Submitted: 09/22/99

FB-01-07 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
907FB SDG#: MOS10-10FB

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		09/27/99 2033	Michelle J. Kolodziejski
3337	PAH Water Extraction	SW-846 3510C	1		09/24/99 0020	Sorina A. Haskins
8213	BTEX (8021)	SW-846 8021B	1		09/25/99 0820	Martha L. Bennett



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LLI Sample No. 3235166  
FB-01-07 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683731  
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: 992660011A									
3280 Naphthalene	0.81 ug/l	N.D.		89	81	13	83			45	111
3281 Acenaphthalene	0.81 ug/l	N.D.		97	88	13	92			59	114
3282 Acenaphthene	0.81 ug/l	N.D.		98	90	12	93			50	120
3283 Fluorene	0.17 ug/l	N.D.		100	92	12	97			64	117
3284 Phenanthrene	0.047 ug/l	N.D.		99	91	12	98			75	114
3285 Anthracene	0.031 ug/l	N.D.		95	87	12	95			64	104
3286 Fluoranthene	0.020 ug/l	N.D.		104	92	15	101			43	147
3287 Pyrene	0.18 ug/l	N.D.		107	97	13	107			39	149
3288 Benzo(a)anthracene	0.018 ug/l	N.D.		95	85	14	95			73	117
3289 Chrysene	0.060 ug/l	N.D.		90	71	25	97			68	125
3290 Benzo(b)fluoranthene	0.035 ug/l	N.D.		96	88	12	99			71	123
3291 Benzo(k)fluoranthene	0.027 ug/l	N.D.		100	92	12	100			75	118
3292 Benzo(a)pyrene	0.022 ug/l	N.D.		92	84	12	97			61	127
3293 Dibenz(a,h)anthracene	0.048 ug/l	N.D.		93	87	11	96			71	121
3294 Benzo(g,h,i)perylene	0.10 ug/l	N.D.		93	87	10	98			70	125
3295 Indeno(1,2,3-cd)pyrene	0.065 ug/l	N.D.		95	89	10	98			73	125
8213 BTEX (8021)		Batch: 99268A68									
0776 Benzene	0.2 ug/l	N.D.		104	104	0	102	104	2	81	124
0777 Toluene	0.2 ug/l	N.D.		101	102	1	100	103	2	81	122
0778 Ethylbenzene	0.2 ug/l	N.D.		99	100	1	99	100	2	79	123
0779 Total Xylenes	0.6 ug/l	N.D.		97	99	2	98	100	2	80	123



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LLI Sample No. 3235166  
FB-01-07 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683731  
Kerr-McGee Corporation

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	91	29	136
	Triphenyle	108	33	139
8213 BTEX (8021)	TFT-P	99	77	118



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Page: 1 of 6

**LLI Sample No. WW 3236072**

Collected: 09/22/99 at 13:15 by JA

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

FB-02-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
Rel.Moss-American Superfund Site - Milwaukee, WI  
FB207 SDG#: MOS11-11FB

## AS RECEIVED

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  
 11:28:24 D 0003 12 128410 683940  
 232 0.00 00021753 ASR000



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



## LLI Sample No. WW 3236072

Collected: 09/22/99 at 13:15 by JA

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

FB-02-07 Grab Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
Rel.Moss-American Superfund Site - Milwaukee, WI  
FB207 SDG#: MOS11-11FB

## AS RECEIVED

CAT NO. ANALYSIS NAME      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	N.D.	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.	0.062	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	Dibenz(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

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.

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 3236072  
Collected: 09/22/99 at 13:15 by JA

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

FB-02-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
FB207 SDG#: MOS11-11FB

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

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.

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



Page: 4 of 6

**LLI Sample No. WW 3236072**

Collected: 09/22/99 at 13:15 by JA

Submitted: 09/23/99

FB-02-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
FB207 SDG#: MOS11-11FB

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
1861	PAH's in Water	SW-846 8310	1	09/28/99 1404	Michelle J. Kolodziejski
3337	PAH Water Extraction	SW-846 3510C	1	09/24/99 1500	Anita M. Dale
8213	BTEX (8021)	SW-846 8021B	1	09/27/99 0852	Patrick N. Evans



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2216 Rev. 23



LLI Sample No. 3236072

FB-02-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683940  
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: 992670001A	
3280 Naphthalene											
0.83 ug/l		N.D.					74	72	4	45	111
3281 Acenaphthylene											
0.83 ug/l		N.D.					80	79	1	59	114
3282 Acenaphthene											
0.83 ug/l		1.1 J ug/l					80	78	2	50	120
3283 Fluorene											
0.18 ug/l		N.D.					86	86	0	64	117
3284 Phenanthrene											
0.048 ug/l		N.D.					89	90	2	75	114
3285 Anthracene											
0.032 ug/l		N.D.					87	88	1	64	104
3286 Fluoranthene											
0.021 ug/l		N.D.					86	89	3	43	147
3287 Pyrene											
0.19 ug/l		N.D.					81	83	3	39	149
3288 Benzo(a)anthracene											
0.019 ug/l		N.D.					88	90	3	73	117
3289 Chrysene											
0.062 ug/l		N.D.					90	92	3	68	125
3290 Benzo(b)fluoranthene											
0.036 ug/l		N.D.					92	95	3	71	123
3291 Benzo(k)fluoranthene											
0.028 ug/l		N.D.					91	94	4	75	118
3292 Benzo(a)pyrene											
0.023 ug/l		N.D.					98	101	3	61	127
3293 Dibenz(a,h)anthracene											
0.049 ug/l		N.D.					90	93	4	71	121
3294 Benzo(g,h,i)perylene											
0.10 ug/l		N.D.					92	96	4	70	125
3295 Indeno(1,2,3-cd)pyrene											
0.067 ug/l		N.D.					98	101	3	73	125
8213 BTEX (8021)										Batch: 99269A55	
0776 Benzene											
0.2 ug/l		N.D.					100	96	4	81	124
0777 Toluene											
0.2 ug/l		N.D.					101	97	4	81	122
0778 Ethylbenzene											
0.2 ug/l		N.D.					100	97	4	79	123
0779 Total Xylenes											
0.6 ug/l		N.D.					101	97	4	80	123

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Page: 6 of

LLI Sample No. 3236072

FB-02-07 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683940  
Kerr-McGee Corporation

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz Triphenyle	94 94	29 33	136 139
8213 BTEX (8021)	TFT-P	105	77	118

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2216 Rev 7/2





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Page: 1 of 5

LLI Sample No. WW 3236073

Collected:

Submitted: 09/23/99    Reported: 10/06/99  
Discard: 11/06/99

### Trip Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
TB207 SDG#: MOS11-12TB\*

Account No: 07802

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

P.O. MOSS-AMERICAN  
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD	DETECTION LIMIT UNITS
8213	BTEX (8021)			See Page

卷之三

## METHOD

## RESULTS

#### DETECTION LIMIT UNITS

See Page 2

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  
11:30:34 D 0003 12 128410 683940  
232 0.00 00005933 ASR000

Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425

TO BOX 12-425  
Lancaster, PA 17605-2425

717-656-2300 Fax: 717-6

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



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Page: 2 of 5

LLI Sample No. WW 3236073

Collected:

Submitted: 09/23/99 Reported: 10/06/99  
Discard: 11/06/99

Trip Blank 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  
TB207 SDG#: MOS11-12TB\*

AS RECEIVED

CAT	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

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.

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

MEMBER



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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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Page: 3 of 5

LLI Sample No. WW 3236073

Collected:

Submitted: 09/23/99

Trip Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
TB207 SDG#: MOS11-12TB\*

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
8213	BTEX (8021)	SW-846 8021B	1	09/27/99 1151	Patrick N. Evans



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2216 Rev 3/23



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Page: 4 of

LLI Sample No. 3236073

Trip Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683940  
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: 99269A55									
0776	Benzene 0.2 ug/l	N.D.					100	96	4	81	124
0777	Toluene 0.2 ug/l	N.D.					101	97	4	81	122
0778	Ethylbenzene 0.2 ug/l	N.D.					100	97	4	79	123
0779	Total Xylenes 0.6 ug/l	N.D.					101	97	4	80	123



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2216 Rev /2



Page: 5 of 5

LLI Sample No. 3236073

Trip Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683940  
Kerr-McGee Corporation

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
8213 BTEX (8021)	TFT-P	104	77	118



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2216 Rev. 3/23



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Page: 1 of 5

LLI Sample No. WW 3235168

Collected:

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

Trip Blank #1 Water Sample

Account No: 07802

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

P.O. MOSS-AMERICAN  
Re

Moss-American Superfund Site - Milwaukee, WI  
907TB SDG#: MOS10-12TB\*

AS RECEIVED

## METHOD

## RESULTS      DETECTION LIMIT UNITS

CAT NO. ANALYSIS NAME  
8213 BTEX (8021)

See Page 2

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  
11:08:09 D 0003 14 128410 683731  
232 0.00 00005933 ASR000

MEMBER

ACM

Lancaster Laboratories  
2425 New Holland Pike

PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax: 717-6

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

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LLI Sample No. ww 3235168

Collected:

Submitted: 09/22/99 Reported: 10/05/99  
Discard: 11/05/99

Trip Blank #1 Water Sample

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
ReL.Moss-American Superfund Site - Milwaukee, WI  
907TB SDG#: MOS10-12TB\*

## AS RECEIVED

CAT NO. ANALYSIS NAME      RESULTS      METHOD  
RESULTS      DETECTION LIMIT UNITS

## BTEX (8021)

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

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300Respectfully Submitted  
Michele Turner, B.A.  
Manager, Volatiles

MEMBER

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Page: 3 of 5

## LLI Sample No. WW 3235168

Collected:

Submitted: 09/22/99

Trip Blank #1 Water Sample

Moss-American Superfund Site - Milwaukee, WI  
907TB SDG#: MOS10-12TB\*

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
8213	BTEX (8021)	SW-846 8021B	1	09/25/99 0628	Martha L. Bennett



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2216 Rev. 3/23



Page: 4 of

**LLI Sample No. 3235168**

Trip Blank #1 Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683731  
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: 99268A68									
0776 Benzene 0.2 ug/l		N.D.		104	104	0	102	104	2	81	124
0777 Toluene 0.2 ug/l		N.D.		101	102	1	100	103	2	81	122
0778 Ethylbenzene 0.2 ug/l		N.D.		99	100	1	99	100	2	79	123
0779 Total Xylenes 0.6 ug/l		N.D.		97	99	2	98	100	2	80	123



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2216 Rev. 13



Page: 5 of 5

LLI Sample No. 3235168

Trip Blank #1 Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 683731  
Kerr-McGee Corporation

## SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
8213 BTEX (8021)	TFT-P	99	77	118



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LLI Sample No. WW 3237296

Collected: 09/23/99

Submitted: 09/24/99 Reported: 10/07/99  
Discard: 11/07/99

Trip Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
TBMOS SDG#: MOS11-15TB\*

Account No: 07802

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

CAT	ANALYSIS NAME	AS RECEIVED	METHOD	RESULTS	DETECTION LIMIT	UNITS
8213	BTEX (8021)					See Page 2

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

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

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
20:29:17 D 0003 3 128410 684175  
232 0.00 00005933 ASR000

L E M B E R  
[REDACTED]  
[REDACTED]

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



LLI Sample No. WW 3237296

Collected: 09/23/99

Submitted: 09/24/99 Reported: 10/07/99  
Discard: 11/07/99

Trip Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
TBMOS SDG#: MOS11-15TB\*

Account No: 07802

Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125P.O. MOSS-AMERICAN  
Re1.

## AS RECEIVED

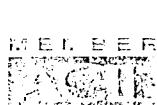
CAT NO. ANALYSIS NAME      RESULTS      METHOD  
DETECTION LIMIT UNITS

## 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

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

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 3237296

Collected: 09/23/99

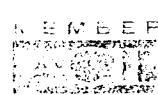
Submitted: 09/24/99

Trip Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
TBMOS SDG#: MOS11-15TB\*

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

CAT NO	ANALYSIS NAME	METHOD	TRIAL ID	ANALYSIS DATE AND TIME	ANALYST
8213	BTEX (8021)	SW-846 8021B	1	09/29/99 1236	Patrick N. Evans



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Page: 4 of

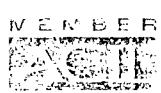
## LLI Sample No. 3237296

Trip Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 684175  
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: 99271A56									
0776 Benzene 0.2 ug/l		N.D.		116			113	110	2	81	124
0777 Toluene 0.2 ug/l		N.D.		111			108	104	4	81	122
0778 Ethylbenzene 0.2 ug/l		N.D.		106			104	99	4	79	123
0779 Total Xylenes 0.6 ug/l		N.D.		108			106	101	4	80	123



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2216 Rev 1/2



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**LLI Sample No. 3237296**

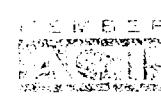
Trip Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 684175  
Kerr-McGee Corporation

## SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
8213 BTEX (8021)	TFT-P	89	77	118



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2216 Rev. 3/23

# Analysis Request/ Environmental Services Chain of Custody



For Lancaster Laboratories use only

Acct. # 7802 Sample # 3235155-6

1 Client: <u>Kerr-McGee</u> Acct. #: _____ Project Name/#: <u>Moss-American Site</u> PWSID #: _____ Project Manager: <u>Tom Graan</u> P.O. #: _____ Sampler: <u>Jameel Ahmed/Jeff Cook</u> Quote #: _____ Name of state where samples were collected: <u>WISCONSIN</u>				<b>Matrix</b> (4) <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td rowspan="2" style="text-align: center; vertical-align: middle; width: 20px;">(3)</td> <td colspan="3" style="text-align: center; padding: 2px;">Soil</td> <td rowspan="2" style="text-align: center; vertical-align: middle; width: 20px;">Total # of Containers</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/> Grab</td> <td style="text-align: center;"><input type="checkbox"/> Composite</td> <td style="text-align: center;"><input type="checkbox"/> Potable Water</td> <td style="text-align: center;"><input type="checkbox"/> NPDES</td> </tr> <tr> <td style="text-align: center;">(Check if applicable)</td> <td style="text-align: center;">Other</td> <td colspan="2"></td> </tr> </table>		(3)	Soil			Total # of Containers	<input type="checkbox"/> Grab	<input type="checkbox"/> Composite	<input type="checkbox"/> Potable Water	<input type="checkbox"/> NPDES	(Check if applicable)	Other			<b>Analyses Requested</b> (5) <table border="1" style="margin-left: auto; margin-right: auto; width: 100%;"> <tr> <td style="text-align: center; width: 15%;">BTEX</td> <td style="text-align: center; width: 15%;">PAHs</td> <td style="text-align: center; width: 15%;">S310</td> <td style="text-align: center; width: 15%;"></td> </tr> </table>						BTEX	PAHs	S310						
(3)	Soil			Total # of Containers																													
	<input type="checkbox"/> Grab	<input type="checkbox"/> Composite	<input type="checkbox"/> Potable Water		<input type="checkbox"/> NPDES																												
(Check if applicable)	Other																																
BTEX	PAHs	S310																															
				For lab use only FSC: <u>1130838</u> SCR #: <u>1130838</u>																													
				Temperature of samples upon receipt (if requested)																													
<b>2 Sample Identification</b>			<b>Date Collected</b>	<b>Time Collected</b>	<b>Grab</b> <b>Composite</b>	<b>Soil</b>	<b>Potable Water</b>	<b>NPDES</b>	<b>Total # of Containers</b>	<b>BTEX</b>	<b>PAHs</b>	<b>S310</b>	<b>Remarks</b>																				
MW-95-07 MW-91-07 MW-295-07 MW-65-07 TW-05-07 MW-27-07 MW-285-07 MW-75-07 TW-09-07 FB-01-07			9/21/99 940 1040 1110 1200 1230 1300 1355 1410 1430	920 940 1040 1110 1200 1230 1300 1355 1410 1430	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	4 4 12 4 4 4 4 4 4 4	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	MS/MSD Sample																				

7 Turnaround Time Requested (TAT) (please circle): <input checked="" type="radio"/> Normal <input type="radio"/> Rush (Rush TAT is subject to Lancaster Laboratories approval and surcharge.) Date results are needed: <u>STD TAT</u> Rush results requested by (please circle): Phone <input type="radio"/> Fax <input type="radio"/> Phone #: <u>(847)918-4021</u> Fax #: <u>(847)918-4055</u>			Relinquished by: <u>Jameel Ahmed</u> Date <u>9/17/99</u> Time <u>06:20</u> Received by: <u>Jameel Ahmed</u> Date <u>9/20/99</u> Time <u>12:00</u> Relinquished by: <u>Jameel Ahmed</u> Date <u>9/21/99</u> Time <u>16:30</u> Received by: <u>FEDEX</u> Date <u>9/22/99</u> Time <u>16:30</u> Relinquished by: _____ Date _____ Time _____ Received by: _____ Date _____ Time _____ Relinquished by: _____ Date _____ Time _____ Received by: _____ Date _____ Time _____ Relinquished by: _____ Date _____ Time _____ Received by: _____ Date _____ Time _____ Relinquished by: _____ Date _____ Time _____ Received by: _____ Date _____ Time _____						
8 Data Package Options (please circle if requested) QC Summary Type VI (Raw Data) <u>As per Quote</u> SDG Complete? Yes <input checked="" type="radio"/> No									
Type I (Tier I) Type II (Tier II) Type III (NJ Red. Del.) Type IV (CLP)		GLP Other Site-specific QC required? Yes <input type="radio"/> No (If yes, indicate QC sample and submit triplicate volume.) Internal Chain of Custody required? Yes <input type="radio"/> No							

# Analysis Request/ Environmental Services Chain of Custody



For Lancaster Laboratories use only

Acct. # 1802 Sample # 3085155-68

Please print. Instructions on reverse side correspond with circled numbers.

1 Client: <u>Kerr - Mc Gee</u> Acct. #: _____			Matrix <u>(4)</u>			Analyses Requested										For lab use only					
			<u>Grab</u>	<u>Composite</u>	<u>Soil</u>	<input type="checkbox"/> Potable <input type="checkbox"/> NPDES	(Check if applicable)	Other	Total # of Containers											FSC: <u>1130638</u>	
										Water	Other	87EX	PTT	8310							
Project Name/#: <u>Moss - American St</u> PWSID #: _____																					
Project Manager: <u>Tom Gracan</u> P.O.# _____																					
Sampler: <u>Jameel Ahmed/Jeff Cook</u> Quote #: _____																					
Name of state where samples were collected: <u>WISCONSIN</u>																					
2 Sample Identification			Date Collected	Time Collected	(3)	Grab	Composite	Soil	(4)	Total # of Containers	(5)	Analyses Requested	Remarks	Temperature of samples upon receipt (if requested)							
FD-01-07 Trip Blank #1			9/21/99			✓		✓	4	✓	✓	87EX	PTT	8310							
✓						✓		✓	2	✓											

7 Turnaround Time Requested (TAT) (please circle): <input checked="" type="radio"/> Normal <input type="radio"/> Rush (Rush TAT is subject to Lancaster Laboratories approval and surcharge.)			Relinquished by: <u>Henry J. Maen</u> Date: <u>9/15/99</u> Time: <u>0220</u> Received by: <u>Jameel Ahmed</u> Date: <u>9/16/99</u> Time: <u>1200</u>		
Date results are needed: <u>STD TAT</u>			Relinquished by: <u>Jameel Ahmed</u> Date: <u>9/21/99</u> Time: <u>1630</u> Received by: <u>FEDEX</u> Date: <u>9/21/99</u> Time: <u>1630</u>		
Rush results requested by (please circle): Phone <input type="radio"/> Fax <input checked="" type="radio"/> Phone #: <u>(847) 918-4021</u> Fax #: <u>(847) 918-4055</u>			Relinquished by: _____ Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____		
8 Data Package Options (please circle if requested)			Relinquished by: _____ Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____		
QC Summary Type VI (Raw Data) <u>As per Quat</u> SDG Complete? Yes <input checked="" type="radio"/> No <input type="radio"/>			Relinquished by: _____ Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____		
Type I (Tier I) GLP			Relinquished by: _____ Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____		
Type II (Tier II) Other Site-specific QC required? Yes <input type="radio"/> No (If yes, indicate QC sample and submit triplicate volume.)			Relinquished by: _____ Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____		
Type III (NJ Red. Del.) <input type="radio"/> Type IV <input checked="" type="radio"/> Internal Chain of Custody required? Yes <input type="radio"/> No			Relinquished by: _____ Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____		

# Analysis Request/ Environmental Services Chain of Custody



For Lancaster Laboratories use only

Acct. # 7802 Sample # 3237294-96

Please print. Instructions on reverse side correspond with circled numbers.

①	Client: <u>Kerr - McGee</u>			Acct. #:	Matrix ④			Analyses Requested										For lab use only								
					<input type="checkbox"/> Soil	<input type="checkbox"/> Water	<input type="checkbox"/> Potable NPDES	<input type="checkbox"/> Composite	<input type="checkbox"/> Other	Total # of Containers											FSC: SCR #: <u>1127458</u>					
	Project Name/#: <u>Moss - American Site</u>			PWSID #:																						
	Project Manager: <u>Tom Graan / WESTON</u>			P.O. #																						
	Sampler: <u>Jameel Ahmed / Jeff Cook</u>			Quote #:																						
	Name of state where samples were collected: <u>WISCONSIN</u>																									
②	Sample Identification			Date Collected	Time Collected	Grab	Composite	Soil	Water	Potable NPDES	Other	Total # of Containers	BTEX PAHs Q310										Remarks	Temperature of samples upon receipt (if requested)		
	<u>MW-20S-07</u>			<u>9/23/97</u>	<u>940</u>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												
	<u>MW-20I-07</u>				<u>1015</u>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												
	<u>Trip Blank</u>				<u>↓</u>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	2	<input checked="" type="checkbox"/>													
⑦	Turnaround Time Requested (TAT) (please circle):			<input checked="" type="radio"/> Normal	<input type="radio"/> Rush	Relinquished by: <u>B. Daily</u>			Date <u>6/9/97</u>	Time <u>10:00</u>	Received by: <u>Jameel Ahmed</u>	Date <u>9/24/97</u>	Time <u>1200</u>													
	(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)			Date results are needed: <u>STD TAT</u>			Relinquished by: <u>Jameel Ahmed</u>			Date <u>9/23/97</u>	Time <u>1200</u>	Received by: <u>FEDEX</u>	Date <u>9/24/97</u>	Time <u>1200</u>												
	Rush results requested by (please circle): Phone <input checked="" type="radio"/> Fax			Phone #: <u>(847) 918-4021</u>			Relinquished by:			Date	Time	Received by:	Date	Time												
	Phone #: <u>(847) 918-4055</u>																									
⑧	Data Package Options (please circle if requested)			SDG Complete?		Relinquished by:			Date	Time	Received by:	Date	Time													
	QC Summary			Type VI (Raw Data) <u>As per Quote</u>	<input checked="" type="radio"/> Yes																					
	Type I (Tier I)			GLP	<input type="radio"/> No	Relinquished by:			Date	Time	Received by:	Date	Time													
	Type II (Tier II)			Other	Site-specific QC required? Yes <input checked="" type="radio"/> No																					
	Type III (NJ Red. Del.)				(If yes, indicate QC sample and submit triplicate volume.)																					
	Type IV (CLP)				Internal Chain of Custody required? Yes <input checked="" type="radio"/> No																					

⑨		Turnaround Time Requested (TAT) (please circle):		<input checked="" type="radio"/> Normal	<input type="radio"/> Rush	Relinquished by: <u>B. Daily</u>			Date <u>6/9/97</u>	Time <u>10:00</u>	Received by: <u>Jameel Ahmed</u>	Date <u>9/24/97</u>	Time <u>1200</u>													
		(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)		Date results are needed: <u>STD TAT</u>			Relinquished by: <u>Jameel Ahmed</u>			Date <u>9/23/97</u>	Time <u>1200</u>	Received by: <u>FEDEX</u>	Date <u>9/24/97</u>	Time <u>1200</u>												
		Rush results requested by (please circle): Phone <input checked="" type="radio"/> Fax		Phone #: <u>(847) 918-4021</u>		Relinquished by:			Date	Time	Received by:	Date	Time													
		Phone #: <u>(847) 918-4055</u>																								
⑩		Data Package Options (please circle if requested)		SDG Complete?		Relinquished by:			Date	Time	Received by:	Date	Time													
		QC Summary		Type VI (Raw Data) <u>As per Quote</u>	<input checked="" type="radio"/> Yes																					
		Type I (Tier I)		GLP	<input type="radio"/> No	Relinquished by:			Date	Time	Received by:	Date	Time													
		Type II (Tier II)		Other	Site-specific QC required? Yes <input checked="" type="radio"/> No																					
		Type III (NJ Red. Del.)			(If yes, indicate QC sample and submit triplicate volume.)																					
		Type IV (CLP)			Internal Chain of Custody required? Yes <input checked="" type="radio"/> No																					

# Analysis Request/ Environmental Services Chain of Custody



Where quality is a science.

For Lancaster Laboratories use only

Acct. # 7802 Sample # 3236062-73

Please print. Instructions on reverse side correspond with circled numbers.

1 Client: <u>Kerr-McCee</u> Acct. #: _____			Matrix (4)			Analyses Requested										For lab use only							
			<input type="checkbox"/> Soil <input checked="" type="checkbox"/> Grab <input type="checkbox"/> Composite	<input type="checkbox"/> Portable <input type="checkbox"/> NPDES	(Check if applicable)	Total # of Containers											FSC: _____ SCR #: <u>1130838</u>						
							Water	Other															
Project Name/#: <u>Moss-American Site</u> PWSID #: _____			BTET PAHS 8310										Temperature of samples upon receipt (if requested)										
Project Manager: <u>Tom Grawan/WESTON</u> P.O. #: _____													Remarks										
Sampler: <u>Jameel Ahmed/Jeff Cook</u> Quote #: _____													_____										
Name of state where samples were collected: <u>WISCONSIN</u>													_____										
2 Sample Identification			Date Collected	Time Collected														_____					
			MW-135-07	9/21/99	830	✓	✓	✓	4	✓	✓											_____	
			MW-255-07		900	✓	✓	✓	4	✓	✓											_____	
			MW-265-07		940	✓	✓	✓	4	✓	✓											_____	
			MW-35-07		1015	✓	✓	✓	4	✓	✓											_____	
			MW-3I-07		1100	✓	✓	✓	4	✓	✓											_____	
			MW-55-07		1145	✓	✓	✓	4	✓	✓											_____	
			MW-4S-07		1215	✓	✓	✓	4	✓	✓											_____	
			MW-4I-07		1245	✓	✓	✓	4	✓	✓											_____	
			MW-8I-07		1440	✓	✓	✓	4	✓	✓											_____	
			FD-02-07		✓	✓	✓	✓	4	✓	✓											_____	

7 Turnaround Time Requested (TAT) (please circle) (Rush TAT is subject to Lancaster Laboratories approval and surcharge.)			Normal	Rush	Relinquished by: <u>Henry L. Mauer</u>			Date <u>9/17/99</u>	Time <u>0800</u>	Received by: <u>Jameel Ahmed</u>			Date <u>9/20/99</u>	Time <u>1200</u>	
Date results are needed: <u>SDG TAT</u>			Relinquished by: <u>Jameel Ahmed</u>			Date <u>9/22/99</u>	Time <u>1900</u>	Received by: <u>FEDEX</u>			Date <u>9/22/99</u>	Time <u>1200</u>			
Rush results requested by (please circle): Phone <u>847-918-4021</u> Fax # <u>847-918-4055</u>			Relinquished by:			Date	Time	Received by:			Date	Time			
8 Data Package Options (please circle if requested)			SDG Complete?			Relinquished by:			Date	Time	Received by:			Date	Time
QC Summary Type VI (Raw Data) <u>As per Audit</u>			Yes <u>No</u>			Relinquished by:			Date	Time	Received by:			Date	Time
Type I (Tier I) GLP			Site-specific QC required? Yes <u>No</u> (If yes, indicate QC sample and submit triplicate volume.)			Relinquished by:			Date	Time	Received by:			Date	Time
Type II (Tier II) Other			Internal Chain of Custody required? Yes <u>No</u>			Relinquished by:			Date	Time	Received by:			Date	Time
Type III (NJ Red. Del.)						Relinquished by:			Date	Time	Received by:			Date	Time
Type IV (CLP)						Relinquished by:			Date	Time	Received by:			Date	Time

# Analysis Request/ Environmental Services Chain of Custody



For Lancaster Laboratories use only  
Acct. # 1802 Sample # 3236062-73

Please print. Instructions on reverse side correspond with circled numbers.

1 Client: <u>Kerv-McGree</u> Acct. #: _____ Project Name/#: <u>Moss-American Site</u> PWSID #: _____ Project Manager: <u>Tom Orzany/WBTON</u> P.O. # _____ Sampler: <u>Jameel Ahmed/Jeff Cook</u> Quote #: _____ Name of state where samples were collected: <u>WISCONSIN</u>			<b>Matrix</b> (4) <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td rowspan="2" style="text-align: center; vertical-align: middle;">(3)</td> <td colspan="2" style="text-align: center; vertical-align: middle;">Soil</td> <td rowspan="2" style="text-align: center; vertical-align: middle;">(4)</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/> Grab</td> <td style="text-align: center;"><input type="checkbox"/> Composite</td> </tr> <tr> <td rowspan="2" style="text-align: center; vertical-align: middle;">(5)</td> <td style="text-align: center;"><input type="checkbox"/> Water</td> <td style="text-align: center;"><input type="checkbox"/> Potable (Check if applicable)</td> <td style="text-align: center;"><input type="checkbox"/> NPDES</td> </tr> <tr> <td style="text-align: center;">Other</td> <td></td> <td></td> </tr> </table>		(3)	Soil		(4)	<input checked="" type="checkbox"/> Grab	<input type="checkbox"/> Composite	(5)	<input type="checkbox"/> Water	<input type="checkbox"/> Potable (Check if applicable)	<input type="checkbox"/> NPDES	Other			<b>Analyses Requested</b> <div style="display: flex; justify-content: space-around; align-items: center;"> <span>Total # of Containers</span> <span style="font-size: 2em; margin: 0 10px;">4</span> <span style="font-size: 2em; margin: 0 10px;">2</span> </div>									
(3)	Soil					(4)																					
	<input checked="" type="checkbox"/> Grab	<input type="checkbox"/> Composite																									
(5)	<input type="checkbox"/> Water	<input type="checkbox"/> Potable (Check if applicable)	<input type="checkbox"/> NPDES																								
	Other																										
2 Sample Identification <table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="padding: 2px;">Date Collected</td> <td style="padding: 2px;">Time Collected</td> </tr> <tr> <td style="padding: 2px;">9/22/99</td> <td style="padding: 2px;">1315</td> </tr> <tr> <td colspan="2" style="padding: 2px;">Trip Blanks</td> </tr> </table>			Date Collected	Time Collected	9/22/99	1315	Trip Blanks				<div style="display: flex; justify-content: space-between;"> <span>Remarks</span> <span>Temperature of samples upon receipt (if requested)</span> </div>																
Date Collected	Time Collected																										
9/22/99	1315																										
Trip Blanks																											

7 Turnaround Time Requested (TAT) (please circle): <input checked="" type="radio"/> Normal <input type="radio"/> Rush (Rush TAT is subject to Lancaster Laboratories approval and surcharge.) Date results are needed: <u>STD TAT</u> Rush results requested by (please circle): Phone <input type="radio"/> Fax <input checked="" type="radio"/> Phone #: <u>(847) 918-4021</u> Fax #: <u>(847) 918-4055</u>			<div style="display: flex; justify-content: space-between;"> <div style="flex: 1;">                     Relinquished by:  <u>Sherri L. Munn</u>                      Date: <u>9/17/99</u> Time: <u>0000</u>                      Received by: <u>Jameel Ahmed</u>                      Date: <u>9/22/99</u> Time: <u>1200</u> </div> <div style="flex: 1;">                     Relinquished by:  <u>Jameel Ahmed</u>                      Date: <u>9/17/99</u> Time: <u>1900</u>                      Received by: <u>PEDEX</u>                      Date: <u>9/22/99</u> Time: <u>1900</u> </div> <div style="flex: 1;">                     Relinquished by:                      Date: _____ Time: _____ Received by: _____                      Date: _____ Time: _____ Received by: _____                      Date: _____ Time: _____ Received by: _____                 </div> </div>															
8 Data Package Options (please circle if requested) <table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="padding: 2px;">QC Summary</td> <td style="padding: 2px;">Type VI (Raw Data)</td> <td style="padding: 2px;">As per Qaulity</td> <td style="padding: 2px;">SDG Complete?</td> <td style="padding: 2px;">Yes <input checked="" type="radio"/></td> <td style="padding: 2px;">No <input type="radio"/></td> </tr> </table>			QC Summary	Type VI (Raw Data)	As per Qaulity	SDG Complete?	Yes <input checked="" type="radio"/>	No <input type="radio"/>	<div style="display: flex; justify-content: space-between;"> <div style="flex: 1;">                     Relinquished by:                      Date: _____ Time: _____ Received by: _____                      Date: _____ Time: _____ Received by: _____                      Date: _____ Time: _____ Received by: _____                 </div> <div style="flex: 1;">                     Relinquished by:                      Date: _____ Time: _____ Received by: _____                      Date: _____ Time: _____ Received by: _____                      Date: _____ Time: _____ Received by: _____                 </div> <div style="flex: 1;">                     Relinquished by:                      Date: _____ Time: _____ Received by: _____                      Date: _____ Time: _____ Received by: _____                      Date: _____ Time: _____ Received by: _____                 </div> </div>									
QC Summary	Type VI (Raw Data)	As per Qaulity	SDG Complete?	Yes <input checked="" type="radio"/>	No <input type="radio"/>													
QC Summary Type VI (Raw Data) As per Qaulity SDG Complete? Yes <input checked="" type="radio"/> No <input type="radio"/> Type I (Tier I) GLP Type II (Tier II) Other Site-specific QC required? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (If yes, indicate QC sample and submit triplicate volume.) Internal Chain of Custody required? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																		
Type III (NJ Red. Del.) Type IV (CLP)																		