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06/28/2000

09 June 2000

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, 1<sup>st</sup> Quarter 2000  
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 first quarter 2000 groundwater monitoring event completed at the above referenced project in March 2000. 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 the first quarter (March 2000) reflect conditions at the site where a significant portion of the funnel and gate groundwater treatment system was already in place.

## 1.0 BACKGROUND

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

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



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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 first quarter 2000 groundwater monitoring event at the Moss-American site was completed between 28 March and 31 March 2000. Tasks completed during the field effort for this event included the collection of groundwater elevation data from all the shallow monitoring wells. Following groundwater elevation data measurements, groundwater samples were collected from 13 of the 17 shallow monitoring wells. Groundwater samples were not collected from wells TW-09, MW-8S MW-28S and MW-29S since these wells were either damaged and/or removed during the installation of the funnel and gate groundwater treatment system. The results of the groundwater samples that were collected and analyzed from the shallow 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 28 March 2000, prior to the beginning of groundwater sampling. These measurements were used to determine the elevation of the potentiometric surface of the shallow groundwater-bearing zone underlying the site. The water level measurements and resulting elevations are presented in Table 1. Figure 1 presents a groundwater elevation contour map that shows the potentiometric surface of the shallow groundwater-bearing zone. An evaluation of these results is presented in the following paragraphs.

As Figure 1 shows, the groundwater within the shallow groundwater-bearing zone generally flows northeastward toward the Little Menomonee River. In the topographically higher, western portion of the site, the horizontal hydraulic gradient of the potentiometric surface is relatively steep at approximately 0.022 feet per foot (ft/ft). The gradient flattens near the river, as does the ground surface, with an average of approximately 0.072 ft/ft.

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

approximately 0.088 ft/day. Near the river, the velocity of groundwater flow is calculated to be approximately 0.028 ft/day.

## 2.2 GROUNDWATER SAMPLE ANALYSES RESULTS

Groundwater samples were collected from thirteen 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 and TW-05) and four intermediate monitoring wells (MW-3I, MW-4I, MW-9I and MW-20I) screened within the shallow and intermediate groundwater bearing zones, respectively. In addition, for quality assurance/quality control (QA/QC) purposes, two sample duplicates (identified by a FD prefix), one matrix spike/matrix spike duplicate (MS/MSD), and two field blanks (identified by a FB prefix) were collected. Trip blanks accompanied each cooler of sample bottles from the laboratory to the site and were shipped back to the laboratory within each cooler full of samples.

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

### 2.2.1 Field-Measured Parameters

The groundwater samples were measured in the field for pH, specific conductance, temperature, redox potential, dissolved oxygen, and turbidity. The results of these measurements are provided in Table 2. As shown in Table 2, the groundwater pH ranged from 6.8 to 7.6 standard pH units (S.U.) in the shallow groundwater samples and 7.2 to 9.2 S.U in intermediate wells. The specific conductivity ranged from 0.26 to 0.71 m $\Omega$ /cm in both the shallow and intermediate wells. Groundwater temperatures ranged from 1.76 to 12.3° C for shallow wells and 2.5 to 12.26° C in intermediate wells. The redox potentials of the groundwater ranged from -196 to 143 mV in shallow wells and -23 to 97 mV in intermediate wells. Dissolved oxygen levels ranged from 0.85 to 4.80 mg/L in the shallow monitoring wells and 0.6 to 1.9 mg/L in intermediate wells. Turbidity ranged from 7.6 to 1,039 nephelometric turbidity units (NTU) in shallow wells and 7.6 to 795 NTU in intermediate monitoring wells.

### 2.2.2 Laboratory Analyses

Each groundwater sample collected during the first quarter 2000 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



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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, 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 and MW-7S.
- Naphthalene was detected at concentrations exceeding the WDNR PAL of 8 µg/L in groundwater samples collected from monitoring wells MW-4S, MW-7S and TW-05.
- Fluorene was detected at concentrations exceeding WDNR PAL of 80 µg/L in groundwater sample collected from MW-4S.
- Fluoranthene was detected at concentrations exceeding WDNR PAL of 80 µg/L in groundwater sample collected from MW-4S.
- Pyrene was detected at concentrations exceeding WDNR PAL of 50 µg/L in groundwater sample collected from MW-4S.
- Chrysene was detected at concentrations exceeding WDNR PAL of 0.02 µg/L in groundwater sample collected from MW-3S, MW-4S and TW-05.
- Benzo(b)fluoranthene was detected at concentrations exceeding the WDNR PAL of 0.02 µg/L in groundwater samples collected from monitoring wells MW-4S, MW-6S and TW-05.



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- Benzo(a)pyrene was detected at concentrations exceeding the WDNR PAL of 0.02  $\mu\text{g/L}$  in groundwater samples collected from monitoring wells MW-4S, MW-6S and TW-05.

ES Exceedances:

- Benzene was detected at concentrations exceeding the WDNR PAL of 5  $\mu\text{g/L}$  in groundwater sample MW-7S.
- Naphthalene was detected at concentrations exceeding the WDNR ES of 40  $\mu\text{g/L}$  in groundwater samples collected from monitoring wells MW-4S and MW-7S.
- Fluorene was detected at concentrations exceeding the WDNR ES of 40  $\mu\text{g/L}$  in groundwater samples collected from monitoring well MW-4S.
- Chrysene was detected at concentrations exceeding WDNR PAL of 0.2  $\mu\text{g/L}$  in groundwater sample collected from MW-4S and TW-05.
- Benzo(b)fluoranthene was detected at concentrations exceeding the WDNR PAL of 0.2  $\mu\text{g/L}$  in groundwater samples collected from monitoring wells MW-4S and TW-05.
- Benzo(a)pyrene was detected at concentrations exceeding the WDNR ES of 0.2  $\mu\text{g/L}$  in groundwater samples collected from monitoring wells MW-4S and TW-05.

For the most part, the detected plume boundary is an area encompassing the three impacted wells (MW-4S, MW-7S and TW-05) with MW-3S and MW-6S also included during this quarter. 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 eight quarterly groundwater-sampling events.

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



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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 that reads "Thomas P. Graan".

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

TPG/ts

Attachments

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

Table 1

Groundwater Elevation Measurements  
First Quarter 2000  
Moss-American Site  
Milwaukee, Wisconsin

Well ID	Ground Elevation	TOC Elevation	Depth to Water	GW Elevation	Product Thickness
MW-3S	729.00	731.50	7.35	724.15	ND
MW-4S	731.00	732.86	5.13	727.73	ND
MW-5S	723.00	724.70	4.81	719.89	ND
MW-6S	727.00	724.28	3.61	720.67	ND
MW-7S	720.00	721.70	4.49	717.21	ND
MW-9S	720.00	721.71	6.57	715.14	ND
MW-10S	723.00	726.58	5.59	720.99	ND
MW-13S	737.00	738.68	2.85	735.83	ND
MW-20S	716.00	719.94	NM	NM	ND
MW-25S	736.83	739.24	3.19	736.05	ND
MW-26S	732.31	731.66	3.32	728.34	ND
MW-27S	720.59	723.15	4.05	719.10	ND
TW-05	721.76	724.16	2.72	721.44	ND

Note: All values in feet

TOC = Top of the casing

GW = Groundwater

NM = Not measured because of compressed riser

ND = Not detected

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

Table 2

Field-Measured Parameters  
 First Quarter 2000  
 Moss-American Site  
 Kerr-McGee Corporation

Well Number	pH (Standard Units)	Specific Conductance (mΩ/cm)	Temperature (°C)	Redox Potential (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)
MW-3S	7.4	0.66	11.06	100	0.85	860
MW-4S	7.6	0.71	9.13	-196	0.85	1,039
MW-5S	7.1	0.41	10.7	-183	0.87	722
MW-6S	7.6	0.48	4.0	121	2.71	660
MW-7S	6.9	0.58	5.6	-62	1.4	427
MW-9S	6.8	0.57	1.76	-17	2.56	660
MW-10S	7.0	0.26	2.6	103	4.8	297
MW-13S	7.4	0.59	11.5	113	1.75	616
MW-20S	7.2	0.52	12.3	110	NM	7.6
MW-25S	7.1	0.58	10.5	143	1.15	746
MW-26S	7.1	0.58	11.7	117	1.20	744
MW-27S	7.0	0.53	6.33	-64	1.9	851
TW-05	6.9	0.45	3.6	-64	3.7	809
MW-3I	8.4	0.26	10.10	97	1.5	580
MW-4I	9.2	0.71	6.75	30	0.6	43
MW-9I	7.9	0.30	2.50	-23	1.9	795
MW-20I	7.2	0.52	12.26	71	0.6	7.6

S - Shallow well  
 I - Intermediate Well  
 NM - Not Measured  
 TW - Temporary Well (Shallow)



**Table 3**  
**Groundwater Sample Analytical Results**  
**First Quarter 2000**  
**Moss-American Site**  
**Milwaukee, Wisconsin**

Sample ID:	MW-3S-09		MW-4S-09		MW-5S-09		MW-6S-09		MW-7S-09		WDNR PAL ug/L	WDNR ES ug/L
Sample Matrix:	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater			
Sample Date:	3/30/00		3/30/00		3/30/00		3/29/00		3/29/00			
Units of Measure:	ug/L		ug/L		ug/L		ug/L		ug/L			
Parameters												
VOCs												
Benzene	0.2	U	4	J	0.2	U	0.2	U	5.2		0.5	5
Toluene	0.2	U	7.9	J	0.2	U	0.2	U	0.51	J	68.6	343
Ethylbenzene	0.2	U	9.9	J	0.2	U	0.2	U	21		140	700
Total Xylenes	0.6	U	18	J	0.6	U	0.6	U	63		124	620
PAHs												
Naphthalene	0.76	U	1,020		0.94	U	0.95	U	3,950		8.0	40
Acenaphthalene	0.76	U	122	J	0.94	U	0.95	U	181		NA	NA
Acenaphthene	0.76	U	580		0.94	U	0.95	U	93		NA	NA
Fluorene	0.16	U	281		0.20	U	0.20	U	15.8		80	400
Phenanthrene	0.043	U	22		0.054	U	0.054	U	0.043	U	NA	NA
Anthracene	0.029	U	102		0.036	U	0.078	U	0.029	U	600	3000
Fluoranthene	0.029	J	154		0.023	U	0.096	J	0.028	J	80	400
Pyrene	0.17	U	148		0.21	U	0.21	U	0.17	U	50	250
Benzo(a)anthracene	0.017	U	22.5		0.021	U	0.042	J	0.017	U	NA	NA
Chrysene	0.069	J	25.0		0.069	U	0.07	U	0.056	U	0.02	0.2
Benzo(b)fluoranthene	0.033	U	7.8		0.041	U	0.057	J	0.033	U	0.02	0.2
Benzo(k)fluoranthene	0.026	U	4.0		0.032	U	0.032	U	0.026	U	NA	NA
Benzo(a)pyrene	0.021	U	8.4		0.026	U	0.066	J	0.021	U	0.02	0.2
Dibenzo(a,h)anthracene	0.044	U	2.2	U	0.055	U	0.056	U	0.044	U	NA	NA
Benzo(g,h,i)perylene	0.094	U	4.7	U	0.12	U	0.13	J	0.094	U	NA	NA
Indeno(1,2,3-cd)pyrene	0.06	U	3.0	U	0.075	U	0.076	U	0.060	U	NA	NA

VOC - Volatile Organic Compound.

PAH - Polynuclear Aromatic Hydrocarbon.

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

NA - PAL or ES not available for this parameter.

Table 3 (Cont.)

**Groundwater Sample Analytical Results  
First Quarter 2000  
Moss-American Site  
Milwaukee, Wisconsin**

Sample ID:	MW-9S-09		MW-10S-09		MW-13S-09		MW-20S-09		MW-25S-09		WDNR PAL ug/L	WDNR ES ug/L
Sample Matrix:	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater			
Sample Date:	3/29/00		3/29/00		3/30/00		3/31/00		3/30/00			
Units of Measure:	ug/L		ug/L		ug/L		ug/L		ug/L			
Parameters												
VOCs												
Benzene	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.5	5
Toluene	0.2	U	1.6		0.2	U	0.2	U	0.2	U	68.6	343
Ethylbenzene	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	140	700
Total Xylenes	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	124	620
PAHs												
Naphthalene	0.76	U	0.76	U	0.76	U	0.76	U	0.80	U	8.0	40
Acenaphthalene	0.76	U	0.76	U	0.76	U	0.76	U	0.80	U	NA	NA
Acenaphthene	0.76	U	0.76	U	0.76	U	0.76	U	0.80	U	NA	NA
Fluorene	0.16	U	0.16	U	0.16	U	0.16	U	0.17	U	80	400
Phenanthrene	0.044	U	0.044	U	0.043	U	0.044	U	0.046	U	NA	NA
Anthracene	0.029	U	0.044	U	0.029	U	0.029	U	0.031	U	600	3000
Fluoranthene	0.019	U	0.019	U	0.021	J	0.019	U	0.020	U	80	400
Pyrene	0.17	U	0.17	U	0.17	U	0.17	U	0.18	U	50	250
Benzo(a)anthracene	0.017	U	0.017	U	0.017	U	0.017	U	0.018	U	NA	NA
Chrysene	0.056	U	0.056	U	0.056	U	0.056	U	0.059	U	0.02	0.2
Benzo(b)fluoranthene	0.033	U	0.033	U	0.033	U	0.033	U	0.035	U	0.02	0.2
Benzo(k)fluoranthene	0.026	U	0.026	U	0.026	U	0.026	U	0.027	U	NA	NA
Benzo(a)pyrene	0.022	J	0.021	U	0.021	U	0.021	U	0.022	U	0.02	0.2
Dibenzo(a,h)anthracene	0.045	U	0.045	U	0.044	U	0.045	U	0.047	U	NA	NA
Benzo(g,h,i)perylene	0.094	U	0.094	U	0.094	U	0.094	U	0.099	U	NA	NA
Indeno(1,2,3-cd)pyrene	0.061	U	0.061	U	0.060	U	0.061	U	0.064	U	NA	NA

VOC - Volatile Organic Compound.

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

ES = Enforcement Standard (WDNR)

PAH - Polynuclear Aromatic Hydrocarbon.

NA - PAL or ES not available for this parameter.

Table 3 (Cont.)

Groundwater Sample Analytical Results  
 First Quarter 2000  
 Moss-American Site  
 Milwaukee, Wisconsin

Sample ID:	MW-26S-09		MW-27S-09		TW-05-09		FB-01-09		FB-02-09		FD-01-09		FD-02-09		WDNR PAL ug/L	WDNR ES ug/L
Sample Matrix:	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater			
Sample Date:	3/30/00		3/29/00		3/29/00		3/29/00		3/30/00		3/29/00		3/30/00			
Units of Measure:	ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L			
<b>Parameters</b>																
<b>VOCs</b>																
Benzene	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.5	5
Toluene	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	68.6	343
Ethylbenzene	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	140	700
Total Xylenes	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	124	620
<b>PAHs</b>																
Naphthalene	0.76	U	0.76	U	9.8	J	0.87	U	0.88	U	0.77	U	0.76	U	8.0	40
Acenaphthylene	0.76	U	0.76	U	9.0	U	0.87	U	0.88	U	0.77	U	0.76	U	NA	NA
Acenaphthene	0.76	U	0.76	U	78.0		1.3	U	0.88	U	0.77	U	0.76	U	NA	NA
Fluorene	0.16	U	0.16	U	55.5		0.180	U	0.19	U	0.16	U	0.16	U	80	400
Phenanthrene	0.044	U	0.044	U	3.9		0.050	U	0.051	U	0.044	U	0.044	U	NA	NA
Anthracene	0.029	U	0.048	U	19.5		0.122	J	0.034	U	0.030	U	0.029	U	600	3000
Fluoranthene	0.019	U	0.022	J	22.5		0.022	U	0.022	U	0.019	U	0.024	J	80	400
Pyrene	0.17	U	0.20	J	21.2		0.200	U	0.20	U	0.17	U	0.17	U	50	250
Benzo(a)anthracene	0.017	U	0.017	U	3.15		0.020	U	0.020	U	0.017	U	0.017	U	NA	NA
Chrysene	0.235	J	0.056	U	2.74	J	0.064	U	0.065	U	0.057	U	0.056	U	0.02	0.2
Benzo(b)fluoranthene	0.033	U	0.033	U	1.07		0.038	U	0.038	U	0.034	U	0.033	U	0.02	0.2
Benzo(k)fluoranthene	0.026	U	0.026	U	0.66		0.029	U	0.03	U	0.026	U	0.026	U	NA	NA
Benzo(a)pyrene	0.021	U	0.021	U	1.44		0.024	U	0.024	U	0.021	U	0.021	U	0.02	0.2
Dibenzo(a,h)anthracene	0.045	U	0.045	U	0.45	U	0.051	U	0.052	U	0.045	U	0.045	U	NA	NA
Benzo(g,h,i)perylene	0.094	U	0.094	U	0.94	U	0.11	U	0.11	U	0.095	U	0.094	U	NA	NA
Indeno(1,2,3-cd)pyrene	0.061	U	0.061	U	0.61	U	0.069	U	0.07	U	0.062	U	0.061	U	NA	NA

VOC - Volatile Organic Compound.

FD-01-09 is MW-27S-09

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

PAH - Polynuclear Aromatic Hydrocarbon.

FD-02-09 is MW-13S-09

NA - PAL or ES not available for this parameter.

ES = Enforcement Standard (WDNR)

**Table 3 (Cont'd)**  
**Groundwater Sample Analytical Results**  
**First Quarter 2000**  
**Moss-American Site**  
**Milwaukee, Wisconsin**

Sample ID:	MW-3I-09		MW-4I-09		MW-9I-09		MW-20I-09		WDNR PAL ug/L	WDNR ES ug/L
Sample Matrix:	Groundwater		Groundwater		Groundwater		Groundwater			
Sample Date:	3/30/00		3/30/00		3/29/00		3/31/00			
Units of Measure:	ug/L		ug/L		ug/L		ug/L			
<b>Parameters</b>										
<b>VOCs</b>										
Benzene	0.2	U	0.2	U	0.2	U	0.2	U	0.5	5
Toluene	0.2	U	0.2	U	0.2	U	0.2	U	68.6	343
Ethylbenzene	0.2	U	0.2	U	0.2	U	0.2	U	140	700
Total Xylenes	0.6	U	0.6	U	0.6	U	0.6	U	124	620
<b>PAHs</b>										
Naphthalene	0.78	U	0.76	U	0.76	U	0.80	U	8.0	40
Acenaphthalylene	0.78	U	0.76	U	0.76	U	0.80	U	NA	NA
Acenaphthene	0.78	U	0.76	U	0.76	U	0.80	U	NA	NA
Fluorene	0.17	U	0.16	U	0.16	U	0.17	U	80	400
Phenanthrene	0.045	U	0.065	J	0.044	U	0.046	U	NA	NA
Anthracene	0.030	U	0.029	U	0.029	U	0.031	U	600	3000
Fluoranthene	0.020	U	0.052	J	0.019	U	0.022	J	80	400
Pyrene	0.18	U	0.17	U	0.17	U	0.18	U	50	250
Benzo(a)anthracene	0.018	U	0.017	U	0.017	U	0.018	U	NA	NA
Chrysene	0.058	U	0.129	J	0.056	U	0.059	U	0.02	0.2
Benzo(b)fluoranthene	0.034	U	0.033	U	0.033	U	0.035	U	0.02	0.2
Benzo(k)fluoranthene	0.026	U	0.026	U	0.026	U	0.027	U	NA	NA
Benzo(a)pyrene	0.022	U	0.021	U	0.021	U	0.022	U	0.02	0.2
Dibenzo(a,h)anthracene	0.046	U	0.044	U	0.044	U	0.047	U	NA	NA
Benzo(g,h,i)perylene	0.097	U	0.094	U	0.094	U	0.100	U	NA	NA
Indeno(1,2,3-cd)pyrene	0.063	U	0.061	U	0.061	U	0.064	U	NA	NA

VOC - Volatile Organic Compound.

PAH - Polynuclear Aromatic Hydrocarbon.

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

NA - PAL or ES not available for this parameter.

ES = Enforcement Standard (WDNR)

**Table 4**  
**Concentration Trends in Groundwater Samples**  
**Nine Quarterly Sampling Events**  
**Moss-American Site**  
**Milwaukee, Wisconsin**

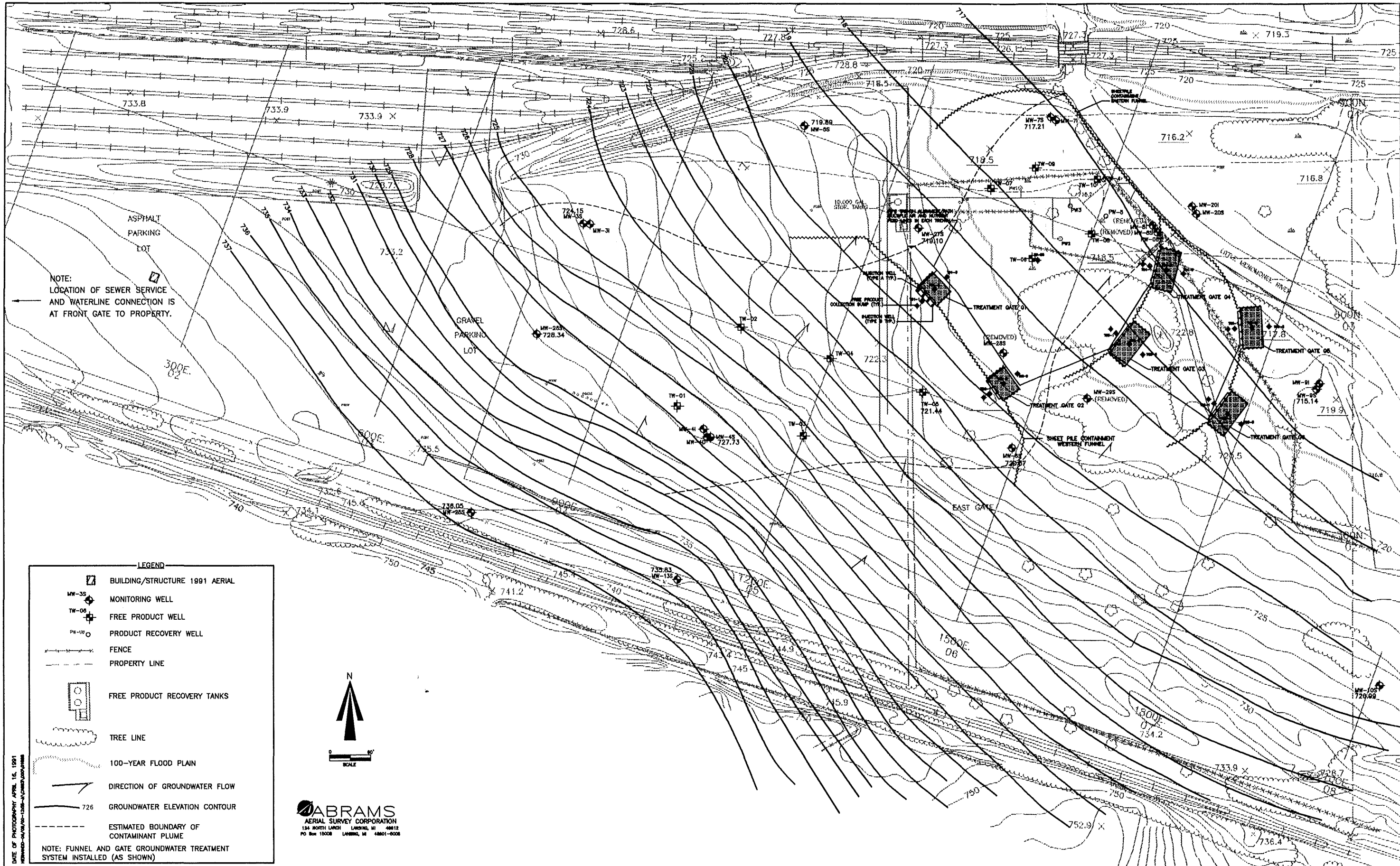
	MV-4S	MV-7S	FW-05	TW-09
<b><u>Benzene</u></b>				
First Quarter (March '98)	10	5	0.2 U	2 J
Second Quarter (June '98)	8.0	5.0	0.2 U	0.5 J
Third Quarter (September '98)	3.0	8.0 J	0.2 U	2 U
Fourth Quarter (December '98)	3 J	NS	0.2 U	2 U
First Quarter (March '99)	5.0	9.0	0.2 U	0.3 U
Second Quarter (June '99)	6.0	7.0 J	0.2 U	2 U
Third Quarter (September '99)	3.0	9.0	0.2 U	0.8 J
Fourth Quarter (December '99)	2.8	7.1	0.2 U	---
First Quarter (March '00)	4.0	5.2	0.2 U	---
<b><u>Naphthalene</u></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
Fourth Quarter (December '99)	790	4,740	9.0 J	---
First Quarter (March '00)	1,020	3,950	9.8 J	---
<b><u>Fluorene</u></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
Fourth Quarter (December '99)	333	24.4	66.6	---
First Quarter (March '00)	281	15.8	55.5	---
<b><u>Benzo(a) pyrene</u></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
Fourth Quarter (December '99)	9.7	0.21U	1.49	---
First Quarter (March '00)	8.4	0.21 U	1.44	---

NS = Not Sampled

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

J = Estimated Concentration

--- = TW-09 was removed to install the funnel and gate groundwater system.



NO.	DATE	APPR.	NO.	DATE	APPR.	REVISION

MOSS - AMERICAN SITE  
Milwaukee, Wisconsin

**WESTON**  
ENGINEERS/ARCHITECTS

VERNON HILLS

CHECKED	DATE	CLIENT APPROVALS	DATE

GROUNDWATER ELEVATION CONTOUR MAP  
1ST QUARTER 2000

DRAWN	D.C.H.	DATE	JUNE 99	DWG. NO.	1	REV. NO.	
SCALE	1" = 60'	DATE					

**Kerr-McGee  
Moss American Site  
Milwaukee, Wisconsin  
SDG# MOS47**

**24 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>
3351539	MW10S-09	3/29/00	3/31/00
3351540	MW9S-09	3/29/00	3/31/00
3351541	MW9I-09	3/29/00	3/31/00
3351542	MW6S-09	3/29/00	3/31/00
3351543	TW05-09	3/29/00	3/31/00
3351544	MW27S-09	3/29/00	3/31/00
3351545	MW7S-09	3/29/00	3/31/00
3351548	FD01-09	3/29/00	3/31/00
3351549	FB01-09	3/29/00	3/31/00
3351550	Trip Blank	3/30/00	3/31/00
3352296	MW13S-09	3/30/00	4/5/00
3352297	MW25S-09	3/30/00	4/5/00
3352298	MW26S-09	3/30/00	4/5/00
3352299	MW3S-09	3/30/00	4/5/00
3352300	MW3I-09	3/30/00	4/5/00
3352301	MW5S-09	3/30/00	4/5/00
3352302	MW4S-09	3/30/00	4/6/00
3352303	MW4I-09	3/30/00	4/5/00
3352304	FB02-09	3/30/00	4/5/00
3352305	FD02-09	3/30/00	4/5/00
3352306	Trip Blank	3/30/00	4/5/00
3353236	MW20S-09	3/31/00	4/5/00
3353237	MW20I-09	3/31/00	4/5/00
3353238	Trip Blank	3/31/00	4/5/00

All samples were analyzed within the required holding times.

2. Method Blank:

Six method blanks were associated with the BTEX samples (BLK6665, BLK6666, BLK6667, BLK5337, BLK5338, and BLK5339). All six blanks were free of contamination.

3. Initial and Continuing Calibration:

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

**Kerr-McGee  
Moss American Site  
Milwaukee, Wisconsin  
SDG# MOS47  
BTEX Cont.**

4. Surrogate Recovery-:

The surrogate recoveries for the BTEX surrogate (TFT) were all within the required QC limits of 69% to 132 %.

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

Sample MW7S-09 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 three trip blank results were non-detect. All results are acceptable.

8. Field Blanks:

FB01-09 and FB02-09 were field blanks. All BTEX results were non-detect. All results are acceptable.

9. Field Duplicates:

Samples MW27S-09 and FD01-09 and MW13S-09 and FD02-09 are field duplicates. Total xylene was detected at 0.8. in MW27S-09 and was non-detect in FD01-09. The sample results for the other duplicate pair were both non-detect. No qualifications are applied based on this criterion.



**Kerr-McGee  
Moss American Site  
Milwaukee, Wisconsin  
SDG# MOS47**

**23 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>
3351539	MW10S-09	3/29/00	3/31/00	4/5/00
3351540	MW9S-09	3/29/00	3/31/00	4/5/00
3351541	MW9I-09	3/29/00	3/31/00	4/5/00
3351542	MW6S-09	3/29/00	3/31/00	4/5/00
3351543	TW05-09	3/29/00	3/31/00	4/6/00
3351544	MW27S-09	3/29/00	3/31/00	4/5/00
3351545	MW7S-09	3/29/00	3/31/00	4/5/00
3351548	FD01-09	3/29/00	3/31/00	4/5/00
3351549	FB01-09	3/29/00	3/31/00	4/5/00
3352296	MW13S-09	3/30/00	4/4/00	4/7/99
3352297	MW25S-09	3/30/00	4/4/00	4/7/99
3352298	MW26S-09	3/30/00	4/4/00	4/7/99
3352299	MW3S-09	3/30/00	4/4/00	4/7/99
3352300	MW3I-09	3/30/00	4/4/00	4/7/99
3352301	MW5S-09	3/30/00	4/4/00	4/7/99
3352302	MW4S-09	3/30/00	4/4/00	4/10/99
3352303	MW4I-09	3/30/00	4/4/00	4/7/99
3352304	FB02-09	3/30/00	4/4/00	4/7/99
3352305	FD02-09	3/30/00	4/4/00	4/7/99
3353236	MW20S-09	3/31/00	4/4/00	4/10/99
3353237	MW20I-09	3/31/00	4/4/00	4/10/99

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

2. Method Blank:

There were three water method blanks associated with the PAH fraction (PBLK8K, PBLK9Y, and PBLK0.AF). PBLK8K contained acenaphthylene (2.8), fluorene (0.31), and anthracene (0.035). PBLKAF contained anthracene (0.54). Corresponding samples less than 5 times the blank result are flagged as nondetect U. Method blank PBLK9Y was free of contamination.

3. Initial and Continuing Calibration:

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

**Kerr-McGee  
Moss American Site  
Milwaukee, Wisconsin  
SDG# MOS47  
PAH Cont.**

4. Surrogate Recovery:

The surrogates for PAHs include nitrobenzene and triphenylene. Nitrobenzene results were acceptable for all samples on the first column. 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 TW05-09 (confirmation results were diluted out) and MW04S-09 (initial and confirmation results were diluted out).

5. Matrix Spike/Matrix Spike Duplicate:

Sample MW7S-09 was used for the MS/MSD audit. This MS/MSD sample corresponds to the samples collected on 3/29 and 3/30/00. All MS/MSD results were within required QC limits. However, the MS/MSD was diluted (DF20) in order to bring naphthalene results into range. The diluted MS/MSD result for naphthalene was zero. According to the laboratory narrative, there was not enough sample volume to perform an MS/MSD with the samples collected on 3/31. An LCS was performed to demonstrate precision and accuracy at a batch level.

6. Laboratory Control Sample:

All laboratory control results (LCSXF, LCSDY8, LCSYQ, and LCSZ4) are acceptable.

7. Field Blanks:

FB01-09 and FB02-09 were field blanks. The following compounds were detected in FB01-09: acenaphthylene (1.3), and anthracene (0.122). Sample results less than 5 times the amount found in the blank are qualified as non-detect. FB02-09 was free of contamination.

**Kerr-McGee  
Moss American Site  
Milwaukee, Wisconsin  
SDG# MOS47  
PAH Cont.**

8. Field Duplicates:

Samples MW27S-09 and FD01-09 and MW13S-09 and FD02-09 are field duplicates.

Anthracene (0.048), fluoranthene (0.022), and pyrene (0.20) were detected in MW27S-09. The corresponding duplicate results were non-detect. Fluoranthene was detected at 0.21 in sample MW13S-09 and 0.24 in the field duplicate (FD02-09). No qualifications are applied based on this criteria.

9. Other:

The following samples underwent dilutions: TW05S-09, (10), MW07S-09 (20), and MW04S-09 (50). 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.



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**LLI Sample No. WW 3352299**  
Collected: 03/30/00 at 12:00 by JA

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

P.O. MOSS-AMERICAN  
Rel.

Submitted: 03/31/00 Reported: 04/13/00  
Discard: 05/14/00

MW-3S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
1200- SDG#: MOS47-14

AS RECEIVED  
METHOD  
RESULTS DETECTION LIMIT UNITS

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

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

ATTN: Dr. Jeff Ostmeyer  
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
02:06:51 D 0003 11 128410 708762  
232 0.00 00021753 ASR000



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

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



LLI Sample No. **WW 3352299**  
 Collected: 03/30/00 at 12:00 by JA

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

P.O. MOSS-AMERICAN  
 Rel.

Submitted: 03/31/00 Reported: 04/13/00  
 Discard: 05/14/00

MW-3S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 1200- SDG#: MOS47-14

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION	LIMIT UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.76	ug/l
3281	Acenaphthylene	N.D.	0.76	ug/l
3282	Acenaphthene	N.D.	0.76	ug/l
3283	Fluorene	N.D.	0.16	ug/l
3284	Phenanthrene	N.D.	0.043	ug/l
3285	Anthracene	N.D.	0.029	ug/l
3286	Fluoranthene	0.029 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	0.069 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	N.D.	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.044	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.094	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.060	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



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**LLI Sample No. WW 3352299**  
Collected: 03/30/00 at 12:00 by JA

Submitted: 03/31/00 Reported: 04/13/00  
Discard: 05/14/00

MW-3S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
1200- SDG#: MOS47-14

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.20	ug/l
0777	Toluene	N.D.	0.20	ug/l
0778	Ethylbenzene	N.D.	0.20	ug/l
0779	Total Xylenes	N.D.	0.60	ug/l

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

Respectfully Submitted  
Thomas C. Lehman, Ph.D.  
Group Leader, Petrol. Analysis



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**LLI Sample No. WW 3352299**

Collected: 03/30/00 at 12:00 by JA

Submitted: 03/31/00

MW-3S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
1200- SDG#: MOS47-14

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

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS		ANALYST
				ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1		04/07/00 1537	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1		04/04/00 0945	Denise L. Trimby
8213	BTEX (8021)	SW-846 8021B	1		04/05/00 1454	Patrick N. Evans



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**LLI Sample No. 3352299**

MW-3S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708762  
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH
-----		Batch: 000940021A									
1861 PAH's in Water											
-----											
3280	Naphthalene										
	0.76 ug/l	N.D.		84	81	1	80			45	111
3281	Acenaphthylene										
	0.76 ug/l	N.D.		91	87	1	86			59	114
3282	Acenaphthene										
	0.76 ug/l	N.D.		90	88	3	85			50	120
3283	Fluorene										
	0.16 ug/l	N.D.		97	93	1	92			64	117
3284	Phenanthrene										
	0.043 ug/l	N.D.		97	92	0	93			75	114
3285	Anthracene										
	0.029 ug/l	N.D.		89	85	1	89			53	112
3286	Fluoranthene										
	0.019 ug/l	N.D.		107	103	1	104			43	147
3287	Pyrene										
	0.17 ug/l	N.D.		102	99	3	101			39	149
3288	Benzo(a)anthracene										
	0.017 ug/l	N.D.		100	97	3	98			73	117
3289	Chrysene										
	0.056 ug/l	N.D.		105	101	2	103			68	125
3290	Benzo(b)fluoranthene										
	0.033 ug/l	N.D.		102	99	3	101			71	123
3291	Benzo(k)fluoranthene										
	0.026 ug/l	N.D.		98	95	2	97			75	118
3292	Benzo(a)pyrene										
	0.021 ug/l	N.D.		103	100	3	103			61	127
3293	Dibenzo(a,h)anthracene										
	0.044 ug/l	N.D.		101	97	1	100			71	121
3294	Benzo(g,h,i)perylene										
	0.094 ug/l	N.D.		102	100	3	102			70	125
3295	Indeno(1,2,3-cd)pyrene										
	0.060 ug/l	N.D.		104	101	2	103			73	125
-----		Batch: 00096A53									
8213 BTEX (8021)											
-----											
0776	Benzene										
	0.20 ug/l	N.D.		100	98	2	93	93	0	79	119
0777	Toluene										
	0.20 ug/l	N.D.		109	108	1	103	102	1	81	118
0778	Ethylbenzene										
	0.20 ug/l	N.D.		112	110	2	105	104	0	80	118
0779	Total Xylenes										
	0.60 ug/l	N.D.		113	110	2	106	105	0	81	118



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LLI Sample No. 3352299

MW-3S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708762  
Kerr-McGee Corporation

SURROGATE SUMMARY

	TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
				LOW	HIGH
1861 PAH's in Water		Nitrobenz	88	29	136
		Triphenyle	89	33	139
8213 BTEX (8021)		TFT-P	99	69	132



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LLI Sample No. WW 3352300

Collected: 03/30/00 at 12:45 by JA

Submitted: 03/31/00 Reported: 04/13/00  
Discard: 05/14/00

MW-3I-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
1245- SDG#: MOS47-15

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

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

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1 COPY TO Roy F. Weston  
1 COPY TO Data Package Group

ATTN: Dr. Jeff Ostmeyer  
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
02:07:13 D 0003 11 128410 708762  
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  
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LLI Sample No. **WW 3352300**  
 Collected: 03/30/00 at 12:45 by JA

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

P.O. MOSS-AMERICAN  
 Rel.

Submitted: 03/31/00 Reported: 04/13/00  
 Discard: 05/14/00

MW-3I-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 1245- SDG#: MOS47-15

AS RECEIVED

METHOD

CAT NO.	ANALYSIS NAME	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	N.D.	0.020	ug/l
3287	Pyrene	N.D.	0.18	ug/l
3288	Benzo(a)anthracene	N.D.	0.018	ug/l
3289	Chrysene	N.D.	0.058	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.034	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.022	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

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



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**LLI Sample No. WW 3352300**  
Collected: 03/30/00 at 12:45 by JA

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

P.O. MOSS-AMERICAN  
Rel.

Submitted: 03/31/00 Reported: 04/13/00  
Discard: 05/14/00

MW-3I-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
1245- SDG#: MOS47-15

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.20	ug/l
0777	Toluene	N.D.	0.20	ug/l
0778	Ethylbenzene	N.D.	0.20	ug/l
0779	Total Xylenes	N.D.	0.60	ug/l

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

Respectfully Submitted  
Thomas C. Lehman, Ph.D.  
Group Leader, Petrol. Analysis



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**LLI Sample No. WW 3352300**

Collected: 03/30/00 at 12:45 by JA

Submitted: 03/31/00

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

MW-3I-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
1245- SDG#: MOS47-15

CAT NO	ANALYSIS NAME	METHOD	TRIAL ID	ANALYSIS		ANALYST
				DATE	TIME	
1861	PAH's in Water	SW-846 8310	1	04/07/00	1558	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	04/04/00	0945	Denise L. Trimby
8213	BTEX (8021)	SW-846 8021B	1	04/05/00	1531	Patrick N. Evans



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**LLI Sample No. 3352300**

MW-3I-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708762  
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: 000940021A									
3280	Naphthalene 0.78 ug/l	N.D.		84	81	1	80			45	111
3281	Acenaphthylene 0.78 ug/l	N.D.		91	87	1	86			59	114
3282	Acenaphthene 0.78 ug/l	N.D.		90	88	3	85			50	120
3283	Fluorene 0.17 ug/l	N.D.		97	93	1	92			64	117
3284	Phenanthrene 0.045 ug/l	N.D.		97	92	0	93			75	114
3285	Anthracene 0.030 ug/l	N.D.		89	85	1	89			53	112
3286	Fluoranthene 0.020 ug/l	N.D.		107	103	1	104			43	147
3287	Pyrene 0.18 ug/l	N.D.		102	99	3	101			39	149
3288	Benzo(a)anthracene 0.018 ug/l	N.D.		100	97	3	98			73	117
3289	Chrysene 0.058 ug/l	N.D.		105	101	2	103			68	125
3290	Benzo(b)fluoranthene 0.034 ug/l	N.D.		102	99	3	101			71	123
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.		98	95	2	97			75	118
3292	Benzo(a)pyrene 0.022 ug/l	N.D.		103	100	3	103			61	127
3293	Dibenzo(a,h)anthracene 0.046 ug/l	N.D.		101	97	1	100			71	121
3294	Benzo(g,h,i)perylene 0.097 ug/l	N.D.		102	100	3	102			70	125
3295	Indeno(1,2,3-cd)pyrene 0.063 ug/l	N.D.		104	101	2	103			73	125
8213 BTEX (8021)		Batch: 00096A53									
0776	Benzene 0.20 ug/l	N.D.		100	98	2	93	93	0	79	119
0777	Toluene 0.20 ug/l	N.D.		109	108	1	103	102	1	81	118
0778	Ethylbenzene 0.20 ug/l	N.D.		112	110	2	105	104	0	80	118
0779	Total Xylenes 0.60 ug/l	N.D.		113	110	2	106	105	0	81	118



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LLI Sample No. 3352300  
MW-3I-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708762  
Kerr-McGee Corporation

SURROGATE SUMMARY

	TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
				LOW	HIGH
1861 PAH's in Water		Nitrobenz	86	29	136
		Triphenyle	70	33	139
8213 BTEX (8021)		TFT-P	103	69	132



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**LLI Sample No. WW 3352302**  
 Collected: 03/30/00 at 15:00 by JA

Submitted: 03/31/00 Reported: 04/13/00  
 Discard: 05/14/00

MW-4S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 1500- SDG#: MOS47-17

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

P.O. MOSS-AMERICAN  
 Rel.

AS RECEIVED

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

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

ATTN: Dr. Jeff Ostmeyer  
 ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative  
 Kay G. Hower at (717) 656-2300  
 02:07:50 D 0003 11 128410 708762  
 232 0.00 00021753 ASR000

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



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LLI Sample No. WW 3352302  
 Collected: 03/30/00 at 15:00 by JA

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

P.O. MOSS-AMERICAN  
 Rel.

Submitted: 03/31/00 Reported: 04/13/00  
 Discard: 05/14/00

MW-4S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 1500- SDG#: MOS47-17

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD	DETECTION LIMIT UNITS
PAH's in Water				
3280	Naphthalene	1,020.		38. ug/l
3281	Acenaphthylene	122.	J	38. ug/l
3282	Acenaphthene	580.		38. ug/l
3283	Fluorene	281.		8.0 ug/l
3284	Phenanthrene	22.		2.2 ug/l
3285	Anthracene	102.		1.5 ug/l
3286	Fluoranthene	154.		0.95 ug/l
3287	Pyrene	148.		8.5 ug/l
3288	Benzo(a)anthracene	22.5		0.85 ug/l
3289	Chrysene	25.		2.8 ug/l
3290	Benzo(b)fluoranthene	7.8		1.7 ug/l
3291	Benzo(k)fluoranthene	4.0		1.3 ug/l
3292	Benzo(a)pyrene	8.4		1.0 ug/l
3293	Dibenzo(a,h)anthracene	N.D.		2.2 ug/l
3294	Benzo(g,h,i)perylene	N.D.		4.7 ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.		3.0 ug/l

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

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



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



LLI Sample No. **WW 3352302**  
 Collected: 03/30/00 at 15:00 by JA

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

P.O. MOSS-AMERICAN  
 Rel.

Submitted: 03/31/00 Reported: 04/13/00  
 Discard: 05/14/00

MW-4S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 1500- SDG#: MOS47-17

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD			
		RESULTS	DETECTION	LIMIT	UNITS

BTEX (8021)

0776	Benzene	4.0	J	2.0	ug/l
0777	Toluene	7.9	J	2.0	ug/l
0778	Ethylbenzene	9.9	J	2.0	ug/l
0779	Total Xylenes	18.	J	6.0	ug/l

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

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

Respectfully Submitted  
 Thomas C. Lehman, Ph.D.  
 Group Leader, Petrol. Analysis



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LLI Sample No. WW 3352302

Collected: 03/30/00 at 15:00 by JA

Submitted: 03/31/00

MW-4S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
1500- SDG#: MOS47-17

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	04/10/00 0326	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	04/04/00 0945	Denise L. Trimby
8213	BTEX (8021)	SW-846 8021B	1	04/06/00 1036	Patrick N. Evans



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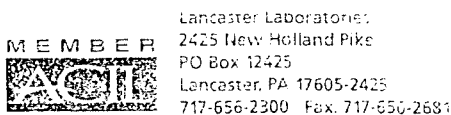


**LLI Sample No. 3352302**  
MW-4S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708762  
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH	
-----		Batch: 000940021A										
1861 PAH's in Water												
-----												
3280	Naphthalene											
38.	ug/l	N.D.		84	81	1	80			45	111	
3281	Acenaphthylene											
38.	ug/l	N.D.		91	87	1	86			59	114	
3282	Acenaphthene											
38.	ug/l	N.D.		90	88	3	85			50	120	
3283	Fluorene											
8.0	ug/l	N.D.		97	93	1	92			64	117	
3284	Phenanthrene											
2.2	ug/l	N.D.		97	92	0	93			75	114	
3285	Anthracene											
1.5	ug/l	N.D.		89	85	1	89			53	112	
3286	Fluoranthene											
0.95	ug/l	N.D.		107	103	1	104			43	147	
3287	Pyrene											
8.5	ug/l	N.D.		102	99	3	101			39	149	
3288	Benzo(a)anthracene											
0.85	ug/l	N.D.		100	97	3	98			73	117	
3289	Chrysene											
2.8	ug/l	N.D.		105	101	2	103			68	125	
3290	Benzo(b)fluoranthene											
1.7	ug/l	N.D.		102	99	3	101			71	123	
3291	Benzo(k)fluoranthene											
1.3	ug/l	N.D.		98	95	2	97			75	118	
3292	Benzo(a)pyrene											
1.0	ug/l	N.D.		103	100	3	103			61	127	
3293	Dibenzo(a,h)anthracene											
2.2	ug/l	N.D.		101	97	1	100			71	121	
3294	Benzo(g,h,i)perylene											
4.7	ug/l	N.D.		102	100	3	102			70	125	
3295	Indeno(1,2,3-cd)pyrene											
3.0	ug/l	N.D.		104	101	2	103			73	125	
-----		Batch: 00096A53										
8213 BTEX (8021)												
-----												
0776	Benzene											
2.0	ug/l	N.D.		100	98	2	93	93	0	79	119	
0777	Toluene											
2.0	ug/l	N.D.		109	108	1	103	102	1	81	118	
0778	Ethylbenzene											
2.0	ug/l	N.D.		112	110	2	105	104	0	80	118	
0779	Total Xylenes											
6.0	ug/l	N.D.		113	110	2	106	105	0	81	118	





LLI Sample No. 3352302  
MW-4S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708762  
Kerr-McGee Corporation

SURROGATE SUMMARY

	TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
				LOW	HIGH
1861 PAH's in Water		Nitrobenz Triphenyle	84 457	29 33	136 139
8213 BTEX (8021)		TFT-P	98	69	132



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**LLI Sample No. WW 3352303**  
Collected: 03/30/00 at 16:00 by JA

Submitted: 03/31/00 Reported: 04/13/00  
Discard: 05/14/00

MW-41-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
1600- SDG#: MOS47-18

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

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

1 COPY TO Kerr-McGee Corporation      ATTN: Dr. Jeff Ostmeyer  
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  
02:08:09 D 0003 11              128410 708762  
232 0.00 00021753 ASR000

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



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LLI Sample No. **WW 3352303**  
 Collected: 03/30/00 at 16:00 by JA

Submitted: 03/31/00 Reported: 04/13/00  
 Discard: 05/14/00

MW-4I-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 1600- SDG#: MOS47-18

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

P.O. MOSS-AMERICAN  
 Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD	DETECTION LIMIT UNITS
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	0.065 J	0.044	ug/l
3285	Anthracene	N.D.	0.029	ug/l
3286	Fluoranthene	0.052 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	0.129 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	N.D.	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.044	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.094	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.061	ug/l

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



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



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**LLI Sample No. WW 3352303**  
Collected: 03/30/00 at 16:00 by JA

Submitted: 03/31/00 Reported: 04/13/00  
Discard: 05/14/00

MW-4I-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
1600- SDG#: MOS47-18

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.20	ug/l
0777	Toluene	N.D.	0.20	ug/l
0778	Ethylbenzene	N.D.	0.20	ug/l
0779	Total Xylenes	N.D.	0.60	ug/l

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

Respectfully Submitted  
Thomas C. Lehman, Ph.D.  
Group Leader, Petrol. Analysis



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**LLI Sample No. WW 3352303**

Collected: 03/30/00 at 16:00 by JA

Submitted: 03/31/00

MW-4I-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
1600- SDG#: MOS47-18

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		04/07/00 1707	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1		04/04/00 0945	Denise L. Trimby
8213	BTEX (8021)	SW-846 8021B	1		04/05/00 1643	Patrick N. Evans



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**LLI Sample No. 3352303**

MW-4I-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708762  
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>		<b>Batch: 000940021A</b>									
3280	Naphthalene 0.76 ug/l	N.D.		84	81	1	80			45	111
3281	Acenaphthylene 0.76 ug/l	N.D.		91	87	1	86			59	114
3282	Acenaphthene 0.76 ug/l	N.D.		90	88	3	85			50	120
3283	Fluorene 0.16 ug/l	N.D.		97	93	1	92			64	117
3284	Phenanthrene 0.044 ug/l	N.D.		97	92	0	93			75	114
3285	Anthracene 0.029 ug/l	N.D.		89	85	1	89			53	112
3286	Fluoranthene 0.019 ug/l	N.D.		107	103	1	104			43	147
3287	Pyrene 0.17 ug/l	N.D.		102	99	3	101			39	149
3288	Benzo(a)anthracene 0.017 ug/l	N.D.		100	97	3	98			73	117
3289	Chrysene 0.056 ug/l	N.D.		105	101	2	103			68	125
3290	Benzo(b)fluoranthene 0.033 ug/l	N.D.		102	99	3	101			71	123
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.		98	95	2	97			75	118
3292	Benzo(a)pyrene 0.021 ug/l	N.D.		103	100	3	103			61	127
3293	Dibenzo(a,h)anthracene 0.044 ug/l	N.D.		101	97	1	100			71	121
3294	Benzo(g,h,i)perylene 0.094 ug/l	N.D.		102	100	3	102			70	125
3295	Indeno(1,2,3-cd)pyrene 0.061 ug/l	N.D.		104	101	2	103			73	125
<b>8213 BTEX (8021)</b>		<b>Batch: 00096A53</b>									
0776	Benzene 0.20 ug/l	N.D.		100	98	2	93	93	0	79	119
0777	Toluene 0.20 ug/l	N.D.		109	108	1	103	102	1	81	118
0778	Ethylbenzene 0.20 ug/l	N.D.		112	110	2	105	104	0	80	118
0779	Total Xylenes 0.60 ug/l	N.D.		113	110	2	106	105	0	81	118



LLI Sample No. 3352303

MW-4I-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708762  
Kerr-McGee Corporation

SURROGATE SUMMARY

	TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
				LOW	HIGH
1861 PAH's in Water		Nitrobenz	78	29	136
		Triphenyle	69	33	139
8213 BTEX (8021)		TFT-P	98	69	132



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LLI Sample No. WW 3352301

Collected: 03/30/00 at 13:30 by JA

Submitted: 03/31/00 Reported: 04/13/00  
Discard: 05/14/00

MW-5S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
1330- SDG#: MOS47-16

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

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

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

ATTN: Dr. Jeff Ostmeyer  
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
02:07:31 D 0003 11 128410 708762  
232 0.00 00021753 ASR000



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



LLI Sample No. **WW 3352301**  
 Collected: 03/30/00 at 13:30 by JA

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

P.O. MOSS-AMERICAN  
 Rel.

Submitted: 03/31/00 Reported: 04/13/00  
 Discard: 05/14/00

MW-5S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 1330- SDG#: MOS47-16

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.94	ug/l
3281	Acenaphthylene	N.D.	0.94	ug/l
3282	Acenaphthene	N.D.	0.94	ug/l
3283	Fluorene	N.D.	0.20	ug/l
3284	Phenanthrene	N.D.	0.054	ug/l
3285	Anthracene	N.D.	0.036	ug/l
3286	Fluoranthene	N.D.	0.023	ug/l
3287	Pyrene	N.D.	0.21	ug/l
3288	Benzo(a)anthracene	N.D.	0.021	ug/l
3289	Chrysene	N.D.	0.069	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.041	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.032	ug/l
3292	Benzo(a)pyrene	N.D.	0.026	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.055	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.12	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.075	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



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LLI Sample No. WW **3352301**  
Collected: 03/30/00 at 13:30 by JA

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

P.O. MOSS-AMERICAN  
Rel.

Submitted: 03/31/00 Reported: 04/13/00  
Discard: 05/14/00

MW-5S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
1330- SDG#: MOS47-16

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.20	ug/l
0777	Toluene	N.D.	0.20	ug/l
0778	Ethylbenzene	N.D.	0.20	ug/l
0779	Total Xylenes	N.D.	0.60	ug/l

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



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Respectfully Submitted  
Thomas C. Lehman, Ph.D.  
Group Leader, Petrol. Analysis

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**LLI Sample No. WW 3352301**

Collected: 03/30/00 at 13:30 by JA

Submitted: 03/31/00

MW-5S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
1330- SDG#: MOS47-16

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

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS		ANALYST
				ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1		04/07/00 1620	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1		04/04/00 0945	Denise L. Trimby
8213	BTEX (8021)	SW-846 8021B	1		04/05/00 1607	Patrick N. Evans



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**LLI Sample No. 3352301**

MW-5S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708762  
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: 000940021A									
-----											
3280	Naphthalene 0.94 ug/l	N.D.		84	81	1	80			45	111
3281	Acenaphthylene 0.94 ug/l	N.D.		91	87	1	86			59	114
3282	Acenaphthene 0.94 ug/l	N.D.		90	88	3	85			50	120
3283	Fluorene 0.20 ug/l	N.D.		97	93	1	92			64	117
3284	Phenanthrene 0.054 ug/l	N.D.		97	92	0	93			75	114
3285	Anthracene 0.036 ug/l	N.D.		89	85	1	89			53	112
3286	Fluoranthene 0.023 ug/l	N.D.		107	103	1	104			43	147
3287	Pyrene 0.21 ug/l	N.D.		102	99	3	101			39	149
3288	Benzo(a)anthracene 0.021 ug/l	N.D.		100	97	3	98			73	117
3289	Chrysene 0.069 ug/l	N.D.		105	101	2	103			68	125
3290	Benzo(b)fluoranthene 0.041 ug/l	N.D.		102	99	3	101			71	123
3291	Benzo(k)fluoranthene 0.032 ug/l	N.D.		98	95	2	97			75	118
3292	Benzo(a)pyrene 0.026 ug/l	N.D.		103	100	3	103			61	127
3293	Dibenzo(a,h)anthracene 0.055 ug/l	N.D.		101	97	1	100			71	121
3294	Benzo(g,h,i)perylene 0.12 ug/l	N.D.		102	100	3	102			70	125
3295	Indeno(1,2,3-cd)pyrene 0.075 ug/l	N.D.		104	101	2	103			73	125
-----											
8213 BTEX (8021)		Batch: 00096A53									
-----											
0776	Benzene 0.20 ug/l	N.D.		100	98	2	93	93	0	79	119
0777	Toluene 0.20 ug/l	N.D.		109	108	1	103	102	1	81	118
0778	Ethylbenzene 0.20 ug/l	N.D.		112	110	2	105	104	0	80	118
0779	Total Xylenes 0.60 ug/l	N.D.		113	110	2	106	105	0	81	118





LLI Sample No. 3352301

MW-5S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708762  
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	82	29	136
	Triphenyle	89	33	139
8213 BTEX (8021)	TFT-P	99	69	132



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LLI Sample No. WW 3351542  
Collected: 03/29/00 at 10:35 by JA

Submitted: 03/30/00 Reported: 04/19/00  
Discard: 05/20/00

MW-6S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
6-S09 SDG#: MOS47-04

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
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: Dr. Jeff Ostmeyer  
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
21:21:29 D 0003 12 REP 128410 708631  
832 0.00 00021753 ASR000



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



LLI Sample No. WW 3351542  
 Collected: 03/29/00 at 10:35 by JA

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

P.O. MOSS-AMERICAN  
 Rel.

Submitted: 03/30/00 Reported: 04/19/00  
 Discard: 05/20/00

MW-6S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 6-S09 SDG#: MOS47-04

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
PAH's in Water					
3280	Naphthalene	N.D.		0.95	ug/l
3281	Acenaphthylene	N.D.		0.95	ug/l
3282	Acenaphthene	N.D.		0.95	ug/l
3283	Fluorene	N.D.		0.20	ug/l
3284	Phenanthrene	N.D.		0.054	ug/l
3285	Anthracene	0.078	JV	0.037	ug/l
3286	Fluoranthene	0.096	J	0.024	ug/l
3287	Pyrene	N.D.		0.21	ug/l
3288	Benzo(a)anthracene	0.042	J	0.021	ug/l
3289	Chrysene	N.D.		0.070	ug/l
3290	Benzo(b)fluoranthene	0.057	J	0.041	ug/l
3291	Benzo(k)fluoranthene	N.D.		0.032	ug/l
3292	Benzo(a)pyrene	0.066	J	0.026	ug/l
3293	Dibenzo(a,h)anthracene	N.D.		0.056	ug/l
3294	Benzo(g,h,i)perylene	0.13	J	0.12	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.		0.076	ug/l

A full bottle aliquot was extracted as required by the method. The LOQs are adjusted for aliquots differing from a default volume of 1000 ml.

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 3351542  
 Collected: 03/29/00 at 10:35 by JA

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

P.O. MOSS-AMERICAN  
 Rel.

Submitted: 03/30/00 Reported: 04/19/00  
 Discard: 05/20/00

MW-6S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 6-S09 SDG#: MOS47-04

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.20	ug/l
0777	Toluene	N.D.	0.20	ug/l
0778	Ethylbenzene	N.D.	0.20	ug/l
0779	Total Xylenes	N.D.	0.60	ug/l

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

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



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Respectfully Submitted  
 Thomas C. Lehman, Ph.D.  
 Group Leader, Petrol. Analysis



LLI Sample No. WW 3351542

Collected: 03/29/00 at 10:35 by JA

Submitted: 03/30/00

MW-6S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
6-S09 SDG#: MOS47-04

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	ANALYST
1861	PAH's in Water	SW-846 8310	1	04/05/00 0641	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	03/31/00 1030	Roxanne M. Roth
8213	BTEX (8021)	SW-846 8021B	1	03/31/00 1842	Barry R. Shoemaker



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**LLI Sample No. 3351542**  
MW-6S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708631  
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: 000910001A									
3280	Naphthalene 0.95 ug/l	N.D.		69	-10 (2)	4	82			45	111
3281	Acenaphthylene 0.95 ug/l	N.D.		62	59	3	84			59	114
3282	Acenaphthene 0.95 ug/l	2.8 J ug/l		76	72	4	83			50	120
3283	Fluorene 0.20 ug/l	0.31 J ug/l		88	82	4	88			64	117
3284	Phenanthrene 0.054 ug/l	N.D.		91	89	3	85			75	114
3285	Anthracene 0.037 ug/l	0.035 J ug/l		67	67	2	68			53	112
3286	Fluoranthene 0.024 ug/l	N.D.		96	95	2	93			43	147
3287	Pyrene 0.21 ug/l	N.D.		87	87	1	85			39	149
3288	Benzo(a)anthracene 0.021 ug/l	N.D.		85	83	2	85			73	117
3289	Chrysene 0.070 ug/l	N.D.		86	85	1	87			68	125
3290	Benzo(b)fluoranthene 0.041 ug/l	N.D.		89	87	2	88			71	123
3291	Benzo(k)fluoranthene 0.032 ug/l	N.D.		87	86	2	88			75	118
3292	Benzo(a)pyrene 0.026 ug/l	N.D.		98	96	1	95			61	127
3293	Dibenzo(a,h)anthracene 0.056 ug/l	N.D.		87	86	1	88			71	121
3294	Benzo(g,h,i)perylene 0.12 ug/l	N.D.		87	87	1	88			70	125
3295	Indeno(1,2,3-cd)pyrene 0.076 ug/l	N.D.		86	85	1	86			73	125
8213 BTEX (8021)		Batch: 00090A66									
0776	Benzene 0.20 ug/l	N.D.		103	104	1	101	98	3	79	119
0777	Toluene 0.20 ug/l	N.D.		103	104	0	100	97	3	81	118
0778	Ethylbenzene 0.20 ug/l	N.D.		98	99	0	101	98	3	80	118
0779	Total Xylenes 0.60 ug/l	N.D.		96	97	1	100	97	3	81	118

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



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LLI Sample No. 3351542  
 MW-6S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708631  
 Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	88	29	136
	Triphenyle	88	33	139
8213 BTEX (8021)	TFT-P	102	69	132



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**LLI Sample No. WW 3351545**

Collected: 03/29/00 at 14:15 by JA

Submitted: 03/30/00 Reported: 04/19/00  
Discard: 05/20/00

MW-7S-09 Unspiked Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
-7S09 SDG#: MOS47-07BKG

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

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

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1 COPY TO Data Package Group

ATTN: Dr. Jeff Ostmeyer  
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
21:16:31 D 0003 12 REP 128410 708631  
832 0.00 00021753 ASR000



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





LLI Sample No. WW 3351545  
 Collected: 03/29/00 at 14:15 by JA

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

P.O. MOSS-AMERICAN  
 Rel.

Submitted: 03/30/00 Reported: 04/19/00  
 Discard: 05/20/00

MW-7S-09 Unspiked Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 -7S09 SDG#: MOS47-07BKG

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	3,950.	15.	ug/l
3281	Acenaphthylene	181.	0.76	ug/l
3282	Acenaphthene	93.	0.76	ug/l
3283	Fluorene	15.8	0.16	ug/l
3284	Phenanthrene	N.D.	0.043	ug/l
3285	Anthracene	N.D.	0.029	ug/l
3286	Fluoranthene	0.028 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.	0.056	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.033	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.021	ug/l
3293	Dibenzo(a, h)anthracene	N.D.	0.044	ug/l
3294	Benzo(g, h, i)perylene	N.D.	0.094	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.060	ug/l

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

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



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

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LLI Sample No. **WW 3351545**  
 Collected: 03/29/00 at 14:15 by JA

Submitted: 03/30/00 Reported: 04/19/00  
 Discard: 05/20/00

MW-7S-09 Unspiked Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 -7S09 SDG#: MOS47-07BKG

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

P.O. MOSS-AMERICAN  
 Re1.

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
BTEX (8021)					
0776	Benzene	5.2		0.20	ug/l
0777	Toluene	0.51	J	0.20	ug/l
0778	Ethylbenzene	21.		0.20	ug/l
0779	Total Xylenes	63.		0.60	ug/l

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



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Respectfully Submitted  
 Thomas C. Lehman, Ph.D.  
 Group Leader, Petrol. Analysis



LLI Sample No. WW 3351545

Collected: 03/29/00 at 14:15 by JA

Submitted: 03/30/00

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

MW-7S-09 Unspiked Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
-7S09 SDG#: MOS47-07BKG

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS		ANALYST
				ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1		04/05/00 0357	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1		03/31/00 1030	Roxanne M. Roth
8213	BTEX (8021)	SW-846 8021B	1		03/31/00 2128	Barry R. Shoemaker



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**LLI Sample No. 3351545**

MW-7S-09 Unspiked Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708631  
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: 000910001A									
-----											
3280	Naphthalene										
	15. ug/l	N.D.		69	-10 (2)	4	82			45	111
3281	Acenaphthylene										
	0.76 ug/l	N.D.		62	59	3	84			59	114
3282	Acenaphthene										
	0.76 ug/l	2.8 J ug/l		76	72	4	83			50	120
3283	Fluorene										
	0.16 ug/l	0.31 J ug/l		88	82	4	88			64	117
3284	Phenanthrene										
	0.043 ug/l	N.D.		91	89	3	85			75	114
3285	Anthracene										
	0.029 ug/l	0.035 J ug/l		67	67	2	68			53	112
3286	Fluoranthene										
	0.019 ug/l	N.D.		96	95	2	93			43	147
3287	Pyrene										
	0.17 ug/l	N.D.		87	87	1	85			39	149
3288	Benzo(a)anthracene										
	0.017 ug/l	N.D.		85	83	2	85			73	117
3289	Chrysene										
	0.056 ug/l	N.D.		86	85	1	87			68	125
3290	Benzo(b)fluoranthene										
	0.033 ug/l	N.D.		89	87	2	88			71	123
3291	Benzo(k)fluoranthene										
	0.026 ug/l	N.D.		87	86	2	88			75	118
3292	Benzo(a)pyrene										
	0.021 ug/l	N.D.		98	96	1	95			61	127
3293	Dibenzo(a,h)anthracene										
	0.044 ug/l	N.D.		87	86	1	88			71	121
3294	Benzo(g,h,i)perylene										
	0.094 ug/l	N.D.		87	87	1	88			70	125
3295	Indeno(1,2,3-cd)pyrene										
	0.060 ug/l	N.D.		86	85	1	86			73	125
-----											
8213 BTEX (8021)		Batch: 00090A66									
-----											
0776	Benzene										
	0.20 ug/l	N.D.		103	104	1	101	98	3	79	119
0777	Toluene										
	0.20 ug/l	N.D.		103	104	0	100	97	3	81	118
0778	Ethylbenzene										
	0.20 ug/l	N.D.		98	99	0	101	98	3	80	118
0779	Total Xylenes										
	0.60 ug/l	N.D.		96	97	1	100	97	3	81	118

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



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LLI Sample No. 3351545  
MW-7S-09 Unspiked Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708631  
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	66	29	136
	Triphenyle	87	33	139
8213 BTEX (8021)	TFT-P	102	69	132



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**LLI Sample No. WW 3351546**

Collected: 03/29/00 at 14:15 by JA

Submitted: 03/30/00 Reported: 04/19/00  
Discard: 05/20/00

MW-7S-09 Matrix Spike Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
-7S09 SDG#: MOS47-07MS

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

P.O. MOSS-AMERICAN  
Rel.

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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: Dr. Jeff Ostmeier  
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
21:17:05 D 0003 12 REP 128410 708631  
832 0.00 00021753 ASR000



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



LLI Sample No. **WW 3351546**  
 Collected: 03/29/00 at 14:15 by JA

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 Oklahoma City OK 73125

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 Rel.

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MW-7S-09 Matrix Spike Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 -7S09 SDG#: MOS47-07MS

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	4,080.	15.	ug/l
3281	Acenaphthylene	299.	0.76	ug/l
3282	Acenaphthene	240.	0.76	ug/l
3283	Fluorene	32.5	0.16	ug/l
3284	Phenanthrene	5.20	0.044	ug/l
3285	Anthracene	1.91	0.029	ug/l
3286	Fluoranthene	2.77	0.019	ug/l
3287	Pyrene	16.5	0.17	ug/l
3288	Benzo(a)anthracene	1.20	0.017	ug/l
3289	Chrysene	4.91	0.056	ug/l
3290	Benzo(b)fluoranthene	1.01	0.033	ug/l
3291	Benzo(k)fluoranthene	0.989	0.026	ug/l
3292	Benzo(a)pyrene	1.39	0.021	ug/l
3293	Dibenzo(a,h)anthracene	2.48	0.045	ug/l
3294	Benzo(g,h,i)perylene	9.94	0.094	ug/l
3295	Indeno(1,2,3-cd)pyrene	4.89	0.061	ug/l

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

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



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MW-7S-09 Matrix Spike Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
-7S09 SDG#: MOS47-07MS

Account No: 07802

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	26.	0.20	ug/l
0777	Toluene	21.	0.20	ug/l
0778	Ethylbenzene	41.	0.20	ug/l
0779	Total Xylenes	120.	0.60	ug/l

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

Respectfully Submitted  
Thomas C. Lehman, Ph.D.  
Group Leader, Petrol. Analysis



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**LLI Sample No. WW 3351546**

Collected: 03/29/00 at 14:15 by JA

Submitted: 03/30/00

MW-7S-09 Matrix Spike Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
-7S09 SDG#: MOS47-07MS

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		04/05/00 0438	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1		03/31/00 1030	Roxanne M. Roth
8213	BTEX (8021)	SW-846 8021B	1		03/31/00 2201	Barry R. Shoemaker



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**LLI Sample No. 3351546**  
MW-7S-09 Matrix Spike Grab Water Sample  
Moss-American Superfund Site - Milwaukee, WI

Group No. 708631  
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: 000910001A									
3280	Naphthalene 15. ug/l	N.D.		69	-10 (2)	4	82			45	111
3281	Acenaphthylene 0.76 ug/l	N.D.		62	59	3	84			59	114
3282	Acenaphthene 0.76 ug/l	2.8 J ug/l		76	72	4	83			50	120
3283	Fluorene 0.16 ug/l	0.31 J ug/l		88	82	4	88			64	117
3284	Phenanthrene 0.044 ug/l	N.D.		91	89	3	85			75	114
3285	Anthracene 0.029 ug/l	0.035 J ug/l		67	67	2	68			53	112
3286	Fluoranthene 0.019 ug/l	N.D.		96	95	2	93			43	147
3287	Pyrene 0.17 ug/l	N.D.		87	87	1	85			39	149
3288	Benzo(a)anthracene 0.017 ug/l	N.D.		85	83	2	85			73	117
3289	Chrysene 0.056 ug/l	N.D.		86	85	1	87			68	125
3290	Benzo(b)fluoranthene 0.033 ug/l	N.D.		89	87	2	88			71	123
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.		87	86	2	88			75	118
3292	Benzo(a)pyrene 0.021 ug/l	N.D.		98	96	1	95			61	127
3293	Dibenzo(a,h)anthracene 0.045 ug/l	N.D.		87	86	1	88			71	121
3294	Benzo(g,h,i)perylene 0.094 ug/l	N.D.		87	87	1	88			70	125
3295	Indeno(1,2,3-cd)pyrene 0.061 ug/l	N.D.		86	85	1	86			73	125
8213 BTEX (8021)		Batch: 00090A66									
0776	Benzene 0.20 ug/l	N.D.		103	104	1	101	98	3	79	119
0777	Toluene 0.20 ug/l	N.D.		103	104	0	100	97	3	81	118
0778	Ethylbenzene 0.20 ug/l	N.D.		98	99	0	101	98	3	80	118
0779	Total Xylenes 0.60 ug/l	N.D.		96	97	1	100	97	3	81	118

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



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LLI Sample No. 3351546

MW-7S-09 Matrix Spike Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708631  
Kerr-McGee Corporation

SURROGATE SUMMARY

	TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
				LOW	HIGH
1861 PAH's in Water		Nitrobenz	75	29	136
		Triphenyle	87	33	139
8213 BTEX (8021)		TFT-P	102	69	132



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**LLI Sample No. WW 3351547**  
Collected: 03/29/00 at 14:15 by JA

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

P.O. MOSS-AMERICAN  
Rel.

Submitted: 03/30/00 Reported: 04/19/00  
Discard: 05/20/00

MW-7S-09 Matrix Spike Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
-7S09 SDG#: MOS47-07MSD

AS RECEIVED

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

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

ATTN: Dr. Jeff Ostmeyer  
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
21:17:49 D 0003 12 REP 128410 708631  
832 0.00 00021753 ASR000



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



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P.O. MOSS-AMERICAN  
 Rel.

Submitted: 03/30/00 Reported: 04/19/00  
 Discard: 05/20/00

MW-7S-09 Matrix Spike Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 -7S09 SDG#: MOS47-07MSD

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD	DETECTION LIMIT UNITS
PAH's in Water				
3280	Naphthalene	3,930.	15.	ug/l
3281	Acenaphthylene	292.	0.75	ug/l
3282	Acenaphthene	230.	0.75	ug/l
3283	Fluorene	31.3	0.16	ug/l
3284	Phenanthrene	5.07	0.043	ug/l
3285	Anthracene	1.88	0.029	ug/l
3286	Fluoranthene	2.72	0.019	ug/l
3287	Pyrene	16.4	0.17	ug/l
3288	Benzo(a)anthracene	1.19	0.017	ug/l
3289	Chrysene	4.85	0.056	ug/l
3290	Benzo(b)fluoranthene	0.988	0.033	ug/l
3291	Benzo(k)fluoranthene	0.967	0.025	ug/l
3292	Benzo(a)pyrene	1.37	0.021	ug/l
3293	Dibenzo(a,h)anthracene	2.45	0.044	ug/l
3294	Benzo(g,h,i)perylene	9.84	0.093	ug/l
3295	Indeno(1,2,3-cd)pyrene	4.83	0.060	ug/l

Questions? Contact your Client Services Representative  
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Respectfully Submitted  
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 Group Leader Pesticides/PCBs



LLI Sample No. **WW 3351547**  
 Collected: 03/29/00 at 14:15 by JA

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 Kerr-McGee Corporation  
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 Oklahoma City OK 73125

P.O. MOSS-AMERICAN  
 Rel.

Submitted: 03/30/00 Reported: 04/19/00  
 Discard: 05/20/00

MW-7S-09 Matrix Spike Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 -7S09 SDG#: MOS47-07MSD

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	26.	0.20	ug/l
0777	Toluene	21.	0.20	ug/l
0778	Ethylbenzene	41.	0.20	ug/l
0779	Total Xylenes	120.	0.60	ug/l

Questions? Contact your Client Services Representative  
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Respectfully Submitted  
 Thomas C. Lehman, Ph.D.  
 Group Leader, Petrol. Analysis



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Submitted: 03/30/00

Account No: 07802  
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P.O. Box 25861  
Oklahoma City OK 73125

MW-7S-09 Matrix Spike Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
-7S09 SDG#: MOS47-07MSD

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	04/05/00 0458	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	03/31/00 1030	Roxanne M. Roth
8213	BTEX (8021)	SW-846 8021B	1	03/31/00 2234	Barry R. Shoemaker



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**LLI Sample No. 3351547**  
MW-7S-09 Matrix Spike Duplicate Grab Water Sample  
Moss-American Superfund Site - Milwaukee, WI

Group No. 708631  
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: 000910001A									
3280	Naphthalene 15. ug/l	N.D.		69	-10 (2)	4	82			45	111
3281	Acenaphthylene 0.75 ug/l	N.D.		62	59	3	84			59	114
3282	Acenaphthene 0.75 ug/l	2.8 J ug/l		76	72	4	83			50	120
3283	Fluorene 0.16 ug/l	0.31 J ug/l		88	82	4	88			64	117
3284	Phenanthrene 0.043 ug/l	N.D.		91	89	3	85			75	114
3285	Anthracene 0.029 ug/l	0.035 J ug/l		67	67	2	68			53	112
3286	Fluoranthene 0.019 ug/l	N.D.		96	95	2	93			43	147
3287	Pyrene 0.17 ug/l	N.D.		87	87	1	85			39	149
3288	Benzo(a)anthracene 0.017 ug/l	N.D.		85	83	2	85			73	117
3289	Chrysene 0.056 ug/l	N.D.		86	85	1	87			68	125
3290	Benzo(b)fluoranthene 0.033 ug/l	N.D.		89	87	2	88			71	123
3291	Benzo(k)fluoranthene 0.025 ug/l	N.D.		87	86	2	88			75	118
3292	Benzo(a)pyrene 0.021 ug/l	N.D.		98	96	1	95			61	127
3293	Dibenzo(a,h)anthracene 0.044 ug/l	N.D.		87	86	1	88			71	121
3294	Benzo(g,h,i)perylene 0.093 ug/l	N.D.		87	87	1	88			70	125
3295	Indeno(1,2,3-cd)pyrene 0.060 ug/l	N.D.		86	85	1	86			73	125
8213 BTEX (8021)		Batch: 00090A66									
0776	Benzene 0.20 ug/l	N.D.		103	104	1	101	98	3	79	119
0777	Toluene 0.20 ug/l	N.D.		103	104	0	100	97	3	81	118
0778	Ethylbenzene 0.20 ug/l	N.D.		98	99	0	101	98	3	80	118
0779	Total Xylenes 0.60 ug/l	N.D.		96	97	1	100	97	3	81	118

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



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LLI Sample No. **3351547**  
MW-7S-09 Matrix Spike Duplicate Grab Water Sample  
Moss-American Superfund Site - Milwaukee, WI

Group No. 708631  
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	82	29	136
		Triphenyle	87	33	139
8213 BTEX (8021)		TFT-P	106	69	132



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**LLI Sample No. WW 3351540**  
Collected: 03/29/00 at 09:30 by JA

Submitted: 03/30/00 Reported: 04/14/00  
Discard: 05/15/00

MW-9S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
9-S09 SDG#: MOS47-02

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

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

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

ATTN: Dr. Jeff Ostmeyer  
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
19:29:58 D 0003 12 128410 708631  
232 0.00 00021753 ASR000



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



LLI Sample No. WW 3351540  
 Collected: 03/29/00 at 09:30 by JA

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

P.O. MOSS-AMERICAN  
 Rel.

Submitted: 03/30/00 Reported: 04/14/00  
 Discard: 05/15/00

MW-9S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 9-S09 SDG#: MOS47-02

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.76	ug/l
3281	Acenaphthylene	N.D.	0.76	ug/l
3282	Acenaphthene	N.D.	0.76	ug/l
3283	Fluorene	N.D.	0.16	ug/l
3284	Phenanthrene	N.D.	0.044	ug/l
3285	Anthracene	N.D.	0.029	ug/l
3286	Fluoranthene	N.D.	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	N.D.	0.056	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.033	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	0.022 J	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.094	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.061	ug/l

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



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



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**LLI Sample No. WW 3351540**  
Collected: 03/29/00 at 09:30 by JA

Submitted: 03/30/00 Reported: 04/14/00  
Discard: 05/15/00

MW-9S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
9-S09 SDG#: MOS47-02

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.	0.20	ug/l
0777	Toluene	N.D.	0.20	ug/l
0778	Ethylbenzene	N.D.	0.20	ug/l
0779	Total Xylenes	N.D.	0.60	ug/l

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

Respectfully Submitted  
Thomas C. Lehman, Ph.D.  
Group Leader, Petrol. Analysis



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LLI Sample No. WW 3351540

Collected: 03/29/00 at 09:30 by JA

Submitted: 03/30/00

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

MW-9S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
9-S09 SDG#: MOS47-02

CAT NO	ANALYSIS NAME	METHOD	TRIAL ID	ANALYSIS DATE AND TIME	ANALYST
1861	PAH's in Water	SW-846 8310	1	04/05/00 0600	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	03/31/00 1030	Roxanne M. Roth
8213	BTEX (8021)	SW-846 8021A	1	03/31/00 1736	Barry R. Shoemaker



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**LLI Sample No. 3351540**  
MW-9S-09 Grab Water Sample  
Moss-American Superfund Site - Milwaukee, WI

Group No. 708631  
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: 000910001A									
-----											
3280	Naphthalene										
	0.76 ug/l	N.D.		69	-10 (2)	4	82			45	111
3281	Acenaphthylene										
	0.76 ug/l	N.D.		62	59	3	84			59	114
3282	Acenaphthene										
	0.76 ug/l	2.8 J ug/l		76	72	4	83			50	120
3283	Fluorene										
	0.16 ug/l	0.31 J ug/l		88	82	4	88			64	117
3284	Phenanthrene										
	0.044 ug/l	N.D.		91	89	3	85			75	114
3285	Anthracene										
	0.029 ug/l	0.035 J ug/l		67	67	2	68			53	112
3286	Fluoranthene										
	0.019 ug/l	N.D.		96	95	2	93			43	147
3287	Pyrene										
	0.17 ug/l	N.D.		87	87	1	85			39	149
3288	Benzo(a)anthracene										
	0.017 ug/l	N.D.		85	83	2	85			73	117
3289	Chrysene										
	0.056 ug/l	N.D.		86	85	1	87			68	125
3290	Benzo(b)fluoranthene										
	0.033 ug/l	N.D.		89	87	2	88			71	123
3291	Benzo(k)fluoranthene										
	0.026 ug/l	N.D.		87	86	2	88			75	118
3292	Benzo(a)pyrene										
	0.021 ug/l	N.D.		98	96	1	95			61	127
3293	Dibenzo(a,h)anthracene										
	0.045 ug/l	N.D.		87	86	1	88			71	121
3294	Benzo(g,h,i)perylene										
	0.094 ug/l	N.D.		87	87	1	88			70	125
3295	Indeno(1,2,3-cd)pyrene										
	0.061 ug/l	N.D.		86	85	1	86			73	125
-----											
8213 BTEX (8021)		Batch: 00090A66									
-----											
0776	Benzene										
	0.20 ug/l	N.D.		103	104	1	101	98	3	79	119
0777	Toluene										
	0.20 ug/l	N.D.		103	104	0	100	97	3	81	118
0778	Ethylbenzene										
	0.20 ug/l	N.D.		98	99	0	101	98	3	80	118
0779	Total Xylenes										
	0.60 ug/l	N.D.		96	97	1	100	97	3	81	118

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



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LLI Sample No. 3351540

MW-9S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708631  
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	71	29	136
	Triphenyle	85	33	139
8213 BTEX (8021)	TFT-P	102	69	132



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LLI Sample No. **WW 3351541**

Collected: 03/29/00 at 09:50 by JA

Submitted: 03/30/00 Reported: 04/14/00  
Discard: 05/15/00

MW-9I-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
9-I09 SDG#: MOS47-03

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

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

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

ATTN: Dr. Jeff Ostmeyer  
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
19:30:40 D 0003 12 128410 708631  
232 0.00 00021753 ASR000



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





LLI Sample No. WW 3351541  
 Collected: 03/29/00 at 09:50 by JA

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

P.O. MOSS-AMERICAN  
 Rel.

Submitted: 03/30/00 Reported: 04/14/00  
 Discard: 05/15/00

MW-9I-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 9-I09 SDG#: MOS47-03

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.76	ug/l
3281	Acenaphthylene	N.D.	0.76	ug/l
3282	Acenaphthene	N.D.	0.76	ug/l
3283	Fluorene	N.D.	0.16	ug/l
3284	Phenanthrene	N.D.	0.044	ug/l
3285	Anthracene	N.D.	0.029	ug/l
3286	Fluoranthene	N.D.	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	N.D.	0.056	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.033	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.044	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.094	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.061	ug/l

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



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



LLI Sample No. WW 3351541  
 Collected: 03/29/00 at 09:50 by JA

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

P.O. MOSS-AMERICAN  
 Rel.

Submitted: 03/30/00 Reported: 04/14/00  
 Discard: 05/15/00

MW-9I-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 9-I09 SDG#: MOS47-03

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.20	ug/l
0777	Toluene	N.D.	0.20	ug/l
0778	Ethylbenzene	N.D.	0.20	ug/l
0779	Total Xylenes	N.D.	0.60	ug/l

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

Respectfully Submitted  
 Thomas C. Lehman, Ph.D.  
 Group Leader, Petrol. Analysis



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**LLI Sample No. WW 3351541**

Collected: 03/29/00 at 09:50 by JA

Submitted: 03/30/00

MW-9I-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
9-I09 SDG#: MOS47-03

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

CAT NO	ANALYSIS NAME	METHOD	TRIAL ID	ANALYSIS		ANALYST
				DATE	TIME	
1861	PAH's in Water	SW-846 8310	1	04/05/00	0620	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	03/31/00	1030	Roxanne M. Roth
8213	BTEX (8021)	SW-846 8021A	1	03/31/00	1809	Barry R. Shoemaker



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**LLI Sample No. 3351541**  
MW-9I-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708631  
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: 000910001A									
3280	Naphthalene 0.76 ug/l	N.D.		69	-10 (2)	4	82			45	111
3281	Acenaphthylene 0.76 ug/l	N.D.		62	59	3	84			59	114
3282	Acenaphthene 0.76 ug/l	2.8 J ug/l		76	72	4	83			50	120
3283	Fluorene 0.16 ug/l	0.31 J ug/l		88	82	4	88			64	117
3284	Phenanthrene 0.044 ug/l	N.D.		91	89	3	85			75	114
3285	Anthracene 0.029 ug/l	0.035 J ug/l		67	67	2	68			53	112
3286	Fluoranthene 0.019 ug/l	N.D.		96	95	2	93			43	147
3287	Pyrene 0.17 ug/l	N.D.		87	87	1	85			39	149
3288	Benzo(a)anthracene 0.017 ug/l	N.D.		85	83	2	85			73	117
3289	Chrysene 0.056 ug/l	N.D.		86	85	1	87			68	125
3290	Benzo(b)fluoranthene 0.033 ug/l	N.D.		89	87	2	88			71	123
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.		87	86	2	88			75	118
3292	Benzo(a)pyrene 0.021 ug/l	N.D.		98	96	1	95			61	127
3293	Dibenzo(a,h)anthracene 0.044 ug/l	N.D.		87	86	1	88			71	121
3294	Benzo(g,h,i)perylene 0.094 ug/l	N.D.		87	87	1	88			70	125
3295	Indeno(1,2,3-cd)pyrene 0.061 ug/l	N.D.		86	85	1	86			73	125
8213 BTEX (8021)		Batch: 00090A66									
0776	Benzene 0.20 ug/l	N.D.		103	104	1	101	98	3	79	119
0777	Toluene 0.20 ug/l	N.D.		103	104	0	100	97	3	81	118
0778	Ethylbenzene 0.20 ug/l	N.D.		98	99	0	101	98	3	80	118
0779	Total Xylenes 0.60 ug/l	N.D.		96	97	1	100	97	3	81	118

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



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LLI Sample No. 3351541

MW-9I-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708631  
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	91	29	136
	Triphenyle	87	33	139
8213 BTEX (8021)	TFT-P	102	69	132



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LLI Sample No. WW 3351539

Collected: 03/29/00 at 08:45 by JA

Submitted: 03/30/00 Reported: 04/19/00  
Discard: 05/20/00

MW-10S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
10S09 SDG#: MOS47-01

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

P.O. MOSS-AMERICAN  
Rel.

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

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1 COPY TO Data Package Group

ATTN: Dr. Jeff Ostmeyer  
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
21:14:39 D 0003 12 REP 128410 708631  
832 0.00 00021753 ASR000



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



LLI Sample No. WW 3351539  
 Collected: 03/29/00 at 08:45 by JA

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

P.O. MOSS-AMERICAN  
 Rel.

Submitted: 03/30/00 Reported: 04/19/00  
 Discard: 05/20/00

MW-10S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 10S09 SDG#: MOS47-01

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	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	0.044	0.029	ug/l
3286	Fluoranthene	N.D.	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	N.D.	0.056	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.033	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.094	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.061	ug/l

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

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



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

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LLI Sample No. **WW 3351539**  
Collected: 03/29/00 at 08:45 by JA

Submitted: 03/30/00 Reported: 04/19/00  
Discard: 05/20/00

MW-10S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
10S09 SDG#: MOS47-01

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	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.20	ug/l
0777	Toluene	1.6	0.20	ug/l
0778	Ethylbenzene	N.D.	0.20	ug/l
0779	Total Xylenes	N.D.	0.60	ug/l

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

Respectfully Submitted  
Thomas C. Lehman, Ph.D.  
Group Leader, Petrol. Analysis



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LLI Sample No. 3351539

MW-10S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708631  
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	84	29	136
	Triphenyle	88	33	139
8213 BTEX (8021)	TFT-P	102	69	132



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**LLI Sample No. WW 3352296**  
Collected: 03/30/00 at 09:15 by JA

Submitted: 03/31/00 Reported: 04/13/00  
Discard: 05/14/00

MW-13S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
0915- SDG#: MOS47-11

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

P.O. MOSS-AMERICAN  
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AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD	
		RESULTS	DETECTION LIMIT UNITS
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: Dr. Jeff Ostmeyer  
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
02:05:45 D 0003 11 128410 708762  
232 0.00 00021753 ASR000

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



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LLI Sample No. WW 3352296  
 Collected: 03/30/00 at 09:15 by JA

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

P.O. MOSS-AMERICAN  
 Re1.

Submitted: 03/31/00 Reported: 04/13/00  
 Discard: 05/14/00

MW-13S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 0915- SDG#: MOS47-11

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD	DETECTION LIMIT UNITS
PAH's in Water				
3280	Naphthalene	N.D.		0.76 ug/l
3281	Acenaphthylene	N.D.		0.76 ug/l
3282	Acenaphthene	N.D.		0.76 ug/l
3283	Fluorene	N.D.		0.16 ug/l
3284	Phenanthrene	N.D.		0.043 ug/l
3285	Anthracene	N.D.		0.029 ug/l
3286	Fluoranthene	0.021	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.		0.056 ug/l
3290	Benzo(b)fluoranthene	N.D.		0.033 ug/l
3291	Benzo(k)fluoranthene	N.D.		0.026 ug/l
3292	Benzo(a)pyrene	N.D.		0.021 ug/l
3293	Dibenzo(a,h)anthracene	N.D.		0.044 ug/l
3294	Benzo(g,h,i)perylene	N.D.		0.094 ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.		0.060 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 3352296  
Collected: 03/30/00 at 09:15 by JA

Submitted: 03/31/00 Reported: 04/13/00  
Discard: 05/14/00

MW-13S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
0915- SDG#: MOS47-11

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

P.O. MOSS-AMERICAN  
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.20	ug/l
0777	Toluene	N.D.	0.20	ug/l
0778	Ethylbenzene	N.D.	0.20	ug/l
0779	Total Xylenes	N.D.	0.60	ug/l

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

Respectfully Submitted  
Thomas C. Lehman, Ph.D.  
Group Leader, Petrol. Analysis



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LLI Sample No. WW 3352296

Collected: 03/30/00 at 09:15 by JA

Submitted: 03/31/00

MW-13S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
0915- SDG#: MOS47-11

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	ANALYST
1861	PAH's in Water	SW-846 8310	1		04/07/00 1432	Michelle J. Kolodziejski
3337	PAH Water Extraction	SW-846 3510C	1		04/04/00 0945	Denise L. Trimby
8213	BTEX (8021)	SW-846 8021B	1		04/05/00 1305	Patrick N. Evans



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LLI Sample No. 3352296  
MW-13S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708762  
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: 000940021A									
3280	Naphthalene 0.76 ug/l	N.D.		84	81	1	80			45	111
3281	Acenaphthylene 0.76 ug/l	N.D.		91	87	1	86			59	114
3282	Acenaphthene 0.76 ug/l	N.D.		90	88	3	85			50	120
3283	Fluorene 0.16 ug/l	N.D.		97	93	1	92			64	117
3284	Phenanthrene 0.043 ug/l	N.D.		97	92	0	93			75	114
3285	Anthracene 0.029 ug/l	N.D.		89	85	1	89			53	112
3286	Fluoranthene 0.019 ug/l	N.D.		107	103	1	104			43	147
3287	Pyrene 0.17 ug/l	N.D.		102	99	3	101			39	149
3288	Benzo(a)anthracene 0.017 ug/l	N.D.		100	97	3	98			73	117
3289	Chrysene 0.056 ug/l	N.D.		105	101	2	103			68	125
3290	Benzo(b)fluoranthene 0.033 ug/l	N.D.		102	99	3	101			71	123
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.		98	95	2	97			75	118
3292	Benzo(a)pyrene 0.021 ug/l	N.D.		103	100	3	103			61	127
3293	Dibenzo(a,h)anthracene 0.044 ug/l	N.D.		101	97	1	100			71	121
3294	Benzo(g,h,i)perylene 0.094 ug/l	N.D.		102	100	3	102			70	125
3295	Indeno(1,2,3-cd)pyrene 0.060 ug/l	N.D.		104	101	2	103			73	125
8213 BTEX (8021)		Batch: 00096A53									
0776	Benzene 0.20 ug/l	N.D.		100	98	2	93	93	0	79	119
0777	Toluene 0.20 ug/l	N.D.		109	108	1	103	102	1	81	118
0778	Ethylbenzene 0.20 ug/l	N.D.		112	110	2	105	104	0	80	118
0779	Total Xylenes 0.60 ug/l	N.D.		113	110	2	106	105	0	81	118



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LLI Sample No. 3352296  
MW-13S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708762  
Kerr-McGee Corporation

SURROGATE SUMMARY

	TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
				LOW	HIGH
1861 PAH's in Water		Nitrobenz	67	29	136
		Triphenyle	71	33	139
8213 BTEX (8021)		TFT-P	95	69	132



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LLI Sample No. WW 3353236  
Collected: 03/31/00 at 09:15 by JA

Submitted: 04/01/00 Reported: 04/13/00  
Discard: 05/14/00

MW-20S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
20S-9 SDG#: MOS47-22

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

P.O. MOSS-AMERICAN  
Rel.

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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

REC'D  
APR 6 12 00 PM '00

1 COPY TO Kerr-McGee Corporation      ATTN: Dr. Jeff Ostmeyer  
 1 COPY TO Roy F. Weston                ATTN: Mr. Tom Graan  
 1 COPY TO Data Package Group

Questions? Contact your Client Services Representative  
 Kay G. Hower at (717) 656-2300  
 03:50:13 D 0003 3 128410 708941  
 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  
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LLI Sample No. WW 3353236  
Collected: 03/31/00 at 09:15 by JA

Submitted: 04/01/00 Reported: 04/13/00  
Discard: 05/14/00

MW-20S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
20S-9 SDG#: MOS47-22

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
PAH's in Water				
3280	Naphthalene	N.D.	0.76	ug/l
3281	Acenaphthylene	N.D.	0.76	ug/l
3282	Acenaphthene	N.D.	0.76	ug/l
3283	Fluorene	N.D.	0.16	ug/l
3284	Phenanthrene	N.D.	0.044	ug/l
3285	Anthracene	N.D.	0.029	ug/l
3286	Fluoranthene	N.D.	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	N.D.	0.056	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.033	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.094	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.061	ug/l

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 3353236  
Collected: 03/31/00 at 09:15 by JA

Submitted: 04/01/00 Reported: 04/13/00  
Discard: 05/14/00 -

MW-20S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
20S-9 SDG#: MOS47-22

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

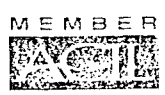
P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.20	ug/l
0777	Toluene	N.D.	0.20	ug/l
0778	Ethylbenzene	N.D.	0.20	ug/l
0779	Total Xylenes	N.D.	0.60	ug/l

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

Respectfully Submitted  
Thomas C. Lehman, Ph.D.  
Group Leader, Petrol. Analysis



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LLI Sample No. WW 3353236

Collected: 03/31/00 at 09:15 by JA

Submitted: 04/01/00

MW-20S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
20S-9 SDG#: MOS47-22

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS			ANALYST
			TRIAL	ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1		04/10/00 0030	Michelle J. Kolodziejki
3337	PAH Water Extraction	SW-846 3510C	1		04/04/00 1515	Wanda F. Oswald
8213	BTEX (8021)	SW-846 8021B	1		04/05/00 1153	Patrick N. Evans



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**LLI Sample No. 3353236**  
MW-20S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708941  
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: 000950005A										
3280	Naphthalene 0.76 ug/l	N.D.					90	92	2	45	111	
3281	Acenaphthylene 0.76 ug/l	N.D.					91	94	3	59	114	
3282	Acenaphthene 0.76 ug/l	N.D.					90	92	3	50	120	
3283	Fluorene 0.16 ug/l	N.D.					95	98	3	64	117	
3284	Phenanthrene 0.044 ug/l	N.D.					96	99	4	75	114	
3285	Anthracene 0.029 ug/l	0.054 J ug/l					90	92	3	53	112	
3286	Fluoranthene 0.019 ug/l	N.D.					107	111	3	43	147	
3287	Pyrene 0.17 ug/l	N.D.					102	106	3	39	149	
3288	Benzo(a)anthracene 0.017 ug/l	N.D.					100	103	3	73	117	
3289	Chrysene 0.056 ug/l	N.D.					104	107	3	68	125	
3290	Benzo(b)fluoranthene 0.033 ug/l	N.D.					102	105	2	71	123	
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.					98	100	2	75	118	
3292	Benzo(a)pyrene 0.021 ug/l	N.D.					104	105	1	61	127	
3293	Dibenzo(a,h)anthracene 0.045 ug/l	N.D.					102	104	2	71	121	
3294	Benzo(g,h,i)perylene 0.094 ug/l	N.D.					103	105	2	70	125	
3295	Indeno(1,2,3-cd)pyrene 0.061 ug/l	N.D.					104	106	2	73	125	
8213 BTEX (8021)		Batch: 00096A53										
0776	Benzene 0.20 ug/l	N.D.		100	98		2	93	93	0	79	119
0777	Toluene 0.20 ug/l	N.D.		109	108		1	103	102	1	81	118
0778	Ethylbenzene 0.20 ug/l	N.D.		112	110		2	105	104	0	80	118
0779	Total Xylenes 0.60 ug/l	N.D.		113	110		2	106	105	0	81	118



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LLI Sample No. 3353236  
MW-20S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708941  
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	93	29	136
		Triphenyle	104	33	139
8213 BTEX (8021)		TFT-P	97	69	132



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LLI Sample No. WW 3353237  
 Collected: 03/31/00 at 08:45 by JA

Submitted: 04/01/00 Reported: 04/13/00  
 Discard: 05/14/00

MW-20I-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 20I-9 SDG#: MOS47-23

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

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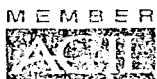
CAT NO.	ANALYSIS NAME	METHOD	
		RESULTS	DETECTION LIMIT UNITS
1861	PAH's in Water		See Page 2
8213	BTEX (8021)		See Page 3

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

ATTN: Dr. Jeff Ostmeyer  
 ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative  
 Kay G. Hower at (717) 656-2300  
 03:50:36 D 0003 3 128410 708941  
 232 0.00 00021753 ASR000

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



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LLI Sample No. WW 3353237  
Collected: 03/31/00 at 08:45 by JA

Submitted: 04/01/00 Reported: 04/13/00  
Discard: 05/14/00

MW-20I-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
20I-9 SDG#: MOS47-23

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

P.O. MOSS-AMERICAN  
Rel.

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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	0.022	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.		0.100	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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Respectfully Submitted  
Jenifer E. Hess, B.S.  
Group Leader Pesticides/PCBs



LLI Sample No. WW 3353237  
Collected: 03/31/00 at 08:45 by JA

Submitted: 04/01/00 Reported: 04/13/00  
Discard: 05/14/00

MW-20I-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
20I-9 SDG#: MOS47-23

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.20	ug/l
0777	Toluene	N.D.	0.20	ug/l
0778	Ethylbenzene	N.D.	0.20	ug/l
0779	Total Xylenes	N.D.	0.60	ug/l

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

Respectfully Submitted  
Thomas C. Lehman, Ph.D.  
Group Leader, Petrol. Analysis



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LLI Sample No. WW 3353237

Collected: 03/31/00 at 08:45 by JA

Submitted: 04/01/00

MW-20I-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
20I-9 SDG#: MOS47-23

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	04/10/00 0051	Michelle J. Kolodziejski
3337	PAH Water Extraction	SW-846 3510C	1	04/04/00 1515	Wanda F. Oswald
8213	BTEX (8021)	SW-846 8021B	1	04/05/00 1229	Patrick N. Evans



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**LLI Sample No. 3353237**

MW-20I-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708941  
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: 000950005A										
3280	Naphthalene											
	0.80 ug/l	N.D.					90	92	2	45	111	
3281	Acenaphthylene											
	0.80 ug/l	N.D.					91	94	3	59	114	
3282	Acenaphthene											
	0.80 ug/l	N.D.					90	92	3	50	120	
3283	Fluorene											
	0.17 ug/l	N.D.					95	98	3	64	117	
3284	Phenanthrene											
	0.046 ug/l	N.D.					96	99	4	75	114	
3285	Anthracene											
	0.031 ug/l	0.054 J ug/l					90	92	3	53	112	
3286	Fluoranthene											
	0.020 ug/l	N.D.					107	111	3	43	147	
3287	Pyrene											
	0.18 ug/l	N.D.					102	106	3	39	149	
3288	Benzo(a)anthracene											
	0.018 ug/l	N.D.					100	103	3	73	117	
3289	Chrysene											
	0.059 ug/l	N.D.					104	107	3	68	125	
3290	Benzo(b)fluoranthene											
	0.035 ug/l	N.D.					102	105	2	71	123	
3291	Benzo(k)fluoranthene											
	0.027 ug/l	N.D.					98	100	2	75	118	
3292	Benzo(a)pyrene											
	0.022 ug/l	N.D.					104	105	1	61	127	
3293	Dibenzo(a,h)anthracene											
	0.047 ug/l	N.D.					102	104	2	71	121	
3294	Benzo(g,h,i)perylene											
	0.100 ug/l	N.D.					103	105	2	70	125	
3295	Indeno(1,2,3-cd)pyrene											
	0.064 ug/l	N.D.					104	106	2	73	125	
8213 BTEX (8021)		Batch: 00096A53										
0776	Benzene											
	0.20 ug/l	N.D.		100	98		2	93	93	0	79	119
0777	Toluene											
	0.20 ug/l	N.D.		109	108		1	103	102	1	81	118
0778	Ethylbenzene											
	0.20 ug/l	N.D.		112	110		2	105	104	0	80	118
0779	Total Xylenes											
	0.60 ug/l	N.D.		113	110		2	106	105	0	81	118



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LLI Sample No. 3353237  
MW-201-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708941  
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS	
	TRIAL ID	SURROGATE	RECOVERY %	LOW HIGH
1861 PAH's in Water		Nitrobenz	94	29 136
		Triphenyle	46	33 139
8213 BTEX (8021)		TFT-P	97	69 132



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**LLI Sample No. WW 3352297**  
Collected: 03/30/00 at 10:00 by JA

Submitted: 03/31/00 Reported: 04/13/00  
Discard: 05/14/00

MW-25S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
1000- SDG#: MOS47-12

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

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

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

ATTN: Dr. Jeff Ostmeyer  
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
02:06:12 D 0003 11 128410 708762  
232 0.00 00021753 ASR000



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



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Collected: 03/30/00 at 10:00 by JA

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

P.O. MOSS-AMERICAN  
Rel.

Submitted: 03/31/00 Reported: 04/13/00  
Discard: 05/14/00

MW-25S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
1000- SDG#: MOS47-12

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	

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



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LLI Sample No. WW 3352297  
Collected: 03/30/00 at 10:00 by JA

Submitted: 03/31/00 Reported: 04/13/00  
Discard: 05/14/00

MW-25S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
1000- SDG#: MOS47-12

Account No: 07802

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

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CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.20	ug/l
0777	Toluene	N.D.	0.20	ug/l
0778	Ethylbenzene	N.D.	0.20	ug/l
0779	Total Xylenes	N.D.	0.60	ug/l

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

Respectfully Submitted  
Thomas C. Lehman, Ph.D.  
Group Leader, Petrol. Analysis



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LLI Sample No. WW 3352297

Collected: 03/30/00 at 10:00 by JA

Submitted: 03/31/00

MW-25S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
1000- SDG#: MOS47-12

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

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS		ANALYST
				ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1		04/07/00 1454	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1		04/04/00 0945	Denise L. Trimby
8213	BTEX (8021)	SW-846 8021B	1		04/05/00 1342	Patrick N. Evans



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**LLI Sample No. 3352297**  
MW-25S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708762  
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH	
-----		Batch: 000940021A										
1861 PAH's in Water												
-----												
3280	Naphthalene											
	0.80 ug/l	N.D.		84	81	1	80			45	111	
3281	Acenaphthylene											
	0.80 ug/l	N.D.		91	87	1	86			59	114	
3282	Acenaphthene											
	0.80 ug/l	N.D.		90	88	3	85			50	120	
3283	Fluorene											
	0.17 ug/l	N.D.		97	93	1	92			64	117	
3284	Phenanthrene											
	0.046 ug/l	N.D.		97	92	0	93			75	114	
3285	Anthracene											
	0.031 ug/l	N.D.		89	85	1	89			53	112	
3286	Fluoranthene											
	0.020 ug/l	N.D.		107	103	1	104			43	147	
3287	Pyrene											
	0.18 ug/l	N.D.		102	99	3	101			39	149	
3288	Benzo(a)anthracene											
	0.018 ug/l	N.D.		100	97	3	98			73	117	
3289	Chrysene											
	0.059 ug/l	N.D.		105	101	2	103			68	125	
3290	Benzo(b)fluoranthene											
	0.035 ug/l	N.D.		102	99	3	101			71	123	
3291	Benzo(k)fluoranthene											
	0.027 ug/l	N.D.		98	95	2	97			75	118	
3292	Benzo(a)pyrene											
	0.022 ug/l	N.D.		103	100	3	103			61	127	
3293	Dibenzo(a,h)anthracene											
	0.047 ug/l	N.D.		101	97	1	100			71	121	
3294	Benzo(g,h,i)perylene											
	0.099 ug/l	N.D.		102	100	3	102			70	125	
3295	Indeno(1,2,3-cd)pyrene											
	0.064 ug/l	N.D.		104	101	2	103			73	125	
-----												
8213 BTEX (8021)		Batch: 00096A53										
-----												
0776	Benzene											
	0.20 ug/l	N.D.		100	98	2	93	93	0	79	119	
0777	Toluene											
	0.20 ug/l	N.D.		109	108	1	103	102	1	81	118	
0778	Ethylbenzene											
	0.20 ug/l	N.D.		112	110	2	105	104	0	80	118	
0779	Total Xylenes											
	0.60 ug/l	N.D.		113	110	2	106	105	0	81	118	



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LLI Sample No. 3352297  
MW-25S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708762  
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	52	29	136
		Triphenyle	57	33	139
8213 BTEX (8021)		TFT-P	100	69	132



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**LLI Sample No. WW 3352298**  
Collected: 03/30/00 at 10:30 by JA

Submitted: 03/31/00 Reported: 04/13/00  
Discard: 05/14/00

MW-26S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
1030- SDG#: MOS47-13

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

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

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1 COPY TO Roy F. Weston  
1 COPY TO Data Package Group

ATTN: Dr. Jeff Ostmeyer  
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
02:06:34 D 0003 11 128410 708762  
232 0.00 00021753 ASR000

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



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LLI Sample No. WW 3352298

Collected: 03/30/00 at 10:30 by JA

Submitted: 03/31/00 Reported: 04/13/00  
Discard: 05/14/00

MW-26S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
1030- SDG#: MOS47-13

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

P.O. MOSS-AMERICAN  
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD	DETECTION LIMIT UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.76	ug/l
3281	Acenaphthylene	N.D.	0.76	ug/l
3282	Acenaphthene	N.D.	0.76	ug/l
3283	Fluorene	N.D.	0.16	ug/l
3284	Phenanthrene	N.D.	0.044	ug/l
3285	Anthracene	N.D.	0.029	ug/l
3286	Fluoranthene	N.D.	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	0.235 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	N.D.	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.094	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.061	ug/l

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



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



LLI Sample No. WW 3352298  
 Collected: 03/30/00 at 10:30 by JA

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

P.O. MOSS-AMERICAN  
 Rel.

Submitted: 03/31/00 Reported: 04/13/00  
 Discard: 05/14/00

MW-26S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 1030- SDG#: MOS47-13

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.20	ug/l
0777	Toluene	N.D.	0.20	ug/l
0778	Ethylbenzene	N.D.	0.20	ug/l
0779	Total Xylenes	N.D.	0.60	ug/l

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

Respectfully Submitted  
 Thomas C. Lehman, Ph.D.  
 Group Leader, Petro1. Analysis



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**LLI Sample No. WW 3352298**

Collected: 03/30/00 at 10:30 by JA

Submitted: 03/31/00

MW-26S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
1030- SDG#: MOS47-13

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		04/07/00 1515	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1		04/04/00 0945	Denise L. Trimby
8213	BTEX (8021)	SW-846 8021B	1		04/05/00 1418	Patrick N. Evans



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**LLI Sample No. 3352298**

MW-26S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708762  
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: 000940021A								
-----											
3280	Naphthalene 0.76 ug/l	N.D.		84	81	1	80			45	111
3281	Acenaphthylene 0.76 ug/l	N.D.		91	87	1	86			59	114
3282	Acenaphthene 0.76 ug/l	N.D.		90	88	3	85			50	120
3283	Fluorene 0.16 ug/l	N.D.		97	93	1	92			64	117
3284	Phenanthrene 0.044 ug/l	N.D.		97	92	0	93			75	114
3285	Anthracene 0.029 ug/l	N.D.		89	85	1	89			53	112
3286	Fluoranthene 0.019 ug/l	N.D.		107	103	1	104			43	147
3287	Pyrene 0.17 ug/l	N.D.		102	99	3	101			39	149
3288	Benzo(a)anthracene 0.017 ug/l	N.D.		100	97	3	98			73	117
3289	Chrysene 0.056 ug/l	N.D.		105	101	2	103			68	125
3290	Benzo(b)fluoranthene 0.033 ug/l	N.D.		102	99	3	101			71	123
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.		98	95	2	97			75	118
3292	Benzo(a)pyrene 0.021 ug/l	N.D.		103	100	3	103			61	127
3293	Dibenzo(a,h)anthracene 0.045 ug/l	N.D.		101	97	1	100			71	121
3294	Benzo(g,h,i)perylene 0.094 ug/l	N.D.		102	100	3	102			70	125
3295	Indeno(1,2,3-cd)pyrene 0.061 ug/l	N.D.		104	101	2	103			73	125
-----											
8213 BTEX (8021)			Batch: 00096A53								
-----											
0776	Benzene 0.20 ug/l	N.D.		100	98	2	93	93	0	79	119
0777	Toluene 0.20 ug/l	N.D.		109	108	1	103	102	1	81	118
0778	Ethylbenzene 0.20 ug/l	N.D.		112	110	2	105	104	0	80	118
0779	Total Xylenes 0.60 ug/l	N.D.		113	110	2	106	105	0	81	118



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LLI Sample No. 3352298

MW-26S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708762  
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	80	29	136
		Triphenyle	91	33	139
8213 BTEX (8021)		TFT-P	98	69	132



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**LLI Sample No. WW 3351544**  
Collected: 03/29/00 at 13:30 by JA

Submitted: 03/30/00 Reported: 04/19/00  
Discard: 05/20/00

MW-27S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
27S09 SDG#: MOS47-06

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

P.O. MOSS-AMERICAN  
Rel.

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

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

ATTN: Dr. Jeff Ostmeyer  
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
21:15:50 D 0003 12 REP 128410 708631  
832 0.00 00021753 ASR000



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





LLI Sample No. **ww 3351544**  
 Collected: 03/29/00 at 13:30 by JA

Submitted: 03/30/00 Reported: 04/19/00  
 Discard: 05/20/00

MW-27S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 27S09 SDG#: MOS47-06

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

P.O. MOSS-AMERICAN  
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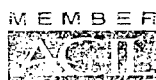
AS RECEIVED

METHOD

CAT NO.	ANALYSIS NAME	RESULTS	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	0.048	0.030	ug/l
3286	Fluoranthene	0.022 J	0.019	ug/l
3287	Pyrene	0.20 J	0.17	ug/l
3288	Benzo(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	N.D.	0.056	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.033	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.094	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.061	ug/l

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

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



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LLI Sample No. **WW 3351544**  
 Collected: 03/29/00 at 13:30 by JA

Submitted: 03/30/00 Reported: 04/19/00  
 Discard: 05/20/00

MW-27S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 27S09 SDG#: MOS47-06

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

P.O. MOSS-AMERICAN  
 Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.20	ug/l
0777	Toluene	N.D.	0.20	ug/l
0778	Ethylbenzene	N.D.	0.20	ug/l
0779	Total Xylenes	0.80 J	0.60	ug/l

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



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Respectfully Submitted  
 Thomas C. Lehman, Ph.D.  
 Group Leader, Petrol. Analysis

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LLI Sample No. WW 3351544

Collected: 03/29/00 at 13:30 by JA

Submitted: 03/30/00

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

MW-27S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
27S09 SDG#: MOS47-06

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	04/05/00 0722	Michelle J. Kolodziejski
3337	PAH Water Extraction	SW-846 3510C	1	03/31/00 1030	Roxanne M. Roth
8213	BTEX (8021)	SW-846 8021B	1	03/31/00 1948	Barry R. Shoemaker



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**LLI Sample No. 3351544**  
MW-27S-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708631  
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: 000910001A									
-----											
3280	Naphthalene 0.76 ug/l	N.D.		69	-10 (2)	4	82			45	111
3281	Acenaphthylene 0.76 ug/l	N.D.		62	59	3	84			59	114
3282	Acenaphthene 0.76 ug/l	2.8 J ug/l		76	72	4	83			50	120
3283	Fluorene 0.16 ug/l	0.31 J ug/l		88	82	4	88			64	117
3284	Phenanthrene 0.044 ug/l	N.D.		91	89	3	85			75	114
3285	Anthracene 0.030 ug/l	0.035 J ug/l		67	67	2	68			53	112
3286	Fluoranthene 0.019 ug/l	N.D.		96	95	2	93			43	147
3287	Pyrene 0.17 ug/l	N.D.		87	87	1	85			39	149
3288	Benzo(a)anthracene 0.017 ug/l	N.D.		85	83	2	85			73	117
3289	Chrysene 0.056 ug/l	N.D.		86	85	1	87			68	125
3290	Benzo(b)fluoranthene 0.033 ug/l	N.D.		89	87	2	88			71	123
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.		87	86	2	88			75	118
3292	Benzo(a)pyrene 0.021 ug/l	N.D.		98	96	1	95			61	127
3293	Dibenzo(a,h)anthracene 0.045 ug/l	N.D.		87	86	1	88			71	121
3294	Benzo(g,h,i)perylene 0.094 ug/l	N.D.		87	87	1	88			70	125
3295	Indeno(1,2,3-cd)pyrene 0.061 ug/l	N.D.		86	85	1	86			73	125
-----											
8213 BTEX (8021)		Batch: 00090A66									
-----											
0776	Benzene 0.20 ug/l	N.D.		103	104	1	101	98	3	79	119
0777	Toluene 0.20 ug/l	N.D.		103	104	0	100	97	3	81	118
0778	Ethylbenzene 0.20 ug/l	N.D.		98	99	0	101	98	3	80	118
0779	Total Xylenes 0.60 ug/l	N.D.		96	97	1	100	97	3	81	118

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



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LLI Sample No. **3351544**  
MW-27S-09 Grab Water Sample  
Moss-American Superfund Site - Milwaukee, WI

Group No. 708631  
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	70	29	136
		Triphenyle	75	33	139
8213 BTEX (8021)		TFT-P	102	69	132

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LLI Sample No. WW 3351543  
Collected: 03/29/00 at 11:15 by JA

Submitted: 03/30/00 Reported: 04/14/00  
Discard: 05/15/00

TW-05-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
TW059 SDG#: MOS47-05

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

P.O. MOSS-AMERICAN  
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		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: Dr. Jeff Ostmeyer  
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
19:31:30 D 0003 12 128410 708631  
232 0.00 00021753 ASR000



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



LLI Sample No. WW 3351543  
 Collected: 03/29/00 at 11:15 by JA

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

P.O. MOSS-AMERICAN  
 Rel.

Submitted: 03/30/00 Reported: 04/14/00  
 Discard: 05/15/00

TW-05-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 TW059 SDG#: MOS47-05

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	9.8	J 7.6	ug/l
3281	Acenaphthylene	9.0	JV 7.6	ug/l
3282	Acenaphthene	78.	7.6	ug/l
3283	Fluorene	55.5	1.6	ug/l
3284	Phenanthrene	3.9	0.44	ug/l
3285	Anthracene	19.5	0.29	ug/l
3286	Fluoranthene	22.5	0.19	ug/l
3287	Pyrene	21.2	1.7	ug/l
3288	Benzo(a)anthracene	3.15	0.17	ug/l
3289	Chrysene	2.74	J 0.56	ug/l
3290	Benzo(b)fluoranthene	1.07	0.33	ug/l
3291	Benzo(k)fluoranthene	0.66	0.26	ug/l
3292	Benzo(a)pyrene	1.44	0.21	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.45	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.94	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.61	ug/l

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

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



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



LLI Sample No. WW 3351543  
Collected: 03/29/00 at 11:15 by JA

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

P.O. MOSS-AMERICAN  
Rel.

Submitted: 03/30/00 Reported: 04/14/00  
Discard: 05/15/00

TW-05-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
TW059 SDG#: MOS47-05

AS RECEIVED  
METHOD  
RESULTS DETECTION LIMIT UNITS

CAT  
NO. ANALYSIS NAME

BTEX (8021)

CAT NO.	ANALYSIS NAME	RESULTS	DETECTION LIMIT	UNITS
0776	Benzene	N.D.	0.20	ug/l
0777	Toluene	N.D.	0.20	ug/l
0778	Ethylbenzene	N.D.	0.20	ug/l
0779	Total Xylenes	N.D.	0.60	ug/l

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

Respectfully Submitted  
Thomas C. Lehman, Ph.D.  
Group Leader, Petrol. Analysis

MEMBER  
  
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LLI Sample No. 3351543

TW-05-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708631  
Kerr-McGee Corporation

SURROGATE SUMMARY

	TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
				LOW	HIGH
1861 PAH's in Water		Nitrobenz	69	29	136
		Triphenyle	147	33	139
8213 BTEX (8021)		TFT-P	102	69	132



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LLI Sample No. WW 3351548  
Collected: 03/29/00 by JA

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

P.O. MOSS-AMERICAN  
Rel.

Submitted: 03/30/00 Reported: 04/19/00  
Discard: 05/20/00

FD-01-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
FD090 SDG#: MOS47-08FD

AS RECEIVED  
METHOD  
RESULTS DETECTION LIMIT UNITS

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

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1 COPY TO Roy F. Weston  
1 COPY TO Data Package Group

ATTN: Dr. Jeff Ostmeyer  
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
21:18:31 D 0003 12 REP 128410 708631  
832 0.00 00021753 ASR000



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

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LLI Sample No. **WW 3351548**  
Collected: 03/29/00 by JA

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

P.O. MOSS-AMERICAN  
Rel.

Submitted: 03/30/00 Reported: 04/19/00  
Discard: 05/20/00

FD-01-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
FD090 SDG#: MOS47-08FD

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	N.D.	0.044	ug/l
3285	Anthracene	N.D.	0.030	ug/l
3286	Fluoranthene	N.D.	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	N.D.	0.057	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.034	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.095	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.062	ug/l

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 3351548  
Collected: 03/29/00 by JA

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

P.O. MOSS-AMERICAN  
Rel.

Submitted: 03/30/00 Reported: 04/19/00  
Discard: 05/20/00

FD-01-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
FD090 SDG#: MOS47-08FD

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.20	ug/l
0777	Toluene	N.D.	0.20	ug/l
0778	Ethylbenzene	N.D.	0.20	ug/l
0779	Total Xylenes	N.D.	0.60	ug/l

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



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Respectfully Submitted  
Thomas C. Lehman, Ph.D.  
Group Leader, Petrol. Analysis



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LLI Sample No. **WW 3351548**  
Collected: 03/29/00 by JA

Submitted: 03/30/00

FD-01-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
FD090 SDG#: MOS47-08FD

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		04/05/00 0742	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1		03/31/00 1030	Roxanne M. Roth
8213	BTEX (8021)	SW-846 8021B	1		03/31/00 2021	Barry R. Shoemaker



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**LLI Sample No. 3351548**

FD-01-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708631  
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: 000910001A								
-----											
3280	Naphthalene										
	0.77 ug/l	N.D.		69	-10 (2)	4	82			45	111
3281	Acenaphthylene										
	0.77 ug/l	N.D.		62	59	3	84			59	114
3282	Acenaphthene										
	0.77 ug/l	2.8 J ug/l		76	72	4	83			50	120
3283	Fluorene										
	0.16 ug/l	0.31 J ug/l		88	82	4	88			64	117
3284	Phenanthrene										
	0.044 ug/l	N.D.		91	89	3	85			75	114
3285	Anthracene										
	0.030 ug/l	0.035 J ug/l		67	67	2	68			53	112
3286	Fluoranthene										
	0.019 ug/l	N.D.		96	95	2	93			43	147
3287	Pyrene										
	0.17 ug/l	N.D.		87	87	1	85			39	149
3288	Benzo(a)anthracene										
	0.017 ug/l	N.D.		85	83	2	85			73	117
3289	Chrysene										
	0.057 ug/l	N.D.		86	85	1	87			68	125
3290	Benzo(b)fluoranthene										
	0.034 ug/l	N.D.		89	87	2	88			71	123
3291	Benzo(k)fluoranthene										
	0.026 ug/l	N.D.		87	86	2	88			75	118
3292	Benzo(a)pyrene										
	0.021 ug/l	N.D.		98	96	1	95			61	127
3293	Dibenzo(a,h)anthracene										
	0.045 ug/l	N.D.		87	86	1	88			71	121
3294	Benzo(g,h,i)perylene										
	0.095 ug/l	N.D.		87	87	1	88			70	125
3295	Indeno(1,2,3-cd)pyrene										
	0.062 ug/l	N.D.		86	85	1	86			73	125
-----											
8213 BTEX (8021)			Batch: 00090A66								
-----											
0776	Benzene										
	0.20 ug/l	N.D.		103	104	1	101	98	3	79	119
0777	Toluene										
	0.20 ug/l	N.D.		103	104	0	100	97	3	81	118
0778	Ethylbenzene										
	0.20 ug/l	N.D.		98	99	0	101	98	3	80	118
0779	Total Xylenes										
	0.60 ug/l	N.D.		96	97	1	100	97	3	81	118

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



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LLI Sample No. 3351548  
FD-01-09 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708631  
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	90	29	136
	Triphenyle	92	33	139
8213 BTEX (8021)	TFT-P	102	69	132



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LLI Sample No. WW 3351549  
Collected: 03/29/00 at 15:00 by JA

Submitted: 03/30/00 Reported: 04/19/00  
Discard: 05/20/00

FB-01-09 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
FB090 SDG#: MOS47-09FB

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

P.O. MOSS-AMERICAN  
Rel.

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

1 COPY TO Kerr-McGee Corporation      ATTN: Dr. Jeff Ostmeier  
 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  
 21:19:19 D 0003 12 REP 128410 708631  
 832 0.00 00021753 ASR000



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

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

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LLI Sample No. WW 3351549  
 Collected: 03/29/00 at 15:00 by JA

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

P.O. MOSS-AMERICAN  
 Rel.

Submitted: 03/30/00 Reported: 04/19/00  
 Discard: 05/20/00

FB-01-09 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 FB090 SDG#: MOS47-09FB

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	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	1.3	0.87	ug/l
3283	Fluorene	N.D.	0.18	ug/l
3284	Phenanthrene	N.D.	0.050	ug/l
3285	Anthracene	0.122	0.034	ug/l
3286	Fluoranthene	N.D.	0.022	ug/l
3287	Pyrene	N.D.	0.20	ug/l
3288	Benzo(a)anthracene	N.D.	0.020	ug/l
3289	Chrysene	N.D.	0.064	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.038	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.029	ug/l
3292	Benzo(a)pyrene	N.D.	0.024	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.051	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.11	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.069	ug/l

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 3351549**  
 Collected: 03/29/00 at 15:00 by JA

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

P.O. MOSS-AMERICAN  
 Rel.


Submitted: 03/30/00 Reported: 04/19/00  
 Discard: 05/20/00

FB-01-09 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 FB090 SDG#: MOS47-09FB

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.20	ug/l
0777	Toluene	N.D.	0.20	ug/l
0778	Ethylbenzene	N.D.	0.20	ug/l
0779	Total Xylenes	N.D.	0.60	ug/l

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

MEMBER  
  
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Respectfully Submitted  
 Thomas C. Lehman, Ph.D.  
 Group Leader, Petrol. Analysis

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LLI Sample No. WW 3351549

Collected: 03/29/00 at 15:00 by JA

Submitted: 03/30/00

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

FB-01-09 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
FB090 SDG#: MOS47-09FB

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS			
			TRIAL	ID	DATE AND TIME	ANALYST
1861	PAH's in Water	SW-846 8310	1		04/05/00 0823	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1		03/31/00 1030	Roxanne M. Roth
8213	BTEX (8021)	SW-846 8021B	1		03/31/00 2055	Barry R. Shoemaker



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**LLI Sample No. 3351549**  
FB-01-09 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708631  
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: 000910001A									
3280	Naphthalene										
	0.87 ug/l	N.D.		69	-10 (2)	4	82			45	111
3281	Acenaphthylene										
	0.87 ug/l	N.D.		62	59	3	84			59	114
3282	Acenaphthene										
	0.87 ug/l	2.8 J ug/l		76	72	4	83			50	120
3283	Fluorene										
	0.18 ug/l	0.31 J ug/l		88	82	4	88			64	117
3284	Phenanthrene										
	0.050 ug/l	N.D.		91	89	3	85			75	114
3285	Anthracene										
	0.034 ug/l	0.035 J ug/l		67	67	2	68			53	112
3286	Fluoranthene										
	0.022 ug/l	N.D.		96	95	2	93			43	147
3287	Pyrene										
	0.20 ug/l	N.D.		87	87	1	85			39	149
3288	Benzo(a)anthracene										
	0.020 ug/l	N.D.		85	83	2	85			73	117
3289	Chrysene										
	0.064 ug/l	N.D.		86	85	1	87			68	125
3290	Benzo(b)fluoranthene										
	0.038 ug/l	N.D.		89	87	2	88			71	123
3291	Benzo(k)fluoranthene										
	0.029 ug/l	N.D.		87	86	2	88			75	118
3292	Benzo(a)pyrene										
	0.024 ug/l	N.D.		98	96	1	95			61	127
3293	Dibenzo(a,h)anthracene										
	0.051 ug/l	N.D.		87	86	1	88			71	121
3294	Benzo(g,h,i)perylene										
	0.11 ug/l	N.D.		87	87	1	88			70	125
3295	Indeno(1,2,3-cd)pyrene										
	0.069 ug/l	N.D.		86	85	1	86			73	125
-----											
8213	BTEX (8021)	Batch: 00090A66									
0776	Benzene										
	0.20 ug/l	N.D.		103	104	1	101	98	3	79	119
0777	Toluene										
	0.20 ug/l	N.D.		103	104	0	100	97	3	81	118
0778	Ethylbenzene										
	0.20 ug/l	N.D.		98	99	0	101	98	3	80	118
0779	Total Xylenes										
	0.60 ug/l	N.D.		96	97	1	100	97	3	81	118

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



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LLI Sample No. 3351549

FB-01-09 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708631  
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	75	29	136
	Triphenyle	93	33	139
8213 BTEX (8021)	TFT-P	102	69	132



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LLI Sample No. WW 3352304  
Collected: 03/30/00 at 16:30 by JA

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

P.O. MOSS-AMERICAN  
Rel.

Submitted: 03/31/00 Reported: 04/13/00  
Discard: 05/14/00

FB-02-09 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
1630- SDG#: MOS47-19FB

AS RECEIVED

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

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

ATTN: Dr. Jeff Ostmeyer  
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
02:08:29 D 0003 11 128410 708762  
232 0.00 00021753 ASR000



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



LLI Sample No. WW 3352304  
 Collected: 03/30/00 at 16:30 by JA

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

P.O. MOSS-AMERICAN  
 Rel.

Submitted: 03/31/00 Reported: 04/13/00  
 Discard: 05/14/00

FB-02-09 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 1630- SDG#: MOS47-19FB

AS RECEIVED

METHOD

CAT NO.	ANALYSIS NAME	RESULTS	DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.88	ug/l
3281	Acenaphthylene	N.D.	0.88	ug/l
3282	Acenaphthene	N.D.	0.88	ug/l
3283	Fluorene	N.D.	0.19	ug/l
3284	Phenanthrene	N.D.	0.051	ug/l
3285	Anthracene	N.D.	0.034	ug/l
3286	Fluoranthene	N.D.	0.022	ug/l
3287	Pyrene	N.D.	0.20	ug/l
3288	Benzo(a)anthracene	N.D.	0.020	ug/l
3289	Chrysene	N.D.	0.065	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.038	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.030	ug/l
3292	Benzo(a)pyrene	N.D.	0.024	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.052	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.11	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.070	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 3352304  
 Collected: 03/30/00 at 16:30 by JA

Account No: 07802

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

P.O. MOSS-AMERICAN  
 Rel.

Submitted: 03/31/00 Reported: 04/13/00  
 Discard: 05/14/00

FB-02-09 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 1630- SDG#: MOS47-19FB

## AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.20	ug/l
0777	Toluene	N.D.	0.20	ug/l
0778	Ethylbenzene	N.D.	0.20	ug/l
0779	Total Xylenes	N.D.	0.60	ug/l

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

Respectfully Submitted  
 Thomas C. Lehman, Ph.D.  
 Group Leader, Petro. Analysis



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**LLI Sample No. WW 3352304**

Collected: 03/30/00 at 16:30 by JA

Submitted: 03/31/00

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

FB-02-09 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
1630- SDG#: MOS47-19FB

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS		ANALYST
				ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1		04/07/00 1728	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1		04/04/00 0945	Denise L. Trimby
8213	BTEX (8021)	SW-846 8021B	1		04/05/00 1720	Patrick N. Evans



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**LLI Sample No. 3352304**  
FB-02-09 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708762  
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: 000940021A									
-----											
3280	Naphthalene 0.88 ug/l	N.D.		84	81	1	80			45	111
3281	Acenaphthylene 0.88 ug/l	N.D.		91	87	1	86			59	114
3282	Acenaphthene 0.88 ug/l	N.D.		90	88	3	85			50	120
3283	Fluorene 0.19 ug/l	N.D.		97	93	1	92			64	117
3284	Phenanthrene 0.051 ug/l	N.D.		97	92	0	93			75	114
3285	Anthracene 0.034 ug/l	N.D.		89	85	1	89			53	112
3286	Fluoranthene 0.022 ug/l	N.D.		107	103	1	104			43	147
3287	Pyrene 0.20 ug/l	N.D.		102	99	3	101			39	149
3288	Benzo(a)anthracene 0.020 ug/l	N.D.		100	97	3	98			73	117
3289	Chrysene 0.065 ug/l	N.D.		105	101	2	103			68	125
3290	Benzo(b)fluoranthene 0.038 ug/l	N.D.		102	99	3	101			71	123
3291	Benzo(k)fluoranthene 0.030 ug/l	N.D.		98	95	2	97			75	118
3292	Benzo(a)pyrene 0.024 ug/l	N.D.		103	100	3	103			61	127
3293	Dibenzo(a,h)anthracene 0.052 ug/l	N.D.		101	97	1	100			71	121
3294	Benzo(g,h,i)perylene 0.11 ug/l	N.D.		102	100	3	102			70	125
3295	Indeno(1,2,3-cd)pyrene 0.070 ug/l	N.D.		104	101	2	103			73	125
-----											
8213 BTEX (8021)		Batch: 00096A53									
-----											
0776	Benzene 0.20 ug/l	N.D.		100	98	2	93	93	0	79	119
0777	Toluene 0.20 ug/l	N.D.		109	108	1	103	102	1	81	118
0778	Ethylbenzene 0.20 ug/l	N.D.		112	110	2	105	104	0	80	118
0779	Total Xylenes 0.60 ug/l	N.D.		113	110	2	106	105	0	81	118



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LLI Sample No. **3352304**

FB-02-09 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708762  
Kerr-McGee Corporation

### SURROGATE SUMMARY

	TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
				LOW	HIGH
1861 PAH's in Water		Nitrobenz	83	29	136
		Triphenyle	91	33	139
8213 BTEX (8021)		TFT-P	96	69	132



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LLI Sample No. WW 3352305  
Collected: 03/30/00 by JA

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

P.O. MOSS-AMERICAN  
Rel.

Submitted: 03/31/00 Reported: 04/13/00  
Discard: 05/14/00

FD-02-09 Field Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
-F-D- SDG#: MOS47-20

AS RECEIVED

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

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1 COPY TO Data Package Group

ATTN: Dr. Jeff Ostmeyer  
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
02:08:49 D 0003 11 128410 708762  
232 0.00 00021753 ASR000

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



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Lancaster, PA 17605-2425  
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LLI Sample No. WW **3352305**  
 Collected: 03/30/00 by JA

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

P.O. MOSS-AMERICAN  
 Rel.

Submitted: 03/31/00 Reported: 04/13/00  
 Discard: 05/14/00

FD-02-09 Field Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 -F-D- SDG#: MOS47-20

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.76	ug/l
3281	Acenaphthylene	N.D.	0.76	ug/l
3282	Acenaphthene	N.D.	0.76	ug/l
3283	Fluorene	N.D.	0.16	ug/l
3284	Phenanthrene	N.D.	0.044	ug/l
3285	Anthracene	N.D.	0.029	ug/l
3286	Fluoranthene	0.024 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.	0.056	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.033	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.021	ug/l
3293	Dibenzo(a, h)anthracene	N.D.	0.045	ug/l
3294	Benzo(g, h, i)perylene	N.D.	0.094	ug/l
3295	Indeno(1, 2, 3-cd)pyrene	N.D.	0.061	ug/l

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



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



LLI Sample No. WW **3352305**  
 Collected: 03/30/00 by JA

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

P.O. MOSS-AMERICAN  
 Rel.

Submitted: 03/31/00 Reported: 04/13/00  
 Discard: 05/14/00

FD-02-09 Field Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
 -F-D- SDG#: MOS47-20

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	
			DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.20	ug/l
0777	Toluene	N.D.	0.20	ug/l
0778	Ethylbenzene	N.D.	0.20	ug/l
0779	Total Xylenes	N.D.	0.60	ug/l

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

Respectfully Submitted  
 Thomas C. Lehman, Ph.D.  
 Group Leader, Petrol. Analysis



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LLI Sample No. WW 3352305

Collected: 03/30/00 by JA

Submitted: 03/31/00

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

FD-02-09 Field Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI  
-F-D- SDG#: MOS47-20

CAT NO	ANALYSIS NAME	METHOD	TRIAL ID	ANALYSIS DATE AND TIME	ANALYST
1861	PAH's in Water	SW-846 8310	1	04/07/00 1811	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	04/04/00 0945	Denise L. Trimby
8213	BTEX (8021)	SW-846 8021B	1	04/05/00 2021	Patrick N. Evans



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LLI Sample No. **3352305**  
FD-02-09 Field Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708762  
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: 000940021A								
-----											
3280	Naphthalene										
	0.76 ug/l	N.D.		84	81	1	80			45	111
3281	Acenaphthylene										
	0.76 ug/l	N.D.		91	87	1	86			59	114
3282	Acenaphthene										
	0.76 ug/l	N.D.		90	88	3	85			50	120
3283	Fluorene										
	0.16 ug/l	N.D.		97	93	1	92			64	117
3284	Phenanthrene										
	0.044 ug/l	N.D.		97	92	0	93			75	114
3285	Anthracene										
	0.029 ug/l	N.D.		89	85	1	89			53	112
3286	Fluoranthene										
	0.019 ug/l	N.D.		107	103	1	104			43	147
3287	Pyrene										
	0.17 ug/l	N.D.		102	99	3	101			39	149
3288	Benzo(a)anthracene										
	0.017 ug/l	N.D.		100	97	3	98			73	117
3289	Chrysene										
	0.056 ug/l	N.D.		105	101	2	103			68	125
3290	Benzo(b)fluoranthene										
	0.033 ug/l	N.D.		102	99	3	101			71	123
3291	Benzo(k)fluoranthene										
	0.026 ug/l	N.D.		98	95	2	97			75	118
3292	Benzo(a)pyrene										
	0.021 ug/l	N.D.		103	100	3	103			61	127
3293	Dibenzo(a,h)anthracene										
	0.045 ug/l	N.D.		101	97	1	100			71	121
3294	Benzo(g,h,i)perylene										
	0.094 ug/l	N.D.		102	100	3	102			70	125
3295	Indeno(1,2,3-cd)pyrene										
	0.061 ug/l	N.D.		104	101	2	103			73	125
-----											
8213 BTEX (8021)			Batch: 00096A53								
-----											
0776	Benzene										
	0.20 ug/l	N.D.		100	98	2	93	93	0	79	119
0777	Toluene										
	0.20 ug/l	N.D.		109	108	1	103	102	1	81	118
0778	Ethylbenzene										
	0.20 ug/l	N.D.		112	110	2	105	104	0	80	118
0779	Total Xylenes										
	0.60 ug/l	N.D.		113	110	2	106	105	0	81	118



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LLI Sample No. 3352305

FD-02-09 Field Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708762  
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	82	29	136
	Triphenyle	92	33	139
8213 BTEX (8021)	TFT-P	95	69	132



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LLI Sample No. WW 3353238  
Collected:

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

P.O. MOSS-AMERICAN  
Rel.

Submitted: 04/01/00 Reported: 04/13/00  
Discard: 05/14/00

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI  
MSATB SDG#: MOS47-24TB\*

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
8213	BTEX (8021)				See Page 2

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

ATTN: Dr. Jeff Ostmeyer  
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
03:50:59 D 0003 3 128410 708941  
232 0.00 00005933 ASR000



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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 3353238  
Collected:

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

P.O. MOSS-AMERICAN  
Rel.

Submitted: 04/01/00 Reported: 04/13/00  
Discard: 05/14/00

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI  
MSATB SDG#: MOS47-24TB\*

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.20	ug/l
0777	Toluene	N.D.	0.20	ug/l
0778	Ethylbenzene	N.D.	0.20	ug/l
0779	Total Xylenes	N.D.	0.60	ug/l

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

MEMBER  
  
Lancaster Laboratories  
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Lancaster, PA 17605-2425  
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Respectfully Submitted  
Thomas C. Lehman, Ph.D.  
Group Leader, Petrol. Analysis

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LLI Sample No. WW 3353238  
Collected:

Submitted: 04/01/00

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI  
MSATB SDG#: MOS47-24TB\*

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
8213	BTEX (8021)	SW-846 8021B	1	04/05/00 0739	Patrick N. Evans



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LLI Sample No. 3353238  
 Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708941  
 Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH
-----											
8213 BTEX (8021)		Batch: 00096A53									
0776	Benzene 0.20 ug/l	N.D.		100	98	2	93	93	0	79	119
0777	Toluene 0.20 ug/l	N.D.		109	108	1	103	102	1	81	118
0778	Ethylbenzene 0.20 ug/l	N.D.		112	110	2	105	104	0	80	118
0779	Total Xylenes 0.60 ug/l	N.D.		113	110	2	106	105	0	81	118



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LLI Sample No. **3353238**  
Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708941  
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS	
	TRIAL ID	SURROGATE	RECOVERY %	LOW HIGH
8213 BTEX (8021)	TFT-P		96	69 132



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LLI Sample No. WW 3352306  
Collected:

Submitted: 03/31/00 Reported: 04/13/00  
Discard: 05/14/00

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI  
TRP-- SDG#: MOS47-21TB

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
8213	BTEX (8021)				See Page 2

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

ATTN: Dr. Jeff Ostmeyer  
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
02:09:10 D 0003 11 128410 708762  
232 0.00 00005933 ASR000



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



LLI Sample No. WW 3352306  
Collected:

Submitted: 03/31/00 Reported: 04/13/00  
Discard: 05/14/00

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI  
TRP-- SDG#: MOS47-21TB

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

P.O. MOSS-AMERICAN  
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.20	ug/l
0777	Toluene	N.D.	0.20	ug/l
0778	Ethylbenzene	N.D.	0.20	ug/l
0779	Total Xylenes	N.D.	0.60	ug/l

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

MEMBER  
**ACIL**  
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PO Box 12425  
Lancaster, PA 17605-2425  
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Respectfully Submitted  
Thomas C. Lehman, Ph.D.  
Group Leader, Petrol. Analysis

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LLI Sample No. WW 3352306  
Collected:

Submitted: 03/31/00

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI  
TRP-- SDG#: MOS47-21TB

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
8213	BTEX (8021)	SW-846 8021B	1	04/05/00 0816	Patrick N. Evans



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**LLI Sample No. 3352306**  
Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708762  
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH
-----											
8213 BTEX (8021)		Batch: 00096A53									
0776	Benzene 0.20 ug/l	N.D.		100	98	2	93	93	0	79	119
0777	Toluene 0.20 ug/l	N.D.		109	108	1	103	102	1	81	118
0778	Ethylbenzene 0.20 ug/l	N.D.		112	110	2	105	104	0	80	118
0779	Total Xylenes 0.60 ug/l	N.D.		113	110	2	106	105	0	81	118



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LLI Sample No. **3352306**  
Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708762  
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
8213 BTEX (8021)	TFT-P	96	69	132



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LLI Sample No. WW 3351550  
Collected:

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

P.O. MOSS-AMERICAN  
Rel.

Submitted: 03/30/00 Reported: 04/19/00  
Discard: 05/20/00

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI  
TB090 SDG#: MOS47-10TB

AS RECEIVED  
METHOD  
RESULTS DETECTION LIMIT UNITS

CAT  
NO. ANALYSIS NAME

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: Dr. Jeff Ostmeyer  
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
21:22:11 D 0003 12 REP 128410 708631  
832 0.00 00005933 ASR000



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



LLI Sample No. WW 3351550  
Collected:

Submitted: 03/30/00 Reported: 04/19/00  
Discard: 05/20/00

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI  
TB090 SDG#: MOS47-10TB

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

P.O. MOSS-AMERICAN  
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.20	ug/l
0777	Toluene	N.D.	0.20	ug/l
0778	Ethylbenzene	N.D.	0.20	ug/l
0779	Total Xylenes	N.D.	0.60	ug/l

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



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Respectfully Submitted  
Thomas C. Lehman, Ph.D.  
Group Leader, Petrol. Analysis



LLI Sample No. WW 3351550

Collected:

Submitted: 03/30/00

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI  
TB090 SDG#: MOS47-10TB

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
8213	BTEX (8021)	SW-846 8021B	1	03/31/00 1057	Barry R. Shoemaker



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Lancaster, PA 17605-2425  
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LLI Sample No. 3351550  
Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708631  
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH	
-----		8213 BTEX (8021)	Batch: 00090A66									
0776	Benzene 0.20 ug/l	N.D.		103	104	1	101	98	3	79	119	
0777	Toluene 0.20 ug/l	N.D.		103	104	0	100	97	3	81	118	
0778	Ethylbenzene 0.20 ug/l	N.D.		98	99	0	101	98	3	80	118	
0779	Total Xylenes 0.60 ug/l	N.D.		96	97	1	100	97	3	81	118	



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LLI Sample No. 3351550

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 708631  
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS	
	TRIAL ID	SURROGATE	RECOVERY %	LOW HIGH
8213 BTEX (8021)	TFT-P		102	69 132



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# Analysis Request/ Environmental Services Chain of Custody



For Lancaster Laboratories use only  
 Acct. # 7802 Sample # 3353236-8

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

Client: <u>Kerr-McCree</u> Project Name/ #: <u>Moss-American Site</u> Project Manager: <u>Tom Graan/WESTON</u> Sampler: <u>James Ahmed/WESTON</u> Name of state where samples were collected: <u>WISCONSIN</u>		Acct. #: _____ PWSID #: _____ P.O.#: _____ Quote #: _____		Matrix: <u>Water</u> <input type="checkbox"/> Potable (check if applicable) <input checked="" type="checkbox"/> NPDES <input type="checkbox"/> Other		Analyses Requested: <u>As per</u>				For lab use only FSC: _____ SCR #: <u>1137523</u>		
		Grab <u>3</u> Composite		Total # of Containers		5 <u>BTEX 802</u> <u>PAHs 8310</u>				Temperature of samples upon receipt (if requested)		
Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Other	Total # of Containers	BTEX 802	PAHs 8310	Remarks	Temperature of samples upon receipt (if requested)
<u>MW-205-09</u>	<u>3/31/00</u>	<u>9:15 AM</u>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<u>4</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>MW-20I-09</u>	↓	<u>9:15 AM</u>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<u>4</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>Trip Blank</u>								<u>2</u>	<input checked="" type="checkbox"/>			

Turnaround Time Requested (TAT) (please circle): <u>Normal</u> Rush (Rush TAT is subject to Lancaster Laboratories approval and surcharge.) Date results are needed: <u>STD TAT</u> Rush results requested by (please circle): Phone <u>847-918-4142</u> Fax <u>847-918-4055</u>		Relinquished by: <u>[Signature]</u> Date <u>3/24/00</u> Time <u>1330</u>		Received by: <u>James</u> Date <u>3/28/00</u> Time <u>1200</u>	
Data Package Options (please circle if requested) QC Summary Type VI (Raw Data) <u>As per</u> SDG Complete? <u>Yes</u> No Type I (Tier I) GLP Type II (Tier II) Other Type III (NJ Red. Del.) Type IV (CLP)		Relinquished by: <u>James</u> Date <u>3/31/00</u> Time <u>1100</u>		Received by: <u>James Fedex</u> Date <u>3/31/00</u> Time <u>1100</u>	
Site-specific QC required? Yes No (If yes, indicate QC sample and submit triplicate volume.)		Relinquished by: _____ Date _____ Time _____		Received by: _____ Date _____ Time _____	
Internal Chain of Custody required? Yes No		Relinquished by: _____ Date _____ Time _____		Received by: <u>[Signature]</u> Date <u>4/11/00</u> Time <u>0945</u>	

# Analysis Request/ Environmental Services Chain of Custody



For Lancaster Laboratories use only  
 Acct. # 1802 Sample # 3351539-50

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

Client: <u>Kerr-McGee</u> Acct. #: _____ Project Name/ #: <u>Moss American Site</u> PWSID #: _____ Project Manager: <u>Tom Craan</u> P.O.# _____ Sampler: <u>Jameel Ahmed</u> Quote #: _____ Name of state where samples were collected: <u>WISCONSIN</u>		Matrix: ④		⑤	Analyses Requested: <u>BTEX 8021</u> <u>PAHS 8310</u>	For lab use only FSC: _____ SCR #: <u>1137523</u>					
	③										
Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Other	Total # of Containers			Remarks
MW-10S-09	3/29/00	845	✓			✓		4	✓	✓	
MW-9S-09		930	✓			✓		4	✓	✓	
MW-9I-09		950	✓			✓		4	✓	✓	
MW-6S-09		1035	✓			✓		4	✓	✓	
TW-05-09		1115	✓			✓		4	✓	✓	
MW-27S-09		1330	✓			✓		4	✓	✓	
MW-7S-09		1415	✓			✓		12	✓	✓	MS/MSD sample
FD-01-09		-	✓			✓		4	✓	✓	
FB-01-09		1500	✓			✓		4	✓	✓	
Trip Blank		-	✓			✓		2	✓	✓	

⑦ Turnaround Time Requested (TAT) (please circle): <u>Normal</u> Rush (Rush TAT is subject to Lancaster Laboratories approval and surcharge.) Date results are needed: <u>STD TAT</u> Rush results requested by (please circle): Phone Fax Phone #: <u>(847) 918-4000</u> Fax #: <u>(847) 918-4055</u>	Relinquished by:	Date	Time	Received by:	Date	Time
	<u>K. Smith</u>	<u>3/24/00</u>	<u>1330</u>	<u>Jameel</u>	<u>3/29/00</u>	<u>12:00</u>
	Relinquished by:	Date	Time	Received by:	Date	Time
	<u>Jameel Ahmed</u>	<u>3/29/00</u>	<u>1700</u>	<u>Fedex</u>	<u>3/29/00</u>	<u>1700</u>
	Relinquished by:	Date	Time	Received by:	Date	Time
	Relinquished by:	Date	Time	Received by:	Date	Time
	Relinquished by:	Date	Time	Received by:	Date	Time

⑧ Data Package Options (please circle if requested)		SDG Complete?
QC Summary	Type VI (Raw Data) <u>As per request</u>	Yes <input type="radio"/> No <input checked="" type="radio"/>
Type I (Tier I)	GLP	
Type II (Tier II)	Other	
Type III (NJ Red. Del.)		
Type IV (CLP)		
Site-specific QC required? Yes No		
(If yes, indicate QC sample and submit triplicate volume.)		
Internal Chain of Custody required? Yes No		