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

Work Order No. 02687-007-003

Re: Quarterly Groundwater Monitoring Report, 4th Quarter 1999
Moss-American Site, Milwaukee, Wisconsin

Dear Mr. Hart:

On behalf of the Kerr-McGee Chemical LLC (KMC), Roy F. Weston, Inc. (WESTON®) is submitting this report summarizing the results of the fourth quarter 1999 groundwater monitoring event completed at the above referenced project in December 1999. A description of the groundwater monitoring program and the results obtained during this monitoring period are presented in the following sections. Also included is a discussion of the laboratory analytical results that have exceeded the Preventive Action Limits (PAL) and Enforcement Standards (ES) promulgated by Wisconsin Department of Natural Resources (WDNR) in NR140.10, Public Health Groundwater Quality Standards.

The groundwater analytical results reported for fourth quarter of 1999 reflect conditions at the site after the free-product recovery system was decommissioned in October 1999. Field activities were in progress during the time of this sampling event to install a funnel and gate groundwater treatment system.

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





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conductance, redox potential, dissolved oxygen. Laboratory analyses include BTEX compounds (benzene, toluene, ethylbenzene, and xylene) and polynuclear aromatic hydrocarbon (PAH) compounds (acenaphthylene, acenaphthene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)-anthracene, fluorene, fluoranthene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, and pyrene).

2.0 GROUNDWATER MONITORING RESULTS

The fourth quarter 1999 groundwater monitoring event at the Moss-American site was completed between 13 December and 15 December 1999. 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 14 of the 17 shallow monitoring wells. Groundwater samples were not collected from wells TW-09, MW-8S and MW-28S since these wells were either damaged and/or removed during ongoing 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 13 December 1999, prior to the beginning of groundwater sampling. These measurements were used to determine the elevation of the potentiometric surface of the shallow groundwater-bearing zone underlying the site. The water level measurements and resulting elevations are presented in Table 1. Figure 1 presents a groundwater elevation contour map that shows the potentiometric surface of the shallow groundwater-bearing zone. An evaluation of these results is presented in the following paragraphs.

As Figure 1 shows, the groundwater within the shallow groundwater-bearing zone generally flows northeastward toward the Little Menomonee River. In the topographically higher, western portion of the site, the horizontal hydraulic gradient of the potentiometric surface is relatively steep at approximately 0.029 feet per foot (ft/ft). The gradient flattens near the river, as does the ground surface, with an average of approximately 0.018 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



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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 0.119 ft/day. Near the river, the velocity of groundwater flow is calculated to be approximately 0.072 ft/day.

2.2 GROUNDWATER SAMPLE ANALYSES RESULTS

Groundwater samples were collected from fourteen shallow monitoring wells (MW-3S, MW-4S, MW-5S, MW-6S, MW-7S, MW-9S, MW-10S, MW-13S, MW-20S, MW-25S, MW-26S, MW-27S, MW-29S and TW-05). In addition, for quality assurance/quality control (QA/QC) purposes, two sample duplicates (identified by a FD prefix), one matrix spike/matrix spike duplicate (MS/MSD), and two field blanks (identified by a FB prefix) were collected. Trip blanks accompanied each cooler of sample bottles from the laboratory to the site and were shipped back to the laboratory within each cooler full of samples.

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

2.2.1 Field-Measured Parameters

The groundwater samples were measured in the field for pH, specific conductance, temperature, redox potential, dissolved oxygen, and turbidity. The results of these measurements are provided in Table 2. As shown in Table 2, the groundwater pH ranged from 6.9 to 7.6 standard pH units (S.U.). The specific conductivity ranged from 0.35 to 0.88 mΩ/cm. Groundwater temperatures ranged from 5.1 to 10.4° C. The redox potentials of the groundwater ranged from -88 to 105 mV. Dissolved oxygen levels ranged from 0.98 to 4.11 mg/L. Turbidity ranged from 68 to 1,339 nephelometric turbidity units (NTU).

2.2.2 Laboratory Analyses

Each groundwater sample collected during the fourth quarter 1999 monitoring period was analyzed for BTEX and PAH compounds. The results of these analyses are presented in Table 3. Table 3 also indicates those parameters that were detected at concentrations that exceed their respective PALs (shown as bold values). Parameters with concentrations exceeding both PALs and ESs are presented as bold and shaded values in Table 3. Groundwater sampling results during this quarter were also compared to the ES and PAL standards provided by the WDNR for



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anthracene, fluoranthene, pyrene, chrysene and benzo(b)fluoranthene. These results are summarized in the following paragraphs. The laboratory reports are presented in Attachment A.

Groundwater Sample Results

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

PAL Exceedances:

- Benzene was detected at concentrations exceeding the WDNR PAL of 0.5 µg/L in groundwater samples collected from monitoring wells MW-4S 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-4S, TW-05 and FD-01 (Field duplicate of 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, TW-05 and FD-01(Field Duplicate of TW-05).
- Benzo(a)pyrene was detected at concentrations exceeding the WDNR PAL of 0.02 µg/L in groundwater samples collected from monitoring wells MW-4S, TW-05 and and FD-01(Field Duplicate of TW-05).



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ES Exceedances:

- Benzene was detected at concentrations exceeding the WDNR PAL of 5 µg/L in groundwater sample MW-7S.
- Naphthalene was detected at concentrations exceeding the WDNR ES of 40 µg/L in groundwater samples collected from monitoring wells MW-4S and MW-7S.
- Chrysene was detected at concentrations exceeding WDNR PAL of 0.2 µg/L in groundwater sample collected from MW-4S, TW-05 and FD-01 (Field Duplicate of TW-05).
- Benzo(b)fluoranthene was detected at concentrations exceeding the WDNR PAL of 0.2 µg/L in groundwater samples collected from monitoring wells MW-4S, TW-05 and and FD-01(Field Duplicate of TW-05).
- Benzo(a)pyrene was detected at concentrations exceeding the WDNR ES of 0.2 µg/L in groundwater samples collected from monitoring wells MW-4S, TW-05 and FD-01(Field Duplicate of 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). Additional impacted wells (MW-08S and TW-09) were removed prior to the installation of the funnel and gate groundwater treatment system. 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 seven quarterly groundwater-sampling events.

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

Table 1

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

Well ID	Ground Elevation	TOC Elevation	Depth to Water	GW Elevation	Product Thickness
MW-3S	729.00	731.50	7.22	724.28	ND
MW-4S	731.00	732.86	5.08	727.78	ND
MW-5S	723.00	724.70	6.23	718.47	ND
MW-6S	727.00	724.28	3.78	720.50	ND
MW-7S	720.00	721.70	8.77	712.93	ND
MW-9S	720.00	721.71	7.11	714.60	ND
MW-10S	723.00	726.58	7.12	719.46	ND
MW-13S	737.00	738.68	3.72	734.96	ND
MW-20S	716.00	719.94	7.89	712.05	ND
MW-25S	736.83	739.24	4.12	735.12	ND
MW-26S	732.31	731.66	4.62	727.04	ND
MW-27S	720.59	723.15	5.41	717.74	ND
MW-29S	720.01	722.39	3.56	718.83	ND
TW-05	721.76	724.16	2.70	721.46	ND

Note: All values in feet

TOC = Top of the casing

GW = Groundwater

ND = Not detected

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

Table 2

**Field-Measured Parameters
Fourth Quarter 1999
Moss-American Site
Kerr-McGee Corporation**

Well Number	pH (Standard Units)	Specific Conductance (mΩ/cm)	Temperature (°C)	Redox Potential (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)
MW-3S	7.4	0.38	6.7	95	3.38	377
MW-4S	7.6	0.66	5.2	85	4.11	83
MW-5S	7.4	0.58	6.7	-63	3.42	68
MW-6S	7.6	0.51	8.4	24	3.52	69
MW-7S	6.9	0.88	10.4	-88	1.80	978
MW-9S	7.0	0.69	7.5	-8	3.72	127
MW-10S	7.1	0.53	6.7	-22	2.80	190
MW-13S	7.2	0.61	5.1	105	1.61	942
MW-20S	7.3	0.72	5.1	71	2.60	105
MW-25S	7.0	0.58	5.3	73	2.62	199
MW-26S	7.1	0.62	6.2	41	1.46	1,339
MW-27S	7.0	0.71	6.9	-78	1.33	371
MW-29S	7.3	0.35	7.2	25	2.25	258
TW-05	7.1	0.51	5.9	-95	0.98	186

S - Shallow well

TW - Temporary Well (Shallow)

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

Sample ID:	MW-3S-08		MW-4S-08		MW-5S-08		MW-6S-08		MW-7S-08		WDNR PAL	WDNR ES
Sample Matrix:	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater			
Sample Date:	12/15/99		12/15/99		12/15/99		12/14/99		12/13/99			
Units of Measure:	ug/L		ug/L		ug/L		ug/L		ug/L			
Parameters												
VOCs												
Benzene	0.2	U	2.8		0.2	U	0.2	U	7.1		0.5	5
Toluene	0.2	U	5.4		0.2	U	0.2	U	1.7	J	68.6	343
Ethylbenzene	0.2	U	7.9		0.2	U	0.2	U	26		140	700
Total Xylenes	0.6	U	16		0.6	U	0.6	U	79		124	620
PAHs												
Naphthalene	0.77	U	790		0.76	U	0.76	U	4.740		8.0	40
Acenaphthalene	0.77	U	47	J	0.76	U	0.76	U	81		NA	NA
Acenaphthene	0.77	U	640		0.76	U	0.76	U	140		NA	NA
Fluorene	0.16	U	333		0.16	U	0.16	U	24.4		80	400
Phenanthrene	0.044	U	31		0.047	U	0.044	U	0.44	U	NA	NA
Anthracene	0.030	U	39.6		0.029	U	0.029	U	0.29	U	600	3000
Fluoranthene	0.025	J	180		0.020	J	0.023	J	0.19	U	80	400
Pyrene	0.17	U	176		0.17	U	0.17	U	1.70	U	50	250
Benzo(a)anthracene	0.017	U	27.4		0.017	U	0.017	U	0.017	U	NA	NA
Chrysene	0.056	U	32.0		0.056	U	0.056	U	0.56	U	0.02	0.2
Benzo(b)fluoranthene	0.033	U	10.6		0.033	U	0.033	U	0.33	U	0.02	0.2
Benzo(k)fluoranthene	0.026	U	5.3		0.026	U	0.026	U	0.26	U	NA	NA
Benzo(a)pyrene	0.021	U	9.7		0.021	U	0.021	U	0.21	U	0.02	0.2
Dibenzo(a,h)anthracene	0.045	U	2.20	U	0.044	U	0.045	U	0.45	U	NA	NA
Benzo(g,h,i)perylene	0.095	U	4.7	U	0.094	U	0.094	U	0.94	U	NA	NA
Indeno(1,2,3-cd)pyrene	0.061	U	3.0	U	0.061	U	0.061	U	0.61	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
 Fourth Quarter 1999
 Moss-American Site
 Milwaukee, Wisconsin

Sample ID:	MW-9S-08		MW-10S-08		MW-13S-08		MW-20S-08		MW-25S-08		WDNR PAL ug/L	WDNR ES ug/L
Sample Matrix:	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater			
Sample Date:	12/13/99		12/13/99		12/14/99		12/15/99		12/15/99			
Units of Measure:	ug/L		ug/L		ug/L		ug/L		ug/L			
Parameters												
VOCs												
Benzene	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.5	5
Toluene	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	68.6	343
Ethylbenzene	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	140	700
Total Xylenes	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	124	620
PAHs												
Naphthalene	0.76	U	0.79	U	0.76	U	0.76	U	0.76	U	8.0	40
Acenaphthalylene	2.51	U	0.79	U	0.76	U	0.76	U	1.06	U	NA	NA
Acenaphthene	0.76	U	0.79	U	0.76	U	0.76	U	0.76	U	NA	NA
Fluorene	0.16	U	0.17	U	0.16	U	0.16	U	0.16	U	80	400
Phenanthrene	0.044	U	0.046	U	0.044	U	0.044	U	0.046	J	NA	NA
Anthracene	0.031	J	0.031	U	0.029	U	0.029	U	0.029	U	600	3000
Fluoranthene	0.019	U	0.020	U	0.025	J	0.019	U	0.026	J	80	400
Pyrene	0.17	U	0.18	U	0.17	U	0.17	U	0.17	U	50	250
Benzo(a)anthracene	0.017	U	0.018	U	0.017	U	0.017	U	0.017	U	NA	NA
Chrysene	0.056	U	0.058	U	0.056	U	0.056	U	0.056	U	0.02	0.2
Benzo(b)fluoranthene	0.033	U	0.035	U	0.033	U	0.033	U	0.033	U	0.02	0.2
Benzo(k)fluoranthene	0.026	U	0.027	U	0.026	U	0.026	U	0.026	U	NA	NA
Benzo(a)pyrene	0.021	U	0.022	U	0.021	U	0.021	U	0.021	U	0.02	0.2
Dibenzo(a,h)anthracene	0.045	U	0.047	U	0.045	U	0.045	U	0.045	U	NA	NA
Benzo(g,h,i)perylene	0.094	U	0.098	U	0.094	U	0.094	U	0.094	U	NA	NA
Indeno(1,2,3-cd)pyrene	0.061	U	0.063	U	0.061	U	0.061	U	0.061	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
 Fourth Quarter 1999
 Moss-American Site
 Milwaukee, Wisconsin

Sample ID:	MW-26S-08	MW-27S-08	MW-29S-08	TW-05-08	FD-01-08*	FD-02-08	FB-01-08*	FB-02-08	WDNR	WDNR								
Sample Matrix:	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	PAL	ES								
Sample Date:	12/14/99	12/14/99	12/14/99	12/14/99	12/14/99	12/15/99	12/14/99	12/15/99	ug/L	ug/L								
Units of Measure:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L										
Parameters																		
VOCs																		
Benzene	0.2	U	0.2	U	0.2	U	0.2	U	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	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	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	0.6	U	124	620
PAHs																		
Naphthalene	0.76	U	0.76	U	0.76	U	9.0	J	8.10	U	0.77	U	0.77	U	0.81	U	8.0	40
Acenaphthalene	0.76	U	0.76	U	0.76	U	7.9	U	8.10	U	0.78	J	1.52	U	0.81	U	NA	NA
Acenaphthene	0.76	U	0.76	U	0.76	U	100		99		0.77	U	0.77	U	0.81	U	NA	NA
Fluorene	0.16	U	0.16	U	0.16	U	66.6		64.1		0.16	U	0.16	U	0.17	U	80	400
Phenanthrene	0.044	U	0.044	U	0.043	U	0.45	U	0.47	U	0.044	U	0.044	U	0.048	U	NA	NA
Anthracene	0.030	U	0.029	U	0.029	U	3.9		3.7	U	0.03	U	0.030	U	0.031	U	600	3000
Fluoranthene	0.019	U	0.019	U	0.033	J	24.4		21.0	U	0.032	J	0.019	U	0.02	U	80	400
Pyrene	0.17	U	0.17	U	0.17	U	25.0		15.5	U	0.17	U	0.17	U	0.18	U	50	250
Benzo(a)anthracene	0.017	U	0.017	U	0.017	U	3.63		2.68	U	0.017	U	0.017	U	0.018	U	NA	NA
Chrysene	0.056	U	0.056	U	0.056	U	4.1		3.2	U	0.057	U	0.057	U	0.059	U	0.02	0.2
Benzo(b)fluoranthene	0.033	U	0.033	U	0.033	U	1.46		1.10	U	0.034	U	0.034	U	0.035	U	0.02	0.2
Benzo(k)fluoranthene	0.026	U	0.026	U	0.026	U	0.81		0.59	J	0.026	U	0.026	U	0.027	U	NA	NA
Benzo(a)pyrene	0.021	U	0.021	U	0.021	U	1.49		1.16		0.021	U	0.021	U	0.022	U	0.02	0.2
Dibenzo(a,h)anthracene	0.045	U	0.044	U	0.044	U	0.46	U	0.48	U	0.045	U	0.045	U	0.047	U	NA	NA
Benzo(g,h,i)perylene	0.094	U	0.094	U	0.094	U	1.0	U	1.00	U	0.095	U	0.095	U	0.095	U	NA	NA
Indeno(1,2,3-cd)pyrene	0.061	U	0.061	U	0.060	U	0.65	J	0.65	U	0.061	U	0.062	U	0.061	U	NA	NA

VOC - Volatile Organic Compound. FD-01-08 is TW-05-08 PAL - Wisconsin Department of Natural Resources (WDNR) Preventative Action Limit. ES = Enforcement Standard (WDNR)
 PAH - Polynuclear Aromatic Hydrocarbon. FD-02-08 is MW-3S-08 NA - PAL or ES not available for this parameter.
 Bold values indicate concentrations exceeding PAL Bold and shaded values indicate concentrations exceeding PAL and ES
 * Please refer to the Data Validation Report under field-blank section (Section 7).

Table 4
Concentration Trends in Groundwater Samples
Four quarters of 1998/ Four quarters of 1999
Moss-American Site
Milwaukee, Wisconsin
(Concentrations in ug/L)

	MW-4S	MW-7S	TW-05	TW-09
<u>Benzene</u>				
First Quarter (March '98)	10	5	0.2 U	2 J
Second Quarter (June '98)	8	5	0.2 U	0.5 J
Third Quarter (September '98)	3	8 J	0.2 U	2 U
Fourth Quarter (December '98)	3 J	NS	0.2 U	2 U
First Quarter (March '99)	5	9	0.2 U	0.3 U
Second Quarter (June '99)	6	7J	0.2 U	2 U
Third Quarter (September '99)	3	9	0.2 U	0.8 J
Fourth Quarter (December '99)	2.8	7.1	0.2 U	----
<u>Naphthalene</u>				
First Quarter (March '98)	2,080	6,470	3.51J	3,080
Second Quarter (June '98)	172 J	16.1	15.1J	11,800
Third Quarter (September '98)	863 J	7,140	19.0 J	580 J
Fourth Quarter (December '98)	1,760	NS	9.3 J	14,900
First Quarter (March '99)	1,330	5,560	19.9	9,500
Second Quarter (June '99)	940	6,400	3.9 U	11,600
Third Quarter (September '99)	418 J	0.80 U	7.9 U	126,000
Fourth Quarter (December '99)	790	4,740	9.0 J	----
<u>Fluorene</u>				
First Quarter (March '98)	368	3.3 U	3.3 U	21 U
Second Quarter (June '98)	50	3.6 J	105	3,590
Third Quarter (September '98)	323 J	30	90	3.3 UJ
Fourth Quarter (December '98)	316	NS	62.3	4,120
First Quarter (March '99)	271	30	65.4	4,300
Second Quarter (June '99)	547	36.5	79.6	5,200
Third Quarter (September '99)	651	39.2	136	47,700
Fourth Quarter (December '99)	333	24.4	66.6	----
<u>Benzo(a) pyrene</u>				
First Quarter (March '98)	25.3	0.021 U	2.04	20.3
Second Quarter (June '98)	112	25.3	1.63	226
Third Quarter (September '98)	7.45 J	0.42	3.4	4.4 J
Fourth Quarter (December '98)	8.95	NS	1.72	228
First Quarter (March '99)	6.10	0.43	2.10	240
Second Quarter (June '99)	35.1	0.12 U	1.42	230 J
Third Quarter (September '99)	40.5	0.022 U	4.33	3610
Fourth Quarter (December '99)	9.7	0.21 U	1.49	----

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 treatment system.

**Kerr-McGee
Moss American Site
Milwaukee, Wisconsin
SDG# MOS32/34**

**20 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>
3291529	MW7S-08	12/13/99	12/17/99
3291530	MW9S-08	12/13/99	12/17/99
3291531	MW10S-08	12/13/99	12/17/99
3291532	TW05-08	12/14/99	12/17/99
3291533	MW6-08	12/14/99	12/17/99
3291534	MW29S-08	12/14/99	12/18/99
3291535	MW27S-08	12/14/99	12/18/99
3291536	MW13S-08	12/14/99	12/18/99
3291537	MW25S-08	12/14/99	12/17/99
3291540	MW26S-08	12/14/99	12/19/99
3291541	FB01-08	12/14/99	12/19/99
3291542	FD01-08	12/14/99	12/19/99
3291543	TB01-08	12/14/99	12/17/99
3292675	MW03S-08	12/15/99	12/18/99
3292676	MW04S-08	12/15/99	12/18/99
3292677	MW05S-08	12/15/99	12/18/99
3292678	MW20S-08	12/15/99	12/18/99
3292679	FB02-08	12/15/99	12/18/99
3292680	FD02-08	12/15/99	12/18/99
3235168	TB01-08	12/15/99	12/18/99

All samples were analyzed within the required holding times.

2. Method Blank:

Six method blanks were associated with the BTEX samples (BLK0211, BLK0212, BLK6623, BLK6624, and BLK6625). All five 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# MOS32/34
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 MW25S-08 was used for the MS/MSD audit in one batch. Laboratory QC was used for the second batch. All MS and MSD recoveries were acceptable.

6. Laboratory Control Sample:

All laboratory control sample results were acceptable.

7. Trip Blanks:

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

8. Field Blanks:

FB01-08 and FB02-08 were field blanks. All BTEX results were non-detect. All results are acceptable.

9. Field Duplicates:

Samples MW03S-08 and FD02-08 and TW05S-08 and FD01-08 are field duplicates. Overall, results show good correlation. No qualifications are applied based on this criterion.

10. Other:

According to additional information submitted by the laboratory on 1/28/2000, the ethylbenzene results were incorrectly reported in the initial report. The m+p xylene analytical responses were reported instead of the ethylbenzene results. Use the ethylbenzene results from the resubmitted results.

**Kerr-McGee
Moss American Site
Milwaukee, Wisconsin
SDG# MOS32/34**

18 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>
3291529	MW7S-08	12/13/99	12/17/99	12/20/99
3291530	MW9S-08	12/13/99	12/17/99	12/17/99
3291531	MW10S-08	12/13/99	12/17/99	12/17/99
3291532	TW05-08	12/14/99	12/17/99	12/20/99
3291533	MW6-08	12/14/99	12/17/99	12/17/99
3291534	MW29S-08	12/14/99	12/17/99	12/17/99
3291535	MW27S-08	12/14/99	12/17/99	12/17/99
3291536	MW13S-08	12/14/99	12/17/99	12/17/99
3291537	MW25S-08	12/14/99	12/17/99	12/17/99
3291540	MW26S-08	12/14/99	12/17/99	12/17/99
3291541	FB01-08	12/14/99	12/17/99	12/20/99
3291542	FD01-08	12/14/99	12/17/99	12/17/99
3292675	MW03S-08	12/15/99	12/18/99	12/21/99
3292676	MW04S-08	12/15/99	12/18/99	12/21/99
3292677	MW05S-08	12/15/99	12/18/99	12/23/99
3292678	MW20S-08	12/15/99	12/18/99	12/21/99
3292679	FB02-08	12/15/99	12/18/99	12/21/99
3292680	FD02-08	12/15/99	12/18/99	12/21/99

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

2. Method Blank:

There were two multiple water method blanks associated with the PAH fraction (PBLKPU and PBLKQO). PBLKPU contained acenaphthylene at 3.3. Corresponding samples less than 5 times the blank result are flagged as nondetect U. Method blank PBLKQO 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# MOS32/34
PAH Cont.**

4. Surrogate Recovery:

The surrogates for PAHs include nitrobenzene and triphenylene. Nitrobenzene results were acceptable except for MW7S-08 and MW7S-08DL (diluted out). All nitrobenzene results on the secondary column indicated a reduced sensitivity (zero percent recovery or diluted out). The laboratory narrative states that the nitrobenzene surrogate is not visible on the fluorescence or confirmation detector. Triphenylene results were acceptable except for MW7S-08, MW7S-08DL, FB02-08 (confirmation results were diluted out), and MW4s-08 (initial and confirmation results were diluted out).

5. Matrix Spike/Matrix Spike Duplicate:

Sample MW25S-08 was used for the MS/MSD audit. This MS/MSD sample corresponds to the samples collected on 12/13 and 12/14/99. All MS/MSD results were within required QC limits. According to the laboratory narrative, there was not enough sample volume to perform an MS/MSD with the samples collected on 12/15. However, an MS/MSD is required at a frequency of 1 per 20 samples. Only a total of 18 samples were analyzed for this sampling activity. All results are acceptable.

6. Laboratory Control Sample:

All laboratory control results (LCS30, LCSD7A, and LCSA) are acceptable.

7. Field Blanks:

FB01-08 and FB02-08 were field blanks. The following compounds were detected in FB01-08: acenaphthylene (99), fluorene (64.1), anthracene (3.7), fluoranthene (21.0), pyrene (15.5), benzo(a)anthracene (2.68), chrysene (3.2), benzo(b)fluoranthene (1.10), benzo(k)fluoranthene (0.59), and benzo(a)pyrene (1.16). It appears that FB01-08 and FD01-08 were inadvertently interchanged sometime between sampling and sample reporting. FB01-08 (designated as field blank) results show excellent correlation with TW05-08 whereas sample FD01-08 (designated as

**Kerr-McGee
Moss American Site
Milwaukee, Wisconsin
SDG# MOS32/34
PAH Cont.**

7. Field Blanks Cont.:

field duplicate) only has one compound detected. Minimal or no detections are expected for field blank samples. Therefore, for the purposes of this data validation report, sample FB01-08 will be assumed to be the duplicate of TW05-08 and FD01-08 will be assumed to actually be the field blank sample. Phenanthrene (0.048-) was detected in FB02-08. Sample results less than 5 times the amount found in the blank are qualified as non-detect.

8. Field Duplicates:

Samples MW3S-08 and FD02-08 and TW05-08 and FD01-08 are field duplicates. Overall, MW3s and FD02 show good correlation. As noted above in the field blank section, it appears that FB01-08 and FD01-08 were interchanged sometime between sampling and sample reporting. Samples TW05-08 and FD01-08 (designated as duplicate sample) show poor correlation. The majority of the FD01-08 compounds were non-detect. However, TW05-08 and FB01-08 (designated as field blank sample) show good field correlation.

9. Other:

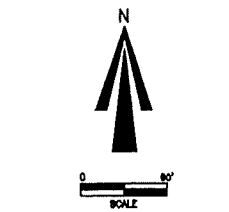
The following samples underwent dilutions: MW07S-08, (10/100), FB01-08 (10), and MW04-08 (50). The undiluted results were off the scale and not usable due to the PAH content. For the larger dilutions, the lesser dilution trials were off scale and unusable due to the amount of unresolved area. Therefore, the diluted sample results also have elevated detection limits, even for the non-detected compounds.



DATE OF PHOTOGRAPHY APRIL 16, 1991
MFW-02/10/00-11/91-1/2/00/00/01/00

LEGEND

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



ABRAMS
AERIAL SURVEY CORPORATION
124 NORTH LARCH LANSING, MI 48113
PO Box 19009 LANSING, MI 48901-8009

NO.	DATE	APPR.	NO.	DATE	APPR.	REVISION

MOSS - AMERICAN SITE
Milwaukee, Wisconsin

WESTON
SURVEYING & CONSULTING

MILWAUKEE

DESIGNED	DATE	CLIENT APPROVAL	DATE
DRAWN			
PROJ. ENG.			
APPROVED			

GROUNDWATER ELEVATION CONTOUR MAP
4TH QUARTER 1999

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

ATTACHMENT A

LABORATORY REPORTS



LLI Sample No. WW 3292675
Collected: 12/15/99 at 08:35 by JA

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

P.O. MOSS-AMERICAN
Rel.

Submitted: 12/16/99 Reported: 12/28/99
Discard: 01/28/00

MW-3S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
3S-08 SDG#: MOS34-01

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

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

Questions? Contact your Client Services Representative
 Kay G. Hower at (717) 656-2300
 19:08:31 D 0003 128410 695913
 232 0.00 00021753 ASR000



Lancaster Laboratories
 2425 New Holland Pike
 PO Box 12425
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 See reverse side for explanation of symbols and abbreviations.

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



LLI Sample No. WW 3292675
 Collected: 12/15/99 at 08:35 by JA

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

P.O. MOSS-AMERICAN
 Rel.

Submitted: 12/16/99 Reported: 12/28/99
 Discard: 01/28/00

MW-3S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
 3S-08 SDG#: MOS34-01

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	METHOD DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.77	ug/l
3281	Acenaphthylene	N.D.	0.77	ug/l
3282	Acenaphthene	N.D.	0.77	ug/l
3283	Fluorene	N.D.	0.16	ug/l
3284	Phenanthrene	N.D.	0.044	ug/l
3285	Anthracene	N.D.	0.030	ug/l
3286	Fluoranthene	0.025 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.	0.095	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.061	ug/l
Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.				

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



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

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LLI Sample No. WW 3292675
Collected: 12/15/99 at 08:35 by JA

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

P.O. MOSS-AMERICAN
Rel.

Submitted: 12/16/99 Reported: 12/28/99
Discard: 01/28/00

MW-3S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
3S-08 SDG#: MOS34-01

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

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

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

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



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LLI Sample No. WW 3292675

Collected: 12/15/99 at 08:35 by JA

Submitted: 12/16/99

MW-3S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
3S-08 SDG#: MOS34-01

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	12/21/99 0735	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	12/18/99 1200	Anita M. Dale
8213	BTEX (8021)	SW-846 8021B	1	12/18/99 1843	Diane E. Wilson



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LLI Sample No. 3292675

MW-3S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 695913
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: 993510004A									
3280	Naphthalene 0.77 ug/l	N.D.					69	77	10	45	111
3281	Acenaphthylene 0.77 ug/l	N.D.					77	83	7	59	114
3282	Acenaphthene 0.77 ug/l	N.D.					75	80	6	50	120
3283	Fluorene 0.16 ug/l	N.D.					80	86	6	64	117
3284	Phenanthrene 0.044 ug/l	N.D.					85	89	6	75	114
3285	Anthracene 0.030 ug/l	N.D.					76	81	6	53	112
3286	Fluoranthene 0.019 ug/l	N.D.					87	93	6	43	147
3287	Pyrene 0.17 ug/l	N.D.					93	98	6	39	149
3288	Benzo(a)anthracene 0.017 ug/l	N.D.					86	91	6	73	117
3289	Chrysene 0.056 ug/l	N.D.					89	93	4	68	125
3290	Benzo(b)fluoranthene 0.033 ug/l	N.D.					87	92	6	71	123
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.					88	94	7	75	118
3292	Benzo(a)pyrene 0.021 ug/l	N.D.					80	84	6	61	127
3293	Dibenzo(a,h)anthracene 0.045 ug/l	N.D.					88	94	7	71	121
3294	Benzo(g,h,i)perylene 0.095 ug/l	N.D.					91	97	7	70	125
3295	Indeno(1,2,3-cd)pyrene 0.061 ug/l	N.D.					90	97	8	73	125
8213 BTEX (8021)		Batch: 99352A02									
0776	Benzene 0.20 ug/l	N.D.		104			104	96	8	79	119
0777	Toluene 0.20 ug/l	N.D.		106			104	98	6	81	124
0778	Ethylbenzene 0.20 ug/l	N.D.		97			95	89	6	80	118
0779	Total Xylenes 0.60 ug/l	N.D.		109			108	101	6	81	118



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LLI Sample No. **3292675**

MW-3S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 695913
Kerr-McGee Corporation

SURROGATE SUMMARY

	TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
				LOW	HIGH
1861 PAH's in Water		Nitrobenz	86	29	136
		Triphenyle	86	33	139
8213 BTEX (8021)		TFT-P	99	69	132



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LLI Sample No. WW 3292676
Collected: 12/15/99 at 09:30 by JA

Submitted: 12/16/99 Reported: 12/28/99
Discard: 01/28/00

MW-4S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
4S-08 SDG#: MOS34-02

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

P.O. MOSS-AMERICAN
Rel.

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

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

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
19:09:05 D 0003 7 128410 695913
232 0.00 00021753 ASR000



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



LLI Sample No. WW 3292676

Collected: 12/15/99 at 09:30 by JA

Submitted: 12/16/99

MW-4S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
4S-08 SDG#: MOS34-02

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		12/21/99 1557	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1		12/18/99 1200	Anita M. Dale
8213	BTEX (8021)	SW-846 8021B	1		12/18/99 2211	Diane E. Wilson



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LLI Sample No. 3292676
 MW-4S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 695913
 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: 993510004A									
3280	Naphthalene										
	38. ug/l	N.D.					69	77	10	45	111
3281	Acenaphthylene										
	38. ug/l	N.D.					77	83	7	59	114
3282	Acenaphthene										
	38. ug/l	N.D.					75	80	6	50	120
3283	Fluorene										
	8.1 ug/l	N.D.					80	86	6	64	117
3284	Phenanthrene										
	2.2 ug/l	N.D.					85	89	6	75	114
3285	Anthracene										
	1.5 ug/l	N.D.					76	81	6	53	112
3286	Fluoranthene										
	0.95 ug/l	N.D.					87	93	6	43	147
3287	Pyrene										
	8.5 ug/l	N.D.					93	98	6	39	149
3288	Benzo(a)anthracene										
	0.85 ug/l	N.D.					86	91	6	73	117
3289	Chrysene										
	2.8 ug/l	N.D.					89	93	4	68	125
3290	Benzo(b)fluoranthene										
	1.7 ug/l	N.D.					87	92	6	71	123
3291	Benzo(k)fluoranthene										
	1.3 ug/l	N.D.					88	94	7	75	118
3292	Benzo(a)pyrene										
	1.0 ug/l	N.D.					80	84	6	61	127
3293	Dibenzo(a,h)anthracene										
	2.2 ug/l	N.D.					88	94	7	71	121
3294	Benzo(g,h,i)perylene										
	4.7 ug/l	N.D.					91	97	7	70	125
3295	Indeno(1,2,3-cd)pyrene										
	3.0 ug/l	N.D.					90	97	8	73	125
8213 BTEX (8021)		Batch: 99352A02									
0776	Benzene										
	0.20 ug/l	N.D.		104			104	96	8	79	119
0777	Toluene										
	0.20 ug/l	N.D.		106			104	98	6	81	124
0778	Ethylbenzene										
	0.20 ug/l	N.D.		97			95	89	6	80	118
0779	Total Xylenes										
	0.60 ug/l	N.D.		109			108	101	6	81	118



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LLI Sample No. **3292676**
MW-4S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 695913
Kerr-McGee Corporation

SURROGATE SUMMARY

	TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
				LOW	HIGH
1861 PAH's in Water		Nitrobenz	87	29	136
		Triphenyle	0	33	139
8213 BTEX (8021)		TFT-P	97	69	132



Lancaster Laboratories
2425 New Holland Pike
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717-656-2300 Fax: 717-656-2681

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LLI Sample No. WW 3292677
Collected: 12/15/99 at 10:10 by JA

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

P.O. MOSS-AMERICAN
Rel.

Submitted: 12/16/99 Reported: 12/28/99
Discard: 01/28/00

MW-5S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
5S-08 SDG#: MOS34-03

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

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

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

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
19:09:30 D 0003 7 128410 695913
232 0.00 00021753 ASR000



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



LLI Sample No. WW 3292677
 Collected: 12/15/99 at 10:10 by JA

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

P.O. MOSS-AMERICAN
 Re1.

Submitted: 12/16/99 Reported: 12/28/99
 Discard: 01/28/00

MW-5S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
 5S-08 SDG#: MOS34-03

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	0.047	sy 0.044	ug/l
3285	Anthracene	N.D.	0.029	ug/l
3286	Fluoranthene	0.020	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.	0.061	ug/l

Questions? Contact your Client Services Representative
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Respectfully Submitted
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 Oklahoma City OK 73125

P.O. MOSS-AMERICAN
 Rel.

Submitted: 12/16/99 Reported: 12/28/99
 Discard: 01/28/00

MW-5S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
 5S-08 SDG#: MOS34-03

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

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

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

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

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



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LLI Sample No. WW 3292677

Collected: 12/15/99 at 10:10 by JA

Submitted: 12/16/99

MW-5S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
5S-08 SDG#: MOS34-03

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	12/23/99 1614	Michelle J. Kolodziejski
3337	PAH Water Extraction	SW-846 3510C	1	12/18/99 1200	Anita M. Dale
8213	BTEX (8021)	SW-846 8021B	1	12/18/99 1918	Diane E. Wilson



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LLI Sample No. 3292677
 MW-5S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 695913
 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: 993510004A									
3280	Naphthalene 0.76 ug/l	N.D.					69	77	10	45	111
3281	Acenaphthylene 0.76 ug/l	N.D.					77	83	7	59	114
3282	Acenaphthene 0.76 ug/l	N.D.					75	80	6	50	120
3283	Fluorene 0.16 ug/l	N.D.					80	86	6	64	117
3284	Phenanthrene 0.044 ug/l	N.D.					85	89	6	75	114
3285	Anthracene 0.029 ug/l	N.D.					76	81	6	53	112
3286	Fluoranthene 0.019 ug/l	N.D.					87	93	6	43	147
3287	Pyrene 0.17 ug/l	N.D.					93	98	6	39	149
3288	Benzo(a)anthracene 0.017 ug/l	N.D.					86	91	6	73	117
3289	Chrysene 0.056 ug/l	N.D.					89	93	4	68	125
3290	Benzo(b)fluoranthene 0.033 ug/l	N.D.					87	92	6	71	123
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.					88	94	7	75	118
3292	Benzo(a)pyrene 0.021 ug/l	N.D.					80	84	6	61	127
3293	Dibenzo(a,h)anthracene 0.044 ug/l	N.D.					88	94	7	71	121
3294	Benzo(g,h,i)perylene 0.094 ug/l	N.D.					91	97	7	70	125
3295	Indeno(1,2,3-cd)pyrene 0.061 ug/l	N.D.					90	97	8	73	125

8213 BTEX (8021)		Batch: 99352A02									
0776	Benzene 0.20 ug/l	N.D.		104			104	96	8	79	119
0777	Toluene 0.20 ug/l	N.D.		106			104	98	6	81	124
0778	Ethylbenzene 0.20 ug/l	N.D.		97			95	89	6	80	118
0779	Total Xylenes 0.60 ug/l	N.D.		109			108	101	6	81	118



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LLI Sample No. **3292677**
MW-5S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 695913
Kerr-McGee Corporation

SURROGATE SUMMARY

	TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
				LOW	HIGH
1861 PAH's in Water		Nitrobenz	86	29	136
		Triphenyle	85	33	139
8213 BTEX (8021)		TFT-P	98	69	132



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LLI Sample No. WW 3291533

Collected: 12/14/99 at 09:40 by JA

Submitted: 12/15/99 Reported: 12/28/99
Discard: 01/28/00

MW-6S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
W6S08 SDG#: MOS32-05

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

P.O. MOSS-AMERICAN
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	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: Garet Van De Steeg, PhD
ATTN: Mr. Tom Graan

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
12:30:53 D 0003 15 128410 695719
232 0.00 00021753 ASR000



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



LLI Sample No. WW 3291533
 Collected: 12/14/99 at 09:40 by JA

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

P.O. MOSS-AMERICAN
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Submitted: 12/15/99 Reported: 12/28/99
 Discard: 01/28/00

MW-6S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
 W6S08 SDG#: MOS32-05

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	0.023	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
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Respectfully Submitted
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 Group Leader Pesticides/PCBs



LLI Sample No. WW 3291533
 Collected: 12/14/99 at 09:40 by JA

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

P.O. MOSS-AMERICAN
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Submitted: 12/15/99 Reported: 12/28/99
 Discard: 01/28/00

MW-6S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
 W6S08 SDG#: MOS32-05

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



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

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LLI Sample No. WW 3291533

Collected: 12/14/99 at 09:40 by JA

Submitted: 12/15/99

MW-6S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
W6S08 SDG#: MOS32-05

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	12/17/99 1807	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	12/17/99 0050	Sorina A. Haskins
8213	BTEX (8021)	SW-846 8021B	1	12/17/99 2359	Barry R. Shoemaker



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LLI Sample No. 3291533

MW-6S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI

Group No. 695719
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH	
-----		Batch: 993500011A										
1861 PAH's in Water	-----											
3280	Naphthalene											
	0.76 ug/l	N.D.		91	87	14	82			45	111	
3281	Acenaphthylene											
	0.76 ug/l	3.30 J ug/l		97	94	14	91			59	114	
3282	Acenaphthene											
	0.76 ug/l	N.D.		99	97	13	93			50	120	
3283	Fluorene											
	0.16 ug/l	N.D.		101	99	13	95			64	117	
3284	Phenanthrene											
	0.044 ug/l	N.D.		97	95	13	93			75	114	
3285	Anthracene											
	0.029 ug/l	N.D.		92	90	12	87			53	112	
3286	Fluoranthene											
	0.019 ug/l	N.D.		101	99	11	95			43	147	
3287	Pyrene											
	0.17 ug/l	N.D.		109	109	10	102			39	149	
3288	Benzo(a)anthracene											
	0.017 ug/l	N.D.		104	103	11	96			73	117	
3289	Chrysene											
	0.056 ug/l	N.D.		107	108	9	100			68	125	
3290	Benzo(b)fluoranthene											
	0.033 ug/l	N.D.		104	104	10	97			71	123	
3291	Benzo(k)fluoranthene											
	0.026 ug/l	N.D.		104	104	10	97			75	118	
3292	Benzo(a)pyrene											
	0.021 ug/l	N.D.		105	104	10	96			61	127	
3293	Dibenzo(a,h)anthracene											
	0.045 ug/l	N.D.		108	107	11	101			71	121	
3294	Benzo(g,h,i)perylene											
	0.094 ug/l	N.D.		111	109	11	102			70	125	
3295	Indeno(1,2,3-cd)pyrene											
	0.061 ug/l	N.D.		108	107	11	100			73	125	
-----		Batch: 99351A66										
8213 BTEX (8021)	-----											
0776	Benzene											
	0.20 ug/l	N.D.		110	109	1	104			79	119	
0777	Toluene											
	0.20 ug/l	N.D.		113	112	1	105			81	124	
0778	Ethylbenzene											
	0.20 ug/l	N.D.		113	112	1	105			80	118	
0779	Total Xylenes											
	0.60 ug/l	N.D.		113	112	1	106			81	118	



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LLI Sample No. **3291533**
 MW-6S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI

Group No. 695719
 Kerr-McGee Corporation

SURROGATE SUMMARY

	TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
				LOW	HIGH
1861 PAH's in Water		Nitrobenz	89	29	136
		Triphenyle	86	33	139
8213 BTEX (8021)		TFT-P	106	69	132



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LLI Sample No. WW 3291529
Collected: 12/13/99 at 15:30 by JA

Submitted: 12/15/99 Reported: 12/28/99
Discard: 01/28/00

MW-7S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
7S-08 SDG#: MOS32-01

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

P.O. MOSS-AMERICAN
Rel.

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

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

Questions? Contact your Client Services Representative
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12:28:10 D 0003 15 128410 695719
232 0.00 00021753 ASR000



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Group Leader Pesticides/PCBs



LLI Sample No. WW 3291529
 Collected: 12/13/99 at 15:30 by JA

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

P.O. MOSS-AMERICAN
 Rel.

Submitted: 12/15/99 Reported: 12/28/99
 Discard: 01/28/00

MW-7S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
 7S-08 SDG#: MOS32-01

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	
			DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	4,740.	76.	ug/l
3281	Acenaphthylene	81.	7.6	ug/l
3282	Acenaphthene	140.	7.6	ug/l
3283	Fluorene	24.4	1.6	ug/l
3284	Phenanthrene	N.D.	0.44	ug/l
3285	Anthracene	N.D.	0.29	ug/l
3286	Fluoranthene	N.D.	0.19	ug/l
3287	Pyrene	N.D.	1.7	ug/l
3288	Benzo(a)anthracene	N.D.	0.17	ug/l
3289	Chrysene	N.D.	0.56	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.33	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.26	ug/l
3292	Benzo(a)pyrene	N.D.	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

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 Collected: 12/13/99 at 15:30 by JA

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 P.O. Box 25861
 Oklahoma City OK 73125

P.O. MOSS-AMERICAN
 Rel.

Submitted: 12/15/99 Reported: 12/28/99
 Discard: 01/28/00

MW-7S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
 7S-08 SDG#: MOS32-01

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	7.1	1.0	ug/l
0777	Toluene	1.7 J	1.0	ug/l
0778	Ethylbenzene	26.	1.0	ug/l
0779	Total Xylenes	79.	3.0	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



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 Manager, Volatiles

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LLI Sample No. WW 3291529

Collected: 12/13/99 at 15:30 by JA

Submitted: 12/15/99

MW-7S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
7S-08 SDG#: MOS32-01

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		12/20/99 1540	Michelle J. Kolodziejski
3337	PAH Water Extraction	SW-846 3510C	1		12/17/99 0050	Sorina A. Haskins
8213	BTEX (8021)	SW-846 8021B	1		12/17/99 2058	Barry R. Shoemaker



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LLI Sample No. 3291529

MW-7S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI

Group No. 695719
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: 993500011A									

3280	Naphthalene										
	76. ug/l	N.D.		91	87	14	82			45	111
3281	Acenaphthylene										
	7.6 ug/l	3.30 J ug/l		97	94	14	91			59	114
3282	Acenaphthene										
	7.6 ug/l	N.D.		99	97	13	93			50	120
3283	Fluorene										
	1.6 ug/l	N.D.		101	99	13	95			64	117
3284	Phenanthrene										
	0.44 ug/l	N.D.		97	95	13	93			75	114
3285	Anthracene										
	0.29 ug/l	N.D.		92	90	12	87			53	112
3286	Fluoranthene										
	0.19 ug/l	N.D.		101	99	11	95			43	147
3287	Pyrene										
	1.7 ug/l	N.D.		109	109	10	102			39	149
3288	Benzo(a)anthracene										
	0.17 ug/l	N.D.		104	103	11	96			73	117
3289	Chrysene										
	0.56 ug/l	N.D.		107	108	9	100			68	125
3290	Benzo(b)fluoranthene										
	0.33 ug/l	N.D.		104	104	10	97			71	123
3291	Benzo(k)fluoranthene										
	0.26 ug/l	N.D.		104	104	10	97			75	118
3292	Benzo(a)pyrene										
	0.21 ug/l	N.D.		105	104	10	96			61	127
3293	Dibenzo(a,h)anthracene										
	0.45 ug/l	N.D.		108	107	11	101			71	121
3294	Benzo(g,h,i)perylene										
	0.94 ug/l	N.D.		111	109	11	102			70	125
3295	Indeno(1,2,3-cd)pyrene										
	0.61 ug/l	N.D.		108	107	11	100			73	125

8213 BTEX (8021)		Batch: 99351A66									

0776	Benzene										
	1.0 ug/l	N.D.		110	109	1	104			79	119
0777	Toluene										
	1.0 ug/l	N.D.		113	112	1	105			81	124
0778	Ethylbenzene										
	1.0 ug/l	N.D.		113	112	1	105			80	118
0779	Total Xylenes										
	3.0 ug/l	N.D.		113	112	1	106			81	118



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LLI Sample No. 3291529

MW-7S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI

Group No. 695719
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	0	29	136
		Triphenyle	78	33	139
8213 BTEX (8021)		TFT-P	106	69	132



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LLI Sample No. WW 3291530

Collected: 12/13/99 at 16:00 by JA

Submitted: 12/15/99 Reported: 12/28/99

Discard: 01/28/00

MW-9S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
9S-08 SDG#: MOS32-02

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
1861	PAH's in Water		See Page	2
8213	BTEX (8021)		See Page	3

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

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

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
12:28:48 D 0003 15 128410 695719
232 0.00 00021753 ASR000



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



LLI Sample No. **WW 3291530**

Collected: 12/13/99 at 16:00 by JA

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

P.O. MOSS-AMERICAN
 Rel.

Submitted: 12/15/99 Reported: 12/28/99
 Discard: 01/28/00

MW-9S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
 9S-08 SDG#: MOS32-02

AS RECEIVED
 METHOD
 RESULTS DETECTION LIMIT UNITS

CAT
 NO. ANALYSIS NAME

PAH's in Water

CAT NO.	ANALYSIS NAME	RESULTS	DETECTION	LIMIT	UNITS
3280	Naphthalene	N.D.	0.76		ug/l
3281	Acenaphthylene	2.51	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	0.031	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

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 Group Leader Pesticides/PCBs



LLI Sample No. WW 3291530
 Collected: 12/13/99 at 16:00 by JA

Submitted: 12/15/99 Reported: 12/28/99
 Discard: 01/28/00

MW-9S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
 9S-08 SDG#: MOS32-02

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

P.O. MOSS-AMERICAN
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CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.20	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
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Respectfully Submitted
 Michele Turner, B.A.
 Manager, Volatiles

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LLI Sample No. WW 3291530

Collected: 12/13/99 at 16:00 by JA

Submitted: 12/15/99

MW-9S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
9S-08 SDG#: MOS32-02

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	12/17/99 1702	Michelle J. Kolodziejski
3337	PAH Water Extraction	SW-846 3510C	1	12/17/99 0050	Sorina A. Haskins
8213	BTEX (8021)	SW-846 8021B	1	12/17/99 2211	Barry R. Shoemaker



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LLI Sample No. 3291530

MW-9S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI

Group No. 695719
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: 993500011A									
3280	Naphthalene 0.76 ug/l	N.D.		91	87	14	82			45	111
3281	Acenaphthylene 0.76 ug/l	3.30 J ug/l		97	94	14	91			59	114
3282	Acenaphthene 0.76 ug/l	N.D.		99	97	13	93			50	120
3283	Fluorene 0.16 ug/l	N.D.		101	99	13	95			64	117
3284	Phenanthrene 0.044 ug/l	N.D.		97	95	13	93			75	114
3285	Anthracene 0.029 ug/l	N.D.		92	90	12	87			53	112
3286	Fluoranthene 0.019 ug/l	N.D.		101	99	11	95			43	147
3287	Pyrene 0.17 ug/l	N.D.		109	109	10	102			39	149
3288	Benzo(a)anthracene 0.017 ug/l	N.D.		104	103	11	96			73	117
3289	Chrysene 0.056 ug/l	N.D.		107	108	9	100			68	125
3290	Benzo(b)fluoranthene 0.033 ug/l	N.D.		104	104	10	97			71	123
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.		104	104	10	97			75	118
3292	Benzo(a)pyrene 0.021 ug/l	N.D.		105	104	10	96			61	127
3293	Dibenzo(a,h)anthracene 0.045 ug/l	N.D.		108	107	11	101			71	121
3294	Benzo(g,h,i)perylene 0.094 ug/l	N.D.		111	109	11	102			70	125
3295	Indeno(1,2,3-cd)pyrene 0.061 ug/l	N.D.		108	107	11	100			73	125
8213 BTEX (8021)		Batch: 99351A66									
0776	Benzene 0.20 ug/l	N.D.		110	109	1	104			79	119
0777	Toluene 0.20 ug/l	N.D.		113	112	1	105			81	124
0778	Ethylbenzene 0.20 ug/l	N.D.		113	112	1	105			80	118
0779	Total Xylenes 0.60 ug/l	N.D.		113	112	1	106			81	118



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LLI Sample No. 3291530
MW-9S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI

Group No. 695719
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	92	29	136
		Triphenyle	90	33	139
8213 BTEX (8021)		TFT-P	107	69	132



LLI Sample No. WW 3291531

Collected: 12/13/99 at 16:40 by JA

Submitted: 12/15/99 Reported: 12/28/99
Discard: 01/28/00

MW-10S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
10S08 SDG#: MOS32-03

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	RESULTS	METHOD	
			DETECTION LIMIT	UNITS
1861	PAH's in Water		See Page	2
8213	BTEX (8021)		See Page	3

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

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

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
12:29:16 D 0003 15 128410 695719
232 0.00 00021753 ASR000



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



LLI Sample No. WW 3291531
 Collected: 12/13/99 at 16:40 by JA

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

P.O. MOSS-AMERICAN
 Re1.

Submitted: 12/15/99 Reported: 12/28/99
 Discard: 01/28/00

MW-10S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
 10S08 SDG#: MOS32-03

AS RECEIVED
 METHOD
 RESULTS DETECTION LIMIT UNITS

CAT
 NO. ANALYSIS NAME

PAH's in Water

CAT NO.	ANALYSIS NAME	RESULTS	DETECTION	LIMIT	UNITS
3280	Naphthalene	N.D.	0.79		ug/l
3281	Acenaphthylene	N.D.	0.79		ug/l
3282	Acenaphthene	N.D.	0.79		ug/l
3283	Fluorene	N.D.	0.17		ug/l
3284	Phenanthrene	N.D.	0.046		ug/l
3285	Anthracene	N.D.	0.031		ug/l
3286	Fluoranthene	N.D.	0.020		ug/l
3287	Pyrene	N.D.	0.18		ug/l
3288	Benzo(a)anthracene	N.D.	0.018		ug/l
3289	Chrysene	N.D.	0.058		ug/l
3290	Benzo(b)fluoranthene	N.D.	0.035		ug/l
3291	Benzo(k)fluoranthene	N.D.	0.027		ug/l
3292	Benzo(a)pyrene	N.D.	0.022		ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.047		ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.098		ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.063		ug/l

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



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 Group Leader Pesticides/PCBs



LLI Sample No. WW 3291531
Collected: 12/13/99 at 16:40 by JA

Submitted: 12/15/99 Reported: 12/28/99
Discard: 01/28/00

MW-10S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
10S08 SDG#: MOS32-03

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
Michele Turner, B.A.
Manager, Volatiles

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LLI Sample No. WW 3291531

Collected: 12/13/99 at 16:40 by JA

Submitted: 12/15/99

MW-10S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
10S08 SDG#: MOS32-03

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	12/17/99 1724	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	12/17/99 0050	Sorina A. Haskins
8213	BTEX (8021)	SW-846 8021B	1	12/17/99 2247	Barry R. Shoemaker



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LLI Sample No. 3291531

MW-10S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI

Group No. 695719
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: 993500011A										
3280	Naphthalene 0.79 ug/l	N.D.		91	87	14	82			45	111	
3281	Acenaphthylene 0.79 ug/l	3.30 J ug/l		97	94	14	91			59	114	
3282	Acenaphthene 0.79 ug/l	N.D.		99	97	13	93			50	120	
3283	Fluorene 0.17 ug/l	N.D.		101	99	13	95			64	117	
3284	Phenanthrene 0.046 ug/l	N.D.		97	95	13	93			75	114	
3285	Anthracene 0.031 ug/l	N.D.		92	90	12	87			53	112	
3286	Fluoranthene 0.020 ug/l	N.D.		101	99	11	95			43	147	
3287	Pyrene 0.18 ug/l	N.D.		109	109	10	102			39	149	
3288	Benzo(a)anthracene 0.018 ug/l	N.D.		104	103	11	96			73	117	
3289	Chrysene 0.058 ug/l	N.D.		107	108	9	100			68	125	
3290	Benzo(b)fluoranthene 0.035 ug/l	N.D.		104	104	10	97			71	123	
3291	Benzo(k)fluoranthene 0.027 ug/l	N.D.		104	104	10	97			75	118	
3292	Benzo(a)pyrene 0.022 ug/l	N.D.		105	104	10	96			61	127	
3293	Dibenzo(a,h)anthracene 0.047 ug/l	N.D.		108	107	11	101			71	121	
3294	Benzo(g,h,i)perylene 0.098 ug/l	N.D.		111	109	11	102			70	125	
3295	Indeno(1,2,3-cd)pyrene 0.063 ug/l	N.D.		108	107	11	100			73	125	
-----8213 BTEX (8021)-----		Batch: 99351A66										
0776	Benzene 0.20 ug/l	N.D.		110	109	1	104			79	119	
0777	Toluene 0.20 ug/l	N.D.		113	112	1	105			81	124	
0778	Ethylbenzene 0.20 ug/l	N.D.		113	112	1	105			80	118	
0779	Total Xylenes 0.60 ug/l	N.D.		113	112	1	106			81	118	



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LLI Sample No. 3291531
 MW-10S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI

Group No. 695719
 Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	93	29	136
		Triphenyle	90	33	139
8213 BTEX (8021)		TFT-P	106	69	132



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LLI Sample No. WW 3291536

Collected: 12/14/99 at 14:00 by JA

Submitted: 12/15/99 Reported: 12/28/99
Discard: 01/28/00

MW-13S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
13S08 SDG#: MOS32-08

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 Data Package Group

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

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
12:32:25 D 0003 15 128410 695719
232 0.00 00021753 ASR000



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



LLI Sample No. WW 3291536
 Collected: 12/14/99 at 14:00 by JA

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

P.O. MOSS-AMERICAN
 Rel.

Submitted: 12/15/99 Reported: 12/28/99
 Discard: 01/28/00

MW-13S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
 13S08 SDG#: MOS32-08

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	0.025 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



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 3291536

Collected: 12/14/99 at 14:00 by JA

Submitted: 12/15/99 Reported: 12/28/99
Discard: 01/28/00

MW-13S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
13S08 SDG#: MOS32-08

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

P.O. MOSS-AMERICAN
Rel.

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



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

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

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LLI Sample No. WW 3291536

Collected: 12/14/99 at 14:00 by JA

Submitted: 12/15/99

MW-13S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
13S08 SDG#: MOS32-08

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	12/17/99 1933	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	12/17/99 0050	Sorina A. Haskins
8213	BTEX (8021)	SW-846 8021B	1	12/18/99 0148	Barry R. Shoemaker



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LLI Sample No. 3291536
 MW-13S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI

Group No. 695719
 Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH	
-----		Batch: 993500011A										
1861 PAH's in Water	-----											
3280	Naphthalene											
	0.76 ug/l	N.D.		91	87	14	82			45	111	
3281	Acenaphthylene											
	0.76 ug/l	3.30 J ug/l		97	94	14	91			59	114	
3282	Acenaphthene											
	0.76 ug/l	N.D.		99	97	13	93			50	120	
3283	Fluorene											
	0.16 ug/l	N.D.		101	99	13	95			64	117	
3284	Phenanthrene											
	0.044 ug/l	N.D.		97	95	13	93			75	114	
3285	Anthracene											
	0.029 ug/l	N.D.		92	90	12	87			53	112	
3286	Fluoranthene											
	0.019 ug/l	N.D.		101	99	11	95			43	147	
3287	Pyrene											
	0.17 ug/l	N.D.		109	109	10	102			39	149	
3288	Benzo(a)anthracene											
	0.017 ug/l	N.D.		104	103	11	96			73	117	
3289	Chrysene											
	0.056 ug/l	N.D.		107	108	9	100			68	125	
3290	Benzo(b)fluoranthene											
	0.033 ug/l	N.D.		104	104	10	97			71	123	
3291	Benzo(k)fluoranthene											
	0.026 ug/l	N.D.		104	104	10	97			75	118	
3292	Benzo(a)pyrene											
	0.021 ug/l	N.D.		105	104	10	96			61	127	
3293	Dibenzo(a,h)anthracene											
	0.045 ug/l	N.D.		108	107	11	101			71	121	
3294	Benzo(g,h,i)perylene											
	0.094 ug/l	N.D.		111	109	11	102			70	125	
3295	Indeno(1,2,3-cd)pyrene											
	0.061 ug/l	N.D.		108	107	11	100			73	125	
-----		Batch: 99351A66										
8213 BTEX (8021)	-----											
0776	Benzene											
	0.20 ug/l	N.D.		110	109	1	104			79	119	
0777	Toluene											
	0.20 ug/l	N.D.		113	112	1	105			81	124	
0778	Ethylbenzene											
	0.20 ug/l	N.D.		113	112	1	105			80	118	
0779	Total Xylenes											
	0.60 ug/l	N.D.		113	112	1	106			81	118	



LLI Sample No. 3291536
MW-13S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI

Group No. 695719
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	92	29	136
		Triphenyle	89	33	139
8213 BTEX (8021)		TFT-P	106	69	132



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LLI Sample No. WW 3292678
Collected: 12/15/99 at 11:00 by JA

Submitted: 12/16/99 Reported: 12/28/99
Discard: 01/28/00

MW-20S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
20S08 SDG#: MOS34-04

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

P.O. MOSS-AMERICAN
Rel.

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

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

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

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
19:09:57 D 0003 7 128410 695913
232 0.00 00021753 ASR000



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



LLI Sample No. WW 3292678
 Collected: 12/15/99 at 11:00 by JA

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

P.O. MOSS-AMERICAN
 Re1.

Submitted: 12/16/99 Reported: 12/28/99
 Discard: 01/28/00

MW-20S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
 20S08 SDG#: MOS34-04

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

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

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

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



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LLI Sample No. WW 3292678
 Collected: 12/15/99 at 11:00 by JA

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

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Submitted: 12/16/99 Reported: 12/28/99
 Discard: 01/28/00

MW-20S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
 20S08 SDG#: MOS34-04

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

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

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



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

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LLI Sample No. WW 3292678

Collected: 12/15/99 at 11:00 by JA

Submitted: 12/16/99

MW-20S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
20S08 SDG#: MOS34-04

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	12/21/99 0840	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	12/18/99 1200	Anita M. Dale
8213	BTEX (8021)	SW-846 8021B	1	12/18/99 1952	Diane E. Wilson



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LLI Sample No. 3292678
 MW-20S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 695913
 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: 993510004A									
3280	Naphthalene 0.76 ug/1	N.D.					69	77	10	45	111
3281	Acenaphthylene 0.76 ug/1	N.D.					77	83	7	59	114
3282	Acenaphthene 0.76 ug/1	N.D.					75	80	6	50	120
3283	Fluorene 0.16 ug/1	N.D.					80	86	6	64	117
3284	Phenanthrene 0.044 ug/1	N.D.					85	89	6	75	114
3285	Anthracene 0.029 ug/1	N.D.					76	81	6	53	112
3286	Fluoranthene 0.019 ug/1	N.D.					87	93	6	43	147
3287	Pyrene 0.17 ug/1	N.D.					93	98	6	39	149
3288	Benzo(a)anthracene 0.017 ug/1	N.D.					86	91	6	73	117
3289	Chrysene 0.056 ug/1	N.D.					89	93	4	68	125
3290	Benzo(b)fluoranthene 0.033 ug/1	N.D.					87	92	6	71	123
3291	Benzo(k)fluoranthene 0.026 ug/1	N.D.					88	94	7	75	118
3292	Benzo(a)pyrene 0.021 ug/1	N.D.					80	84	6	61	127
3293	Dibenzo(a,h)anthracene 0.045 ug/1	N.D.					88	94	7	71	121
3294	Benzo(g,h,i)perylene 0.094 ug/1	N.D.					91	97	7	70	125
3295	Indeno(1,2,3-cd)pyrene 0.061 ug/1	N.D.					90	97	8	73	125

8213 BTEX (8021)											

		Batch: 99352A02									
0776	Benzene 0.20 ug/1	N.D.		104			104	96	8	79	119
0777	Toluene 0.20 ug/1	N.D.		106			104	98	6	81	124
0778	Ethylbenzene 0.20 ug/1	N.D.		97			95	89	6	80	118
0779	Total Xylenes 0.60 ug/1	N.D.		109			108	101	6	81	118



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LLI Sample No. **3292678**
MW-20S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 695913
Kerr-McGee Corporation

SURROGATE SUMMARY

	TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
				LOW	HIGH
1861 PAH's in Water		Nitrobenz	85	29	136
		Triphenyle	87	33	139
8213 BTEX (8021)		TFT-P	99	69	132



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LLI Sample No. WW 3291537
Collected: 12/14/99 at 14:50 by JA

Submitted: 12/15/99 Reported: 12/28/99
Discard: 01/28/00

MW-25S-08 Unspiked Grab Water Sample

Moss-American Site - Milwaukee, WI
25S08 SDG#: MOS32-09BKG

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

P.O. MOSS-AMERICAN
Rel.

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

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

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

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
12:32:53 D 0003 15 128410 695719
232 0.00 00021753 ASR000



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



LLI Sample No. WW 3291537
 Collected: 12/14/99 at 14:50 by JA

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

P.O. MOSS-AMERICAN
 Rel.

Submitted: 12/15/99 Reported: 12/28/99
 Discard: 01/28/00

MW-25S-08 Unspiked Grab Water Sample

Moss-American Site - Milwaukee, WI
 25S08 SDG#: MOS32-09BKG

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	1.06	0.76	ug/l
3282	Acenaphthene	N.D.	0.76	ug/l
3283	Fluorene	N.D.	0.16	ug/l
3284	Phenanthrene	0.046 J	0.044	ug/l
3285	Anthracene	N.D.	0.029	ug/l
3286	Fluoranthene	0.026 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
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 Group Leader Pesticides/PCBs



LLI Sample No. WW 3291537
 Collected: 12/14/99 at 14:50 by JA

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

P.O. MOSS-AMERICAN
 Rel.

Submitted: 12/15/99 Reported: 12/28/99
 Discard: 01/28/00

MW-25S-08 Unspiked Grab Water Sample

Moss-American Site - Milwaukee, WI
 25S08 SDG#: MOS32-09BKG

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
 Michele Turner, B.A.
 Manager, Volatiles

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LLI Sample No. WW 3291537

Collected: 12/14/99 at 14:50 by JA

Submitted: 12/15/99

MW-25S-08 Unspiked Grab Water Sample

Moss-American Site - Milwaukee, WI
25S08 SDG#: MOS32-09BKG

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	12/17/99 1536	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	12/17/99 0050	Sorina A. Haskins
8213	BTEX (8021)	SW-846 8021B	1	12/17/99 1419	Barry R. Shoemaker



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LLI Sample No. 3291537
 MW-25S-08 Unspiked Grab Water Sample

Moss-American Site - Milwaukee, WI

Group No. 695719
 Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH	
-----		Batch: 993500011A										
1861 PAH's in Water												

3280	Naphthalene											
	0.76 ug/l	N.D.		91	87	14	82			45	111	
3281	Acenaphthylene											
	0.76 ug/l	3.30 J ug/l		97	94	14	91			59	114	
3282	Acenaphthene											
	0.76 ug/l	N.D.		99	97	13	93			50	120	
3283	Fluorene											
	0.16 ug/l	N.D.		101	99	13	95			64	117	
3284	Phenanthrene											
	0.044 ug/l	N.D.		97	95	13	93			75	114	
3285	Anthracene											
	0.029 ug/l	N.D.		92	90	12	87			53	112	
3286	Fluoranthene											
	0.019 ug/l	N.D.		101	99	11	95			43	147	
3287	Pyrene											
	0.17 ug/l	N.D.		109	109	10	102			39	149	
3288	Benzo(a)anthracene											
	0.017 ug/l	N.D.		104	103	11	96			73	117	
3289	Chrysene											
	0.056 ug/l	N.D.		107	108	9	100			68	125	
3290	Benzo(b)fluoranthene											
	0.033 ug/l	N.D.		104	104	10	97			71	123	
3291	Benzo(k)fluoranthene											
	0.026 ug/l	N.D.		104	104	10	97			75	118	
3292	Benzo(a)pyrene											
	0.021 ug/l	N.D.		105	104	10	96			61	127	
3293	Dibenzo(a,h)anthracene											
	0.045 ug/l	N.D.		108	107	11	101			71	121	
3294	Benzo(g,h,i)perylene											
	0.094 ug/l	N.D.		111	109	11	102			70	125	
3295	Indeno(1,2,3-cd)pyrene											
	0.061 ug/l	N.D.		108	107	11	100			73	125	
-----		Batch: 99351A66										
8213 BTEX (8021)												

0776	Benzene											
	0.20 ug/l	N.D.		110	109	1	104			79	119	
0777	Toluene											
	0.20 ug/l	N.D.		113	112	1	105			81	124	
0778	Ethylbenzene											
	0.20 ug/l	N.D.		113	112	1	105			80	118	
0779	Total Xylenes											
	0.60 ug/l	N.D.		113	112	1	106			81	118	



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LLI Sample No. 3291537
MW-25S-08 Unspiked Grab Water Sample

Moss-American Site - Milwaukee, WI

Group No. 695719
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	90	29	136
		Triphenyle	91	33	139
8213 BTEX (8021)		TFT-P	109	69	132



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LLI Sample No. WW 3291538
Collected: 12/14/99 at 14:50 by JA

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

P.O. MOSS-AMERICAN
Rel.

Submitted: 12/15/99 Reported: 12/28/99
Discard: 01/28/00

MW-25S-08 Matrix Spike Grab Water Sample

Moss-American Site - Milwaukee, WI
25S08 SDG#: MOS32-09MS

AS RECEIVED

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

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

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

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
12:33:22 D 0003 15 128410 695719
232 0.00 00021753 ASR000



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



LLI Sample No. WW 3291538
Collected: 12/14/99 at 14:50 by JA

Submitted: 12/15/99 Reported: 12/28/99
Discard: 01/28/00

MW-25S-08 Matrix Spike Grab Water Sample

Moss-American Site - Milwaukee, WI
25S08 SDG#: MOS32-09MS

Account No: 07802

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

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	190.	0.84	ug/l
3281	Acenaphthylene	206.	0.84	ug/l
3282	Acenaphthene	210.	0.84	ug/l
3283	Fluorene	21.2	0.18	ug/l
3284	Phenanthrene	6.18	0.048	ug/l
3285	Anthracene	2.89	0.032	ug/l
3286	Fluoranthene	3.19	0.021	ug/l
3287	Pyrene	22.9	0.19	ug/l
3288	Benzo(a)anthracene	1.63	0.019	ug/l
3289	Chrysene	6.73	0.062	ug/l
3290	Benzo(b)fluoranthene	1.31	0.037	ug/l
3291	Benzo(k)fluoranthene	1.31	0.028	ug/l
3292	Benzo(a)pyrene	1.64	0.023	ug/l
3293	Dibenzo(a,h)anthracene	3.41	0.049	ug/l
3294	Benzo(g,h,i)perylene	13.9	0.10	ug/l
3295	Indeno(1,2,3-cd)pyrene	6.77	0.067	ug/l

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



LLI Sample No. WW 3291538
Collected: 12/14/99 at 14:50 by JA

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

P.O. MOSS-AMERICAN
Rel.

Submitted: 12/15/99 Reported: 12/28/99
Discard: 01/28/00

MW-25S-08 Matrix Spike Grab Water Sample

Moss-American Site - Milwaukee, WI
25S08 SDG#: MOS32-09MS

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	22.	0.20	ug/l
0777	Toluene	23.	0.20	ug/l
0778	Ethylbenzene	23.	0.20	ug/l
0779	Total Xylenes	68.	0.60	ug/l

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



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

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LLI Sample No. WW 3291538

Collected: 12/14/99 at 14:50 by JA

Submitted: 12/15/99

MW-25S-08 Matrix Spike Grab Water Sample

Moss-American Site - Milwaukee, WI
25S08 SDG#: MOS32-09MS

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	12/17/99 1558	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	12/17/99 0050	Sorina A. Haskins
8213	BTEX (8021)	SW-846 8021B	1	12/17/99 1455	Barry R. Shoemaker



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LLI Sample No. 3291538
 MW-25S-08 Matrix Spike Grab Water Sample
 Moss-American Site - Milwaukee, WI

Group No. 695719
 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: 993500011A									
3280	Naphthalene 0.84 ug/l	N.D.		91	87	14	82			45	111
3281	Acenaphthylene 0.84 ug/l	3.30 J ug/l		97	94	14	91			59	114
3282	Acenaphthene 0.84 ug/l	N.D.		99	97	13	93			50	120
3283	Fluorene 0.18 ug/l	N.D.		101	99	13	95			64	117
3284	Phenanthrene 0.048 ug/l	N.D.		97	95	13	93			75	114
3285	Anthracene 0.032 ug/l	N.D.		92	90	12	87			53	112
3286	Fluoranthene 0.021 ug/l	N.D.		101	99	11	95			43	147
3287	Pyrene 0.19 ug/l	N.D.		109	109	10	102			39	149
3288	Benzo(a)anthracene 0.019 ug/l	N.D.		104	103	11	96			73	117
3289	Chrysene 0.062 ug/l	N.D.		107	108	9	100			68	125
3290	Benzo(b)fluoranthene 0.037 ug/l	N.D.		104	104	10	97			71	123
3291	Benzo(k)fluoranthene 0.028 ug/l	N.D.		104	104	10	97			75	118
3292	Benzo(a)pyrene 0.023 ug/l	N.D.		105	104	10	96			61	127
3293	Dibenzo(a,h)anthracene 0.049 ug/l	N.D.		108	107	11	101			71	121
3294	Benzo(g,h,i)perylene 0.10 ug/l	N.D.		111	109	11	102			70	125
3295	Indeno(1,2,3-cd)pyrene 0.067 ug/l	N.D.		108	107	11	100			73	125
8213 BTEX (8021)		Batch: 99351A66									
0776	Benzene 0.20 ug/l	N.D.		110	109	1	104			79	119
0777	Toluene 0.20 ug/l	N.D.		113	112	1	105			81	124
0778	Ethylbenzene 0.20 ug/l	N.D.		113	112	1	105			80	118
0779	Total Xylenes 0.60 ug/l	N.D.		113	112	1	106			81	118



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LLI Sample No. 3291538
MW-25S-08 Matrix Spike Grab Water Sample
Moss-American Site - Milwaukee, WI

Group No. 695719
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	93	29	136
		Triphenyle	93	33	139
8213 BTEX (8021)		TFT-P	109	69	132



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LLI Sample No. WW 3291539
Collected: 12/14/99 at 14:50 by JA

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

P.O. MOSS-AMERICAN
Rel.

Submitted: 12/15/99 Reported: 12/28/99
Discard: 01/28/00

MW-25S-08 Matrix Spike Duplicate Grab Water Sample

Moss-American Site - Milwaukee, WI
25S08 SDG#: MOS32-09MSD

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

Questions? Contact your Client Services Representative
 Kay G. Hower at (717) 656-2300
 12:33:47 D 0003 15 128410 695719
 232 0.00 00021753 ASR000



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



LLI Sample No. WW 3291539
Collected: 12/14/99 at 14:50 by JA

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

P.O. MOSS-AMERICAN
Rel.

Submitted: 12/15/99 Reported: 12/28/99
Discard: 01/28/00

MW-25S-08 Matrix Spike Duplicate Grab Water Sample

Moss-American Site - Milwaukee, WI
25S08 SDG#: MOS32-09MSD

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	165.	0.76	ug/l
3281	Acenaphthylene	179.	0.76	ug/l
3282	Acenaphthene	180.	0.76	ug/l
3283	Fluorene	18.7	0.16	ug/l
3284	Phenanthrene	5.44	0.044	ug/l
3285	Anthracene	2.56	0.029	ug/l
3286	Fluoranthene	2.85	0.019	ug/l
3287	Pyrene	20.6	0.17	ug/l
3288	Benzo(a)anthracene	1.46	0.017	ug/l
3289	Chrysene	6.13	0.056	ug/l
3290	Benzo(b)fluoranthene	1.18	0.033	ug/l
3291	Benzo(k)fluoranthene	1.19	0.026	ug/l
3292	Benzo(a)pyrene	1.48	0.021	ug/l
3293	Dibenzo(a,h)anthracene	3.05	0.045	ug/l
3294	Benzo(g,h,i)perylene	12.4	0.094	ug/l
3295	Indeno(1,2,3-cd)pyrene	6.07	0.061	ug/l

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



LLI Sample No. WW **3291539**
 Collected: 12/14/99 at 14:50 by JA

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

P.O. MOSS-AMERICAN
 Rel.

Submitted: 12/15/99 Reported: 12/28/99
 Discard: 01/28/00

MW-25S-08 Matrix Spike Duplicate Grab Water Sample

Moss-American Site - Milwaukee, WI
 25S08 SDG#: MOS32-09MSD

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	22.	0.20	ug/l
0777	Toluene	22.	0.20	ug/l
0778	Ethylbenzene	22.	0.20	ug/l
0779	Total Xylenes	67.	0.60	ug/l

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



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

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LLI Sample No. WW 3291539

Collected: 12/14/99 at 14:50 by JA

Submitted: 12/15/99

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

MW-25S-08 Matrix Spike Duplicate Grab Water Sample

Moss-American Site - Milwaukee, WI
25S08 SDG#: MOS32-09MSD

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS			ANALYST
			TRIAL	ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1		12/17/99 1619	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1		12/17/99 0050	Sorina A. Haskins
8213	BTEX (8021)	SW-846 8021B	1		12/17/99 1531	Barry R. Shoemaker



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LLI Sample No. 3291539
 MW-25S-08 Matrix Spike Duplicate Grab Water Sample
 Moss-American Site - Milwaukee, WI

Group No. 695719
 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: 993500011A								

3280	Naphthalene										
	0.76 ug/l	N.D.		91	87	14	82			45	111
3281	Acenaphthylene										
	0.76 ug/l	3.30 J ug/l		97	94	14	91			59	114
3282	Acenaphthene										
	0.76 ug/l	N.D.		99	97	13	93			50	120
3283	Fluorene										
	0.16 ug/l	N.D.		101	99	13	95			64	117
3284	Phenanthrene										
	0.044 ug/l	N.D.		97	95	13	93			75	114
3285	Anthracene										
	0.029 ug/l	N.D.		92	90	12	87			53	112
3286	Fluoranthene										
	0.019 ug/l	N.D.		101	99	11	95			43	147
3287	Pyrene										
	0.17 ug/l	N.D.		109	109	10	102			39	149
3288	Benzo(a)anthracene										
	0.017 ug/l	N.D.		104	103	11	96			73	117
3289	Chrysene										
	0.056 ug/l	N.D.		107	108	9	100			68	125
3290	Benzo(b)fluoranthene										
	0.033 ug/l	N.D.		104	104	10	97			71	123
3291	Benzo(k)fluoranthene										
	0.026 ug/l	N.D.		104	104	10	97			75	118
3292	Benzo(a)pyrene										
	0.021 ug/l	N.D.		105	104	10	96			61	127
3293	Dibenzo(a,h)anthracene										
	0.045 ug/l	N.D.		108	107	11	101			71	121
3294	Benzo(g,h,i)perylene										
	0.094 ug/l	N.D.		111	109	11	102			70	125
3295	Indeno(1,2,3-cd)pyrene										
	0.061 ug/l	N.D.		108	107	11	100			73	125

8213 BTEX (8021)			Batch: 99351A66								

0776	Benzene										
	0.20 ug/l	N.D.		110	109	1	104			79	119
0777	Toluene										
	0.20 ug/l	N.D.		113	112	1	105			81	124
0778	Ethylbenzene										
	0.20 ug/l	N.D.		113	112	1	105			80	118
0779	Total Xylenes										
	0.60 ug/l	N.D.		113	112	1	106			81	118



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LLI Sample No. 3291539
MW-25S-08 Matrix Spike Duplicate Grab Water Sample
Moss-American Site - Milwaukee, WI

Group No. 695719
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	92	29	136
		Triphenyle	92	33	139
8213 BTEX (8021)		TFT-P	109	69	132



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LLI Sample No. WW 3291540
Collected: 12/14/99 at 15:50 by JA

Submitted: 12/15/99 Reported: 12/28/99
Discard: 01/28/00

MW-26S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
26S08 SDG#: MOS32-10

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

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		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: Garet Van De Steeg, PhD
ATTN: Mr. Tom Graan

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12:34:12 D 0003 15 128410 695719
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: 12/14/99 at 15:50 by JA

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 P.O. Box 25861
 Oklahoma City OK 73125

P.O. MOSS-AMERICAN
 Rel.

Submitted: 12/15/99 Reported: 12/28/99
 Discard: 01/28/00

MW-26S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
 26S08 SDG#: MOS32-10

AS RECEIVED

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.	0.030	ug/l
3286	Fluoranthene	N.D.	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	N.D.	0.056	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.033	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.094	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.061	ug/l

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



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Respectfully Submitted
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 Group Leader Pesticides/PCBs

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LLI Sample No. WW 3291540
 Collected: 12/14/99 at 15:50 by JA

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

P.O. MOSS-AMERICAN
 Rel.

Submitted: 12/15/99 Reported: 12/28/99
 Discard: 01/28/00

MW-26S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
 26S08 SDG#: MOS32-10

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



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

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

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LLI Sample No. WW 3291540

Collected: 12/14/99 at 15:50 by JA

Submitted: 12/15/99

MW-26S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
26S08 SDG#: MOS32-10

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	12/17/99 1954	Miche1le J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	12/17/99 0050	Sorina A. Haskins
8213	BTEX (8021)	SW-846 8021B	1	12/19/99 0859	Barry R. Shoemaker



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LLI Sample No. 3291540
 MW-26S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI

Group No. 695719
 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: 993500011A									
3280	Naphthalene	N.D.		91	87	14	82			45	111
	0.76 ug/l										
3281	Acenaphthylene	3.30 J ug/l		97	94	14	91			59	114
	0.76 ug/l										
3282	Acenaphthene	N.D.		99	97	13	93			50	120
	0.76 ug/l										
3283	Fluorene	N.D.		101	99	13	95			64	117
	0.16 ug/l										
3284	Phenanthrene	N.D.		97	95	13	93			75	114
	0.044 ug/l										
3285	Anthracene	N.D.		92	90	12	87			53	112
	0.030 ug/l										
3286	Fluoranthene	N.D.		101	99	11	95			43	147
	0.019 ug/l										
3287	Pyrene	N.D.		109	109	10	102			39	149
	0.17 ug/l										
3288	Benzo(a)anthracene	N.D.		104	103	11	96			73	117
	0.017 ug/l										
3289	Chrysene	N.D.		107	108	9	100			68	125
	0.056 ug/l										
3290	Benzo(b)fluoranthene	N.D.		104	104	10	97			71	123
	0.033 ug/l										
3291	Benzo(k)fluoranthene	N.D.		104	104	10	97			75	118
	0.026 ug/l										
3292	Benzo(a)pyrene	N.D.		105	104	10	96			61	127
	0.021 ug/l										
3293	Dibenzo(a,h)anthracene	N.D.		108	107	11	101			71	121
	0.045 ug/l										
3294	Benzo(g,h,i)perylene	N.D.		111	109	11	102			70	125
	0.094 ug/l										
3295	Indeno(1,2,3-cd)pyrene	N.D.		108	107	11	100			73	125
	0.061 ug/l										

8213	BTEX (8021)	Batch: 99351A66									
0776	Benzene	N.D.		110	109	1	104			79	119
	0.20 ug/l										
0777	Toluene	N.D.		113	112	1	105			81	124
	0.20 ug/l										
0778	Ethylbenzene	N.D.		113	112	1	105			80	118
	0.20 ug/l										
0779	Total Xylenes	N.D.		113	112	1	106			81	118
	0.60 ug/l										



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LLI Sample No. 3291540
MW-26S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI

Group No. 695719
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	82	29	136
	Triphenyle	84	33	139
8213 BTEX (8021)	TFT-P	106	69	132



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LLI Sample No. WW 3291535
Collected: 12/14/99 at 11:10 by JA

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

P.O. MOSS-AMERICAN
Rel.

Submitted: 12/15/99 Reported: 12/28/99
Discard: 01/28/00

MW-27S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
27S08 SDG#: MOS32-07

AS RECEIVED
METHOD
RESULTS DETECTION LIMIT UNITS

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

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

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

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
12:31:59 D 0003 15 128410 695719
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

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

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LLI Sample No. WW **3291535**
 Collected: 12/14/99 at 11:10 by JA

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

P.O. MOSS-AMERICAN
 Rel.

Submitted: 12/15/99 Reported: 12/28/99
 Discard: 01/28/00

MW-27S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
 27S08 SDG#: MOS32-07

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	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

Respectfully Submitted
 Jenifer E. Hess, B.S.
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LLI Sample No. WW 3291535
Collected: 12/14/99 at 11:10 by JA

Submitted: 12/15/99 Reported: 12/28/99
Discard: 01/28/00

MW-27S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
27S08 SDG#: MOS32-07

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

P.O. MOSS-AMERICAN
Rel.

CAT NO. ANALYSIS NAME

AS RECEIVED
RESULTS METHOD DETECTION LIMIT UNITS

BTEX (8021)

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
0776	Benzene	N.D.	0.20	ug/1	
0777	Toluene	N.D.	0.20	ug/1	
0778	Ethylbenzene	N.D.	0.20	ug/1	
0779	Total Xylenes	N.D.	0.60	ug/1	

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



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

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LLI Sample No. WW 3291535

Collected: 12/14/99 at 11:10 by JA

Submitted: 12/15/99

MW-27S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
27S08 SDG#: MOS32-07

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

CAT NO	ANALYSIS NAME	METHOD	TRIAL ID	ANALYSIS DATE AND TIME	ANALYST
1861	PAH's in Water	SW-846 8310	1	12/17/99 1911	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	12/17/99 0050	Sorina A. Haskins
8213	BTEX (8021)	SW-846 8021B	1	12/18/99 0112	Barry R. Shoemaker



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LLI Sample No. 3291535
 MW-27S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI

Group No. 695719
 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: 993500011A									

3280	Naphthalene										
	0.76 ug/l	N.D.		91	87	14	82			45	111
3281	Acenaphthylene										
	0.76 ug/l	3.30 J ug/l		97	94	14	91			59	114
3282	Acenaphthene										
	0.76 ug/l	N.D.		99	97	13	93			50	120
3283	Fluorene										
	0.16 ug/l	N.D.		101	99	13	95			64	117
3284	Phenanthrene										
	0.044 ug/l	N.D.		97	95	13	93			75	114
3285	Anthracene										
	0.029 ug/l	N.D.		92	90	12	87			53	112
3286	Fluoranthene										
	0.019 ug/l	N.D.		101	99	11	95			43	147
3287	Pyrene										
	0.17 ug/l	N.D.		109	109	10	102			39	149
3288	Benzo(a)anthracene										
	0.017 ug/l	N.D.		104	103	11	96			73	117
3289	Chrysene										
	0.056 ug/l	N.D.		107	108	9	100			68	125
3290	Benzo(b)fluoranthene										
	0.033 ug/l	N.D.		104	104	10	97			71	123
3291	Benzo(k)fluoranthene										
	0.026 ug/l	N.D.		104	104	10	97			75	118
3292	Benzo(a)pyrene										
	0.021 ug/l	N.D.		105	104	10	96			61	127
3293	Dibenzo(a,h)anthracene										
	0.044 ug/l	N.D.		108	107	11	101			71	121
3294	Benzo(g,h,i)perylene										
	0.094 ug/l	N.D.		111	109	11	102			70	125
3295	Indeno(1,2,3-cd)pyrene										
	0.061 ug/l	N.D.		108	107	11	100			73	125

8213 BTEX (8021)		Batch: 99351A66									

0776	Benzene										
	0.20 ug/l	N.D.		110	109	1	104			79	119
0777	Toluene										
	0.20 ug/l	N.D.		113	112	1	105			81	124
0778	Ethylbenzene										
	0.20 ug/l	N.D.		113	112	1	105			80	118
0779	Total Xylenes										
	0.60 ug/l	N.D.		113	112	1	106			81	118



LLI Sample No. 3291535
 MW-27S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI

Group No. 695719
 Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	85	29	136
	Triphenyle	84	33	139
8213 BTEX (8021)	TFT-P	106	69	132



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LLI Sample No. WW 3291534
Collected: 12/14/99 at 10:15 by JA

Submitted: 12/15/99 Reported: 12/28/99
Discard: 01/28/00

MW-29S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
29S08 SDG#: MOS32-06

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

P.O. MOSS-AMERICAN
Rel.

AS RECEIVED

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

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

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

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
12:31:32 D 0003 15 128410 695719
232 0.00 00021753 ASR000



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

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LLI Sample No. WW 3291534
 Collected: 12/14/99 at 10:15 by JA

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

P.O. MOSS-AMERICAN
 Rel.

Submitted: 12/15/99 Reported: 12/28/99
 Discard: 01/28/00

MW-29S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
 29S08 SDG#: MOS32-06

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.	0.043	ug/l
3285	Anthracene	N.D.	0.029	ug/l
3286	Fluoranthene	0.033 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
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Respectfully Submitted
 Jenifer E. Hess, B.S.
 Group Leader Pesticides/PCBs



LLI Sample No. WW 3291534
 Collected: 12/14/99 at 10:15 by JA

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

P.O. MOSS-AMERICAN
 Rel.

Submitted: 12/15/99 Reported: 12/28/99
 Discard: 01/28/00

MW-29S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
 29S08 SDG#: MOS32-06

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
 Michele Turner, B.A.
 Manager, Volatiles

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LLI Sample No. WW 3291534

Collected: 12/14/99 at 10:15 by JA

Submitted: 12/15/99

MW-29S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
29S08 SDG#: MOS32-06

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	12/17/99 1850	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	12/17/99 0050	Sorina A. Haskins
8213	BTEX (8021)	SW-846 8021B	1	12/18/99 0036	Barry R. Shoemaker



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LLI Sample No. 3291534
 MW-29S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI

Group No. 695719
 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: 993500011A									

3280	Naphthalene 0.76 ug/l	N.D.		91	87	14	82			45	111
3281	Acenaphthylene 0.76 ug/l	3.30 J ug/l		97	94	14	91			59	114
3282	Acenaphthene 0.76 ug/l	N.D.		99	97	13	93			50	120
3283	Fluorene 0.16 ug/l	N.D.		101	99	13	95			64	117
3284	Phenanthrene 0.043 ug/l	N.D.		97	95	13	93			75	114
3285	Anthracene 0.029 ug/l	N.D.		92	90	12	87			53	112
3286	Fluoranthene 0.019 ug/l	N.D.		101	99	11	95			43	147
3287	Pyrene 0.17 ug/l	N.D.		109	109	10	102			39	149
3288	Benzo(a)anthracene 0.017 ug/l	N.D.		104	103	11	96			73	117
3289	Chrysene 0.056 ug/l	N.D.		107	108	9	100			68	125
3290	Benzo(b)fluoranthene 0.033 ug/l	N.D.		104	104	10	97			71	123
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.		104	104	10	97			75	118
3292	Benzo(a)pyrene 0.021 ug/l	N.D.		105	104	10	96			61	127
3293	Dibenzo(a,h)anthracene 0.044 ug/l	N.D.		108	107	11	101			71	121
3294	Benzo(g,h,i)perylene 0.094 ug/l	N.D.		111	109	11	102			70	125
3295	Indeno(1,2,3-cd)pyrene 0.060 ug/l	N.D.		108	107	11	100			73	125

8213 BTEX (8021)		Batch: 99351A66									

0776	Benzene 0.20 ug/l	N.D.		110	109	1	104			79	119
0777	Toluene 0.20 ug/l	N.D.		113	112	1	105			81	124
0778	Ethylbenzene 0.20 ug/l	N.D.		113	112	1	105			80	118
0779	Total Xylenes 0.60 ug/l	N.D.		113	112	1	106			81	118



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LLI Sample No. **3291534**
 MW-29S-08 Grab Water Sample

Moss-American Site - Milwaukee, WI

Group No. 695719
 Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	90	29	136
	Triphenyle	90	33	139
8213 BTEX (8021)	TFT-P	106	69	132



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 2425 New Holland Pike
 PO Box 12425
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 717-656-2300 Fax: 717-656-2681

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LLI Sample No. WW 3291532
Collected: 12/14/99 at 08:45 by JA

Submitted: 12/15/99 Reported: 12/28/99
Discard: 01/28/00

TW-05-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
TW058 SDG#: MOS32-04

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

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
12:29:57 D 0003 15 128410 695719
232 0.00 00021753 ASR000

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



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

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LLI Sample No. WW 3291532
 Collected: 12/14/99 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: 12/15/99 Reported: 12/28/99
 Discard: 01/28/00

TW-05-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
 TW058 SDG#: MOS32-04

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
PAH's in Water					
3280	Naphthalene	9.0	J	7.9	ug/l
3281	Acenaphthylene	N.D.		7.9	ug/l
3282	Acenaphthene	100.		7.9	ug/l
3283	Fluorene	66.6		1.7	ug/l
3284	Phenanthrene	N.D.		0.45	ug/l
3285	Anthracene	3.9		0.30	ug/l
3286	Fluoranthene	24.4		0.20	ug/l
3287	Pyrene	25.0		1.8	ug/l
3288	Benzo(a)anthracene	3.63		0.18	ug/l
3289	Chrysene	4.1		0.58	ug/l
3290	Benzo(b)fluoranthene	1.46		0.34	ug/l
3291	Benzo(k)fluoranthene	0.81		0.27	ug/l
3292	Benzo(a)pyrene	1.49		0.22	ug/l
3293	Dibenzo(a,h)anthracene	N.D.		0.46	ug/l
3294	Benzo(g,h,i)perylene	N.D.		1.0	ug/l
3295	Indeno(1,2,3-cd)pyrene	0.65	J	0.63	ug/l

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



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 2425 New Holland Pike
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LLI Sample No. WW **3291532**
 Collected: 12/14/99 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: 12/15/99 Reported: 12/28/99
 Discard: 01/28/00

TW-05-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
 TW058 SDG#: MOS32-04

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

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

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LLI Sample No. WW 3291532

Collected: 12/14/99 at 08:45 by JA

Submitted: 12/15/99

TW-05-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
TW058 SDG#: MOS32-04

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	12/20/99 1606	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	12/17/99 0050	Sorina A. Haskins
8213	BTEX (8021)	SW-846 8021B	1	12/17/99 2323	Barry R. Shoemaker



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LLI Sample No. 3291532
TW-05-08 Grab Water Sample

Moss-American Site - Milwaukee, WI

Group No. 695719
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: 993500011A									

3280	Naphthalene	N.D.		91	87	14	82			45	111
	7.9 ug/l										
3281	Acenaphthylene	3.30 J ug/l		97	94	14	91			59	114
	7.9 ug/l										
3282	Acenaphthene	N.D.		99	97	13	93			50	120
	7.9 ug/l										
3283	Fluorene	N.D.		101	99	13	95			64	117
	1.7 ug/l										
3284	Phenanthrene	N.D.		97	95	13	93			75	114
	0.45 ug/l										
3285	Anthracene	N.D.		92	90	12	87			53	112
	0.30 ug/l										
3286	Fluoranthene	N.D.		101	99	11	95			43	147
	0.20 ug/l										
3287	Pyrene	N.D.		109	109	10	102			39	149
	1.8 ug/l										
3288	Benzo(a)anthracene	N.D.		104	103	11	96			73	117
	0.18 ug/l										
3289	Chrysene	N.D.		107	108	9	100			68	125
	0.58 ug/l										
3290	Benzo(b)fluoranthene	N.D.		104	104	10	97			71	123
	0.34 ug/l										
3291	Benzo(k)fluoranthene	N.D.		104	104	10	97			75	118
	0.27 ug/l										
3292	Benzo(a)pyrene	N.D.		105	104	10	96			61	127
	0.22 ug/l										
3293	Dibenzo(a,h)anthracene	N.D.		108	107	11	101			71	121
	0.46 ug/l										
3294	Benzo(g,h,i)perylene	N.D.		111	109	11	102			70	125
	1.0 ug/l										
3295	Indeno(1,2,3-cd)pyrene	N.D.		108	107	11	100			73	125
	0.63 ug/l										

8213 BTEX (8021)		Batch: 99351A66									

0776	Benzene	N.D.		110	109	1	104			79	119
	0.20 ug/l										
0777	Toluene	N.D.		113	112	1	105			81	124
	0.20 ug/l										
0778	Ethylbenzene	N.D.		113	112	1	105			80	118
	0.20 ug/l										
0779	Total Xylenes	N.D.		113	112	1	106			81	118
	0.60 ug/l										



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LLI Sample No. 3291532
TW-05-08 Grab Water Sample

Moss-American Site - Milwaukee, WI

Group No. 695719
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	65	29	136
	Triphenyle	103	33	139
8213 BTEX (8021)	TFT-P	106	69	132



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LLI Sample No. WW 3291542
Collected: 12/14/99 by JA

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

P.O. MOSS-AMERICAN
Re1.

Submitted: 12/15/99 Reported: 12/28/99
Discard: 01/28/00

FD-01-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
FD018 SDG#: MOS32-12

AS RECEIVED
METHOD
RESULTS DETECTION LIMIT UNITS

CAT NO. ANALYSIS NAME

1861 PAH's in Water
8213 BTEX (8021)

See Page 2
See Page 3

12-05-05

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

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

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
12:35:02 D 0003 15 128410 695719
232 0.00 00021753 ASR000



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



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Page: 2 of 6

LLI Sample No. WW **3291542**
Collected: 12/14/99 by JA

Submitted: 12/15/99 Reported: 12/28/99
Discard: 01/28/00

FD-01-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
FD018 SDG#: MOS32-12

Account No: 07802

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

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.77	ug/l
3281	Acenaphthylene	1.52	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



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

2216 Rev. 3/23/99



LLI Sample No. WW **3291542**
 Collected: 12/14/99 by JA

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

P.O. MOSS-AMERICAN
 Rel.

Submitted: 12/15/99 Reported: 12/28/99
 Discard: 01/28/00

FD-01-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
 FD018 SDG#: MOS32-12

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
 Michele Turner, B.A.
 Manager, Volatiles

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LLI Sample No. WW 3291542
Collected: 12/14/99 by JA

Submitted: 12/15/99

FD-01-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
FD018 SDG#: MOS32-12

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	12/17/99 2037	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	12/17/99 0050	Sorina A. Haskins
8213	BTEX (8021)	SW-846 8021B	1	12/19/99 1011	Barry R. Shoemaker



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L.I. Sample No. 3291542
 FD-01-08 Grab Water Sample

Moss-American Site - Milwaukee, WI

Group No. 695719
 Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH	
-----		Batch: 993500011A										
1861 PAH's in Water												
3280 Naphthalene	0.77 ug/l	N.D.		91	87	14	82			45	111	
3281 Acenaphthylene	0.77 ug/l	3.30 J ug/l		97	94	14	91			59	114	
3282 Acenaphthene	0.77 ug/l	N.D.		99	97	13	93			50	120	
3283 Fluorene	0.16 ug/l	N.D.		101	99	13	95			64	117	
3284 Phenanthrene	0.044 ug/l	N.D.		97	95	13	93			75	114	
3285 Anthracene	0.030 ug/l	N.D.		92	90	12	87			53	112	
3286 Fluoranthene	0.019 ug/l	N.D.		101	99	11	95			43	147	
3287 Pyrene	0.17 ug/l	N.D.		109	109	10	102			39	149	
3288 Benzo(a)anthracene	0.017 ug/l	N.D.		104	103	11	96			73	117	
3289 Chrysene	0.057 ug/l	N.D.		107	108	9	100			68	125	
3290 Benzo(b)fluoranthene	0.034 ug/l	N.D.		104	104	10	97			71	123	
3291 Benzo(k)fluoranthene	0.026 ug/l	N.D.		104	104	10	97			75	118	
3292 Benzo(a)pyrene	0.021 ug/l	N.D.		105	104	10	96			61	127	
3293 Dibenzo(a,h)anthracene	0.045 ug/l	N.D.		108	107	11	101			71	121	
3294 Benzo(g,h,i)perylene	0.095 ug/l	N.D.		111	109	11	102			70	125	
3295 Indeno(1,2,3-cd)pyrene	0.062 ug/l	N.D.		108	107	11	100			73	125	
-----		Batch: 99351A66										
8213 BTEX (8021)												
0776 Benzene	0.20 ug/l	N.D.		110	109	1	104			79	119	
0777 Toluene	0.20 ug/l	N.D.		113	112	1	105			81	124	
0778 Ethylbenzene	0.20 ug/l	N.D.		113	112	1	105			80	118	
0779 Total Xylenes	0.60 ug/l	N.D.		113	112	1	106			81	118	



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LLI Sample No. 3291542
FD-01-08 Grab Water Sample

Moss-American Site - Milwaukee, WI

Group No. 695719
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	91	29	136
	Triphenyle	88	33	139
8213 BTEX (8021)	TFT-P	106	69	132



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LLI Sample No. WW 3291541
Collected: 12/14/99 at 16:20 by JA

Submitted: 12/15/99 Reported: 12/28/99
Discard: 01/28/00

FB-01-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
FB018 SDG#: MOS32-11

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

P.O. MOSS-AMERICAN
Rel.

AS RECEIVED

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

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

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

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
12:34:38 D 0003 15 128410 695719
232 0.00 00021753 ASR000



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Respectfully Submitted
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Group Leader Pesticides/PCBs



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Collected: 12/14/99 at 16:20 by JA

Submitted: 12/15/99 Reported: 12/28/99
Discard: 01/28/00

FB-01-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
FB018 SDG#: MOS32-11

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

P.O. MOSS-AMERICAN
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	N.D.	8.1	ug/l
3281	Acenaphthylene	N.D.	8.1	ug/l
3282	Acenaphthene	99.	8.1	ug/l
3283	Fluorene	64.1	1.7	ug/l
3284	Phenanthrene	N.D.	0.47	ug/l
3285	Anthracene	3.7	0.32	ug/l
3286	Fluoranthene	21.0	0.20	ug/l
3287	Pyrene	15.5	1.8	ug/l
3288	Benzo(a)anthracene	2.68	0.18	ug/l
3289	Chrysene	3.2	0.60	ug/l
3290	Benzo(b)fluoranthene	1.10	0.36	ug/l
3291	Benzo(k)fluoranthene	0.59	0.27	ug/l
3292	Benzo(a)pyrene	1.16	0.22	ug/l
3293	Dibenzo(a, h)anthracene	N.D.	0.48	ug/l
3294	Benzo(g, h, i)perylene	N.D.	1.0	ug/l
3295	Indeno(1, 2, 3-cd)pyrene	N.D.	0.65	ug/l

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 Collected: 12/14/99 at 16:20 by JA

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

P.O. MOSS-AMERICAN
 Rel.

Submitted: 12/15/99 Reported: 12/28/99
 Discard: 01/28/00

FB-01-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
 FB018 SDG#: MOS32-11

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
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 Manager, Volatiles

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LLI Sample No. WW 3291541

Collected: 12/14/99 at 16:20 by JA

Submitted: 12/15/99

FB-01-08 Grab Water Sample

Moss-American Site - Milwaukee, WI
FB018 SDG#: MOS32-11

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	12/20/99 1631	Michelle J. Kolodziejski
3337	PAH Water Extraction	SW-846 3510C	1	12/17/99 0050	Sorina A. Haskins
8213	BTEX (8021)	SW-846 8021B	1	12/19/99 0935	Barry R. Shoemaker



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LLI Sample No. 3291541
 FB-01-08 Grab Water Sample

Moss-American Site - Milwaukee, WI

Group No. 695719
 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: 993500011A									

3280	Naphthalene										
	8.1 ug/l	N.D.		91	87	14	82			45	111
3281	Acenaphthylene										
	8.1 ug/l	3.30 J ug/l		97	94	14	91			59	114
3282	Acenaphthene										
	8.1 ug/l	N.D.		99	97	13	93			50	120
3283	Fluorene										
	1.7 ug/l	N.D.		101	99	13	95			64	117
3284	Phenanthrene										
	0.47 ug/l	N.D.		97	95	13	93			75	114
3285	Anthracene										
	0.32 ug/l	N.D.		92	90	12	87			53	112
3286	Fluoranthene										
	0.20 ug/l	N.D.		101	99	11	95			43	147
3287	Pyrene										
	1.8 ug/l	N.D.		109	109	10	102			39	149
3288	Benzo(a)anthracene										
	0.18 ug/l	N.D.		104	103	11	96			73	117
3289	Chrysene										
	0.60 ug/l	N.D.		107	108	9	100			68	125
3290	Benzo(b)fluoranthene										
	0.36 ug/l	N.D.		104	104	10	97			71	123
3291	Benzo(k)fluoranthene										
	0.27 ug/l	N.D.		104	104	10	97			75	118
3292	Benzo(a)pyrene										
	0.22 ug/l	N.D.		105	104	10	96			61	127
3293	Dibenzo(a,h)anthracene										
	0.48 ug/l	N.D.		108	107	11	101			71	121
3294	Benzo(g,h,i)perylene										
	1.0 ug/l	N.D.		111	109	11	102			70	125
3295	Indeno(1,2,3-cd)pyrene										
	0.65 ug/l	N.D.		108	107	11	100			73	125

8213 BTEX (8021)		Batch: 99351A66									

0776	Benzene										
	0.20 ug/l	N.D.		110	109	1	104			79	119
0777	Toluene										
	0.20 ug/l	N.D.		113	112	1	105			81	124
0778	Ethylbenzene										
	0.20 ug/l	N.D.		113	112	1	105			80	118
0779	Total Xylenes										
	0.60 ug/l	N.D.		113	112	1	106			81	118



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LLI Sample No. 3291541
 FB-01-08 Grab Water Sample

Moss-American Site - Milwaukee, WI

Group No. 695719
 Kerr-McGee Corporation

SURROGATE SUMMARY

	TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
				LOW	HIGH
1861 PAH's in Water		Nitrobenz	60	29	136
		Triphenyle	92	33	139
8213 BTEX (8021)		TFT-P	106	69	132



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LLI Sample No. WW 3292680
Collected: 12/15/99 by JA

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

P.O. MOSS-AMERICAN
Rel.

Submitted: 12/16/99 Reported: 12/28/99
Discard: 01/28/00

FD-02-08 Field Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
208FD SDG#: MOS34-06

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

M.W. 3292680

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

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

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
19:10:48 D 0003 7 128410 695913
232 0.00 00021753 ASR000



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



LLI Sample No. WW 3292680
 Collected: 12/15/99 by JA

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

P.O. MOSS-AMERICAN
 Rel.

Submitted: 12/16/99 Reported: 12/28/99
 Discard: 01/28/00

FD-02-08 Field Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
 208FD SDG#: MOS34-06

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	0.78	J	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	0.032	J	0.019	ug/l
3287	Pyrene	N.D.		0.17	ug/l
3288	Benzo(a)anthracene	N.D.		0.017	ug/l
3289	Chrysene	N.D.		0.057	ug/l
3290	Benzo(b)fluoranthene	N.D.		0.034	ug/l
3291	Benzo(k)fluoranthene	N.D.		0.026	ug/l
3292	Benzo(a)pyrene	N.D.		0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.		0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.		0.095	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.		0.061	ug/l

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

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

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



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LLI Sample No. WW 3292680
Collected: 12/15/99 by JA

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

P.O. MOSS-AMERICAN
Rel.

Submitted: 12/16/99 Reported: 12/28/99
Discard: 01/28/00

FD-02-08 Field Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
208FD SDG#: MOS34-06

AS RECEIVED

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

BTEX (8021)

0776	Benzene	N.D.	0.20	ug/1	
0777	Toluene	N.D.	0.20	ug/1	
0778	Ethylbenzene	N.D.	0.20	ug/1	
0779	Total Xylenes	N.D.	0.60	ug/1	

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

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



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

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LLI Sample No. WW 3292680
Collected: 12/15/99 by JA

Submitted: 12/16/99

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

FD-02-08 Field Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
208FD SDG#: MOS34-06

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS		ANALYST
				ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1		12/21/99 0923	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1		12/18/99 1200	Anita M. Dale
8213	BTEX (8021)	SW-846 8021B	1		12/18/99 2101	Diane E. Wilson



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LLI Sample No. 3292680
 FD-02-08 Field Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 695913
 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: 993510004A									

3280	Naphthalene										
	0.77 ug/l	N.D.					69	77	10	45	111
3281	Acenaphthylene										
	0.77 ug/l	N.D.					77	83	7	59	114
3282	Acenaphthene										
	0.77 ug/l	N.D.					75	80	6	50	120
3283	Fluorene										
	0.16 ug/l	N.D.					80	86	6	64	117
3284	Phenanthrene										
	0.044 ug/l	N.D.					85	89	6	75	114
3285	Anthracene										
	0.030 ug/l	N.D.					76	81	6	53	112
3286	Fluoranthene										
	0.019 ug/l	N.D.					87	93	6	43	147
3287	Pyrene										
	0.17 ug/l	N.D.					93	98	6	39	149
3288	Benzo(a)anthracene										
	0.017 ug/l	N.D.					86	91	6	73	117
3289	Chrysene										
	0.057 ug/l	N.D.					89	93	4	68	125
3290	Benzo(b)fluoranthene										
	0.034 ug/l	N.D.					87	92	6	71	123
3291	Benzo(k)fluoranthene										
	0.026 ug/l	N.D.					88	94	7	75	118
3292	Benzo(a)pyrene										
	0.021 ug/l	N.D.					80	84	6	61	127
3293	Dibenzo(a,h)anthracene										
	0.045 ug/l	N.D.					88	94	7	71	121
3294	Benzo(g,h,i)perylene										
	0.095 ug/l	N.D.					91	97	7	70	125
3295	Indeno(1,2,3-cd)pyrene										
	0.061 ug/l	N.D.					90	97	8	73	125

8213 BTEX (8021)		Batch: 99352A02									

0776	Benzene										
	0.20 ug/l	N.D.		104			104	96	8	79	119
0777	Toluene										
	0.20 ug/l	N.D.		106			104	98	6	81	124
0778	Ethylbenzene										
	0.20 ug/l	N.D.		97			95	89	6	80	118
0779	Total Xylenes										
	0.60 ug/l	N.D.		109			108	101	6	81	118



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LLI Sample No. **3292680**

FD-02-08 Field Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 695913
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	94	29	136
	Triphenyle	93	33	139
8213 BTEX (8021)	TFT-P	97	69	132



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LLI Sample No. WW 3292679

Collected: 12/15/99 at 11:30 by JA

Submitted: 12/16/99 Reported: 12/28/99
Discard: 01/28/00

FB-02-08 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
208FB SDG#: MOS34-05FB

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

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
19:10:26 D 0003 7 128410 695913
232 0.00 00021753 ASR000



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PO Box 12425
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Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

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LLI Sample No. WW 3292679
 Collected: 12/15/99 at 11:30 by JA

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

P.O. MOSS-AMERICAN
 Rel.

Submitted: 12/16/99 Reported: 12/28/99
 Discard: 01/28/00

FB-02-08 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
 208FB SDG#: MOS34-05FB

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.81	ug/l
3281	Acenaphthylene	N.D.	0.81	ug/l
3282	Acenaphthene	N.D.	0.81	ug/l
3283	Fluorene	N.D.	0.17	ug/l
3284	Phenanthrene	0.048 J	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.	0.100	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.065	ug/l

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

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 3292679
 Collected: 12/15/99 at 11:30 by JA

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

P.O. MOSS-AMERICAN
 Rel.

Submitted: 12/16/99 Reported: 12/28/99
 Discard: 01/28/00

FB-02-08 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
 208FB SDG#: MOS34-05FB

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

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

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



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

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LLI Sample No. WW 3292679

Collected: 12/15/99 at 11:30 by JA

Submitted: 12/16/99

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

FB-02-08 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
208FB SDG#: MOS34-05FB

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	12/21/99 0901	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	12/18/99 1200	Anita M. Dale
8213	BTEX (8021)	SW-846 8021B	1	12/18/99 2027	Diane E. Wilson



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LLI Sample No. 3292679
FB-02-08 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 695913
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: 993510004A									
3280	Naphthalene										
	0.81 ug/l	N.D.					69	77	10	45	111
3281	Acenaphthylene										
	0.81 ug/l	N.D.					77	83	7	59	114
3282	Acenaphthene										
	0.81 ug/l	N.D.					75	80	6	50	120
3283	Fluorene										
	0.17 ug/l	N.D.					80	86	6	64	117
3284	Phenanthrene										
	0.046 ug/l	N.D.					85	89	6	75	114
3285	Anthracene										
	0.031 ug/l	N.D.					76	81	6	53	112
3286	Fluoranthene										
	0.020 ug/l	N.D.					87	93	6	43	147
3287	Pyrene										
	0.18 ug/l	N.D.					93	98	6	39	149
3288	Benzo(a)anthracene										
	0.018 ug/l	N.D.					86	91	6	73	117
3289	Chrysene										
	0.059 ug/l	N.D.					89	93	4	68	125
3290	Benzo(b)fluoranthene										
	0.035 ug/l	N.D.					87	92	6	71	123
3291	Benzo(k)fluoranthene										
	0.027 ug/l	N.D.					88	94	7	75	118
3292	Benzo(a)pyrene										
	0.022 ug/l	N.D.					80	84	6	61	127
3293	Dibenzo(a,h)anthracene										
	0.047 ug/l	N.D.					88	94	7	71	121
3294	Benzo(g,h,i)perylene										
	0.100 ug/l	N.D.					91	97	7	70	125
3295	Indeno(1,2,3-cd)pyrene										
	0.065 ug/l	N.D.					90	97	8	73	125

8213	BTEX (8021)	Batch: 99352A02									
0776	Benzene										
	0.20 ug/l	N.D.		104			104	96	8	79	119
0777	Toluene										
	0.20 ug/l	N.D.		106			104	98	6	81	124
0778	Ethylbenzene										
	0.20 ug/l	N.D.		97			95	89	6	80	118
0779	Total Xylenes										
	0.60 ug/l	N.D.		109			108	101	6	81	118



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LLI Sample No. 3292679
 FB-02-08 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 695913
 Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	94	29	136
	Triphenyle	91	33	139
8213 BTEX (8021)	TFT-P	97	69	132



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LLI Sample No. WW 3291543
Collected: 12/14/99 at 16:50

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

P.O. MOSS-AMERICAN
Rel.

Submitted: 12/15/99 Reported: 12/28/99
Discard: 01/28/00

TB-01-08 Trip Blank Water Sample

Moss-American Site - Milwaukee, WI
TB018 SDG#: MOS32-13*

AS RECEIVED

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

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1 COPY TO Data Package Group

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

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
12:35:27 D 0003 15 128410 695719
232 0.00 00005933 ASR000



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

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LLI Sample No. WW 3291543
 Collected: 12/14/99 at 16:50

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

P.O. MOSS-AMERICAN
 Rel.

Submitted: 12/15/99 Reported: 12/28/99
 Discard: 01/28/00

TB-01-08 Trip Blank Water Sample

Moss-American Site - Milwaukee, WI
 TB018 SDG#: MOS32-13*

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
 Michele Turner, B.A.
 Manager, Volatiles

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LLI Sample No. WW **3291543**

Collected: 12/14/99 at 16:50

Submitted: 12/15/99

TB-01-08 Trip Blank Water Sample

Moss-American Site - Milwaukee, WI
TB018 SDG#: MOS32-13*

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
8213	BTEX (8021)	SW-846 8021B	1	12/17/99 1342	Barry R. Shoemaker



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LLI Sample No. 3291543
 TB-01-08 Trip Blank Water Sample

Moss-American Site - Milwaukee, WI

Group No. 695719
 Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH
-----		Batch: 99351A66									
0776	Benzene 0.20 ug/l	N.D.		110	109	1	104			79	119
0777	Toluene 0.20 ug/l	N.D.		113	112	1	105			81	124
0778	Ethylbenzene 0.20 ug/l	N.D.		113	112	1	105			80	118
0779	Total Xylenes 0.60 ug/l	N.D.		113	112	1	106			81	118



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LLI Sample No. 3291543
TB-01-08 Trip Blank Water Sample

Moss-American Site - Milwaukee, WI

Group No. 695719
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
8213 BTEX (8021)	TFT-P	106	69	132



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LLI Sample No. WW **3292681**
Collected: 12/15/99 by JA

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

P.O. MOSS-AMERICAN
Rel.

Submitted: 12/16/99 Reported: 12/28/99
Discard: 01/28/00

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI
TR--B SDG#: MOS34-07TB*

AS RECEIVED

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

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

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

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
19:11:12 D 0003 7 128410 695913
232 0.00 00005933 ASR000



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



LLI Sample No. WW 3292681
 Collected: 12/15/99 by JA

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

P.O. MOSS-AMERICAN
 Rel.

Submitted: 12/16/99 Reported: 12/28/99
 Discard: 01/28/00

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI
 TR--B SDG#: MOS34-07TB*

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	

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

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



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



LLI Sample No. WW **3292681**
Collected: 12/15/99 by JA

Submitted: 12/16/99

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

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI
TR--B SDG#: MOS34-07TB*

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
8213	BTEX (8021)	SW-846 8021B	1	12/18/99 0209	Diane E. Wilson



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LLI Sample No. 3292681

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 695913
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: 99352A02									
0776	Benzene 0.20 ug/l	N.D.		104			104	96	8	79	119
0777	Toluene 0.20 ug/l	N.D.		106			104	98	6	81	124
0778	Ethylbenzene 0.20 ug/l	N.D.		97			95	89	6	80	118
0779	Total Xylenes 0.60 ug/l	N.D.		109			108	101	6	81	118



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LLI Sample No. 3292681
Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 695913
Kerr-McGee Corporation

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



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Analysis Request/ Environmental Services Chain of Custody



For Lancaster Laboratories use only
 Acct. # 7802 Sample # 3291529-43

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>Jamul Ahmad</u> Quote #: _____ Name of state where samples were collected: <u>WISCONSIN</u>				Matrix 4 <input type="checkbox"/> Potable (Check if applicable) <input type="checkbox"/> NPDES <input type="checkbox"/> Other			Analyses Requested 5 <div style="text-align: center; font-size: 2em; transform: rotate(-45deg); opacity: 0.5;">PATHS 8310</div>						For lab use only FSC: _____ SCR #: <u>1133994</u>		
Sample Identification	Date Collected	Time Collected	Grab 3	Composite	Soil	Water	Other	Total # of Containers	Remarks						Temperature of samples upon receipt (if requested) 6
MW-75-08	12/13/99	1530	✓			✓		2							
MW-95-08	12/13/99	1600	✓			✓		2							
MW-105-08	12/13/99	1640	✓			✓		2							
TW-05-08	12/14/99	845	✓			✓		2							
MW-65-08	↓	940	✓			✓		2							
MW-295-08		1015	✓			✓		2							
MW-275-08		1110	✓			✓		2							
MW-135-08		1400	✓			✓		2							
MW-255-08		1450	✓			✓		6							
MW-265-08		1500	✓			✓		2							
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>SDG TAT</u> Rush results requested by (please circle): Phone: <u>847</u> 918-4055 Fax: <u>847</u> 918-4055			Relinquished by: <u>S. Muckle</u> Date: <u>12/13/99</u> Time: <u>1050</u>		Received by: <u>Jamul</u> Date: <u>12/13/99</u> Time: <u>1200</u>										
Data Package Options (please circle if requested) QC Summary Type VI (Raw Data) <u>As per quotes</u> SDG Complete? Yes <u>No</u> Type I (Tier I) GLP Type II (Tier II) Other Type III (NJ Red. Del.) Type IV (CLP)			Relinquished by: <u>Jamul Ahmad</u> Date: <u>12/14/99</u> Time: <u>1830</u>		Received by: <u>FEDEX</u> Date: <u>12/14/99</u> Time:										
Site-specific QC required? Yes No (If yes, indicate QC sample and submit triplicate volume.) Internal Chain of Custody required? Yes No			Relinquished by: _____ Date: _____ Time: _____		Received by: _____ Date: _____ Time: _____										
Relinquished by: _____ Date: _____ Time: _____			Relinquished by: _____ Date: _____ Time: _____		Received by: <u>Don Wilson</u> Date: <u>12/15/99</u> Time: <u>0930</u>										

Analysis Request / Environmental Services Chain of Custody



For Lancaster Laboratories use only
 Acct. # 7802 Sample # 3291529-43

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 <input type="checkbox"/> Potable (Check if applicable) <input type="checkbox"/> NPDES <input type="checkbox"/> Other	Total # of Containers <u>BTEX</u>	Analyses Requested (This area is currently blank with diagonal lines)	For lab use only FSC: _____ SCR #: <u>1133994</u>						
Sample Identification	Date Collected	Time Collected	Grab 3	Composite	Soil	Water	Other	Total # of Containers	Remarks	Temperature of samples upon receipt (if requested) 6	
<u>FB-01-08</u>	<u>12/14/99</u>	<u>1620</u>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<u>2</u>	<input checked="" type="checkbox"/>	<u>Crossed Seal</u>	
<u>FD-01-08</u>	<u>12/14/99</u>	<u>-</u>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<u>2</u>	<input checked="" type="checkbox"/>	<u>62553</u>	
<u>TB-01-08</u>	<u>12/14/99</u>	<u>1650</u>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<u>2</u>	<input checked="" type="checkbox"/>		

Turnaround Time Requested (TAT) (please circle): Normal Rush (Rush TAT is subject to Lancaster Laboratories approval and surcharge.) Date results are needed: <u>STD TAT</u> Rush results requested by (please circle): Phone <u>(847) 918-4000</u> Fax <u>(847) 918-4055</u>	Relinquished by: <u>S. Muehle</u> Date: <u>12-8-99</u> Time: <u>1050</u>	Received by: <u>Jameel</u> Date: <u>12/14/99</u> Time: <u>1200</u>	Relinquished by: <u>Jameel Ahmed</u> Date: <u>12/14/99</u> Time: <u>1830</u>	Received by: <u>PEDEX</u> Date: <u>12/14/99</u> Time: _____	
Data Package Options (please circle if requested) QC Summary Type VI (Raw Data) Asperic Type I (Tier I) GLP Type II (Tier II) Other Type III (NJ Red. Del.) Type IV (CLP)	SDG Complete? Yes NO Site-specific QC required? Yes No (If yes, indicate QC sample and submit triplicate volume.) Internal Chain of Custody required? Yes No	Relinquished by: _____ Date: _____ Time: _____	Received by: _____ Date: _____ Time: _____	Relinquished by: _____ Date: _____ Time: _____	Received by: <u>Don [Signature]</u> Date: <u>12/14/99</u> Time: <u>0930</u>

Analysis Request / Environmental Services Chain of Custody



For Lancaster Laboratories use only

Acct. # 7002 Sample # 3292675-81

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

Client: <u>Ken-McBee</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 <input type="checkbox"/> Potable (Check if applicable) <input type="checkbox"/> NPDES Other: _____		Analyses Requested 5 BTEX PAHs						For lab use only FSC: _____ SCR #: <u>1133574</u>					
Sample Identification	Date Collected	Time Collected	Grab 3	Composite	Soil	Water	Other	Total # of Containers							Temperature of samples upon receipt (if requested) 6		
MW-3S-08	12/15/99	835	✓			✓		✓	✓								Custody Seal 63106
MW-4S-08		930	✓			✓		✓	✓								
MW-5S-08		1010	✓			✓		✓	✓								
MW-20S-08		1100	✓			✓		✓	✓								
FB-02-08		1130	✓			✓		✓	✓								
FD-02-08		-	✓			✓		✓	✓								
Trip Blank		-	✓			✓		✓	✓								

Turnaround Time Requested (TAT) (please circle): Normal Rush (Rush TAT is subject to Lancaster Laboratories approval and surcharge.) Date results are needed: <u>STD TAT</u> Rush results requested by (please circle): Phone Fax Phone #: <u>(847) 918-4000</u> Fax #: <u>(847) 918-4055</u>		Relinquished by: <u>S. Maurer</u> Date: <u>11/24/99</u> Time: <u>0700</u> Relinquished by: <u>Jameel Ahmed</u> Date: <u>12/15/99</u> Time: <u>1300</u>		Received by: _____ Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____	
Data Package Options (please circle if requested) QC Summary Type VI (Raw Data) <u>As per quote</u> SDG Complete? Yes No Type I (Tier I) GLP Type II (Tier II) Other Type III (NJ Red. Del.) Type IV (CLP)		Site-specific QC required? Yes No (If yes, indicate QC sample and submit triplicate volume.) Internal Chain of Custody required? Yes No		Relinquished by: _____ Date: _____ Time: _____ Relinquished by: _____ Date: _____ Time: _____ Relinquished by: _____ Date: _____ Time: _____	
		Relinquished by: <u>Denise Black</u> Date: <u>12/16/99</u> Time: <u>0925</u>			



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LLI Sample No. WW 3292675
Collected: 12/15/99 at 08:35 by JA

Submitted: 12/16/99 Reported: 01/26/00

MW-3S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
3S-08 SDG#: MOS34-01

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
1861	PAH's in Water		See Page 2
8213	BTEX (8021)		See Page 3

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

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

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
21:47:37 D 0003 7 REP 128410 695913
310 0.00 00021753 DIS000



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



LLI Sample No. WW 3292675
 Collected: 12/15/99 at 08:35 by JA

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

P.O. MOSS-AMERICAN
 Rel.

Submitted: 12/16/99 Reported: 01/26/00

MW-3S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
 3S-08 SDG#: MOS34-01

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.77	ug/l
3281	Acenaphthylene	N.D.	0.77	ug/l
3282	Acenaphthene	N.D.	0.77	ug/l
3283	Fluorene	N.D.	0.16	ug/l
3284	Phenanthrene	N.D.	0.044	ug/l
3285	Anthracene	N.D.	0.030	ug/l
3286	Fluoranthene	0.025 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.	0.095	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.061	ug/l

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

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

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



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LLI Sample No. WW 3292675
 Collected: 12/15/99 at 08:35 by JA

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

P.O. MOSS-AMERICAN
 Rel.

Submitted: 12/16/99 Reported: 01/26/00

MW-3S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
 3S-08 SDG#: MOS34-01

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

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

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



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



LLI Sample No. WW 3292675

Collected: 12/15/99 at 08:35 by JA

Submitted: 12/16/99

MW-3S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
3S-08 SDG#: MOS34-01

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

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS		ANALYST
				ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1		12/21/99 0735	Michelle J. Kolodziejewski
3337	PAH Water Extraction	SW-846 3510C	1		12/18/99 1200	Anita M. Dale
8213	BTEX (8021)	SW-846 8021B	1		12/18/99 1843	Diane E. Wilson



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LLI Sample No. 3292675

MW-3S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 695913
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: 993510004A								

3280	Naphthalene 0.77 ug/l	N.D.					69	77	10	45	111
3281	Acenaphthylene 0.77 ug/l	N.D.					77	83	7	59	114
3282	Acenaphthene 0.77 ug/l	N.D.					75	80	6	50	120
3283	Fluorene 0.16 ug/l	N.D.					80	86	6	64	117
3284	Phenanthrene 0.044 ug/l	N.D.					85	89	6	75	114
3285	Anthracene 0.030 ug/l	N.D.					76	81	6	53	112
3286	Fluoranthene 0.019 ug/l	N.D.					87	93	6	43	147
3287	Pyrene 0.17 ug/l	N.D.					93	98	6	39	149
3288	Benzo(a)anthracene 0.017 ug/l	N.D.					86	91	6	73	117
3289	Chrysene 0.056 ug/l	N.D.					89	93	4	68	125
3290	Benzo(b)fluoranthene 0.033 ug/l	N.D.					87	92	6	71	123
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.					88	94	7	75	118
3292	Benzo(a)pyrene 0.021 ug/l	N.D.					80	84	6	61	127
3293	Dibenzo(a,h)anthracene 0.045 ug/l	N.D.					88	94	7	71	121
3294	Benzo(g,h,i)perylene 0.095 ug/l	N.D.					91	97	7	70	125
3295	Indeno(1,2,3-cd)pyrene 0.061 ug/l	N.D.					90	97	8	73	125

8213 BTEX (8021)			Batch: 99352A02								

0776	Benzene 0.20 ug/l	N.D.		104			104	96	8	79	119
0777	Toluene 0.20 ug/l	N.D.		106			104	98	6	81	124
0778	Ethylbenzene 0.20 ug/l	N.D.		107			105	99	6	80	118
0779	Total Xylenes 0.60 ug/l	N.D.		109			108	101	6	81	118



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LLI Sample No. 3292675
MW-3S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 695913
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	86	29	136
		Triphenyle	86	33	139
8213 BTEX (8021)		TFT-P	99	69	132



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LLI Sample No. WW 3292676
Collected: 12/15/99 at 09:30 by JA

Submitted: 12/16/99 Reported: 01/26/00

MW-4S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
4S-08 SDG#: MOS34-02

Account No: 07802

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

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

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

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

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
21:48:08 D 0003 7 REP 128410 695913
310 0.00 00021753 DIS000



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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 3292676
 Collected: 12/15/99 at 09:30 by JA

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

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Submitted: 12/16/99 Reported: 01/26/00

MW-4S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
 4S-08 SDG#: MOS34-02

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	
			DETECTION	LIMIT UNITS
PAH's in Water				
3280	Naphthalene	790.	38.	ug/l
3281	Acenaphthylene	47.	J 38.	ug/l
3282	Acenaphthene	640.	38.	ug/l
3283	Fluorene	333.	8.1	ug/l
3284	Phenanthrene	31.	2.2	ug/l
3285	Anthracene	39.6	1.5	ug/l
3286	Fluoranthene	180.	0.95	ug/l
3287	Pyrene	176.	8.5	ug/l
3288	Benzo(a)anthracene	27.4	0.85	ug/l
3289	Chrysene	32.	2.8	ug/l
3290	Benzo(b)fluoranthene	10.6	1.7	ug/l
3291	Benzo(k)fluoranthene	5.3	1.3	ug/l
3292	Benzo(a)pyrene	9.7	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.

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

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

Respectfully Submitted
 Jenifer E. Hess, B.S.
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LLI Sample No. WW 3292676
Collected: 12/15/99 at 09:30 by JA

Submitted: 12/16/99 Reported: 01/26/00

MW-4S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
4S-08 SDG#: MOS34-02

Account No: 07802

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P.O. Box 25861
Oklahoma City OK 73125

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AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	2.8	0.20	ug/l
0777	Toluene	5.4	0.20	ug/l
0778	Ethylbenzene	7.9	0.20	ug/l
0779	Total Xylenes	16.	0.60	ug/l

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

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



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



LLI Sample No. WW 3292676

Collected: 12/15/99 at 09:30 by JA

Submitted: 12/16/99

MW-4S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
4S-08 SDG#: MOS34-02

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

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS		ANALYST
				ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1		12/21/99 1557	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1		12/18/99 1200	Anita M. Dale
8213	BTEX (8021)	SW-846 8021B	1		12/18/99 2211	Diane E. Wilson



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LLI Sample No. 3292676

MW-4S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 695913
Kerr-McGee Corporation

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

1861 PAH's in Water											

3280	Naphthalene										
	38. ug/l	N.D.					69	77	10	45	111
3281	Acenaphthylene										
	38. ug/l	N.D.					77	83	7	59	114
3282	Acenaphthene										
	38. ug/l	N.D.					75	80	6	50	120
3283	Fluorene										
	8.1 ug/l	N.D.					80	86	6	64	117
3284	Phenanthrene										
	2.2 ug/l	N.D.					85	89	6	75	114
3285	Anthracene										
	1.5 ug/l	N.D.					76	81	6	53	112
3286	Fluoranthene										
	0.95 ug/l	N.D.					87	93	6	43	147
3287	Pyrene										
	8.5 ug/l	N.D.					93	98	6	39	149
3288	Benzo(a)anthracene										
	0.85 ug/l	N.D.					86	91	6	73	117
3289	Chrysene										
	2.8 ug/l	N.D.					89	93	4	68	125
3290	Benzo(b)fluoranthene										
	1.7 ug/l	N.D.					87	92	6	71	123
3291	Benzo(k)fluoranthene										
	1.3 ug/l	N.D.					88	94	7	75	118
3292	Benzo(a)pyrene										
	1.0 ug/l	N.D.					80	84	6	61	127
3293	Dibenzo(a,h)anthracene										
	2.2 ug/l	N.D.					88	94	7	71	121
3294	Benzo(g,h,i)perylene										
	4.7 ug/l	N.D.					91	97	7	70	125
3295	Indeno(1,2,3-cd)pyrene										
	3.0 ug/l	N.D.					90	97	8	73	125

8213 BTEX (8021)											

0776	Benzene										
	0.20 ug/l	N.D.		104			104	96	8	79	119
0777	Toluene										
	0.20 ug/l	N.D.		106			104	98	6	81	124
0778	Ethylbenzene										
	0.20 ug/l	N.D.		107			105	99	6	80	118
0779	Total Xylenes										
	0.60 ug/l	N.D.		109			108	101	6	81	118

Batch: 993510004A

Batch: 99352A02



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LLI Sample No. **3292676**
MW-4S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 695913
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	87	29	136
	Triphenyle	0	33	139
8213 BTEX (8021)	TFT-P	97	69	132



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Site Name:	Moss-American Superfund Site, Milwaukee, WI		
Collection Date:	12/15/99		
		Original Result (ug/l)	Corrected Result (ug/l)
Location	LL Sample		
MW-4S-08	3292676	7.1	7.9



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LLI Sample No. WW 3292677
Collected: 12/15/99 at 10:10 by JA

Submitted: 12/16/99 Reported: 01/26/00

MW-5S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
5S-08 SDG#: MOS34-03

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

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1 COPY TO Data Package Group

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

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
21:48:34 D 0003 7 REP 128410 695913
310 0.00 00021753 DIS000



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



LLI Sample No. WW 3292677
 Collected: 12/15/99 at 10:10 by JA

Submitted: 12/16/99 Reported: 01/26/00

MW-5S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
 5S-08 SDG#: MOS34-03

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
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	0.047 J	0.044	ug/l
3285	Anthracene	N.D.	0.029	ug/l
3286	Fluoranthene	0.020 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.	0.061	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 3292677
 Collected: 12/15/99 at 10:10 by JA

Submitted: 12/16/99 Reported: 01/26/00

MW-5S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
 5S-08 SDG#: MOS34-03

Account No: 07802

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

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CAT					
NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS

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	

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

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

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

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



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LLI Sample No. WW 3292677

Collected: 12/15/99 at 10:10 by JA

Submitted: 12/16/99

MW-5S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
5S-08 SDG#: MOS34-03

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		12/23/99 1614	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1		12/18/99 1200	Anita M. Dale
8213	BTEX (8021)	SW-846 8021B	1		12/18/99 1918	Diane E. Wilson



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LLI Sample No. 3292677

MW-5S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 695913
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: 993510004A									

3280	Naphthalene										
	0.76 ug/l	N.D.					69	77	10	45	111
3281	Acenaphthylene										
	0.76 ug/l	N.D.					77	83	7	59	114
3282	Acenaphthene										
	0.76 ug/l	N.D.					75	80	6	50	120
3283	Fluorene										
	0.16 ug/l	N.D.					80	86	6	64	117
3284	Phenanthrene										
	0.044 ug/l	N.D.					85	89	6	75	114
3285	Anthracene										
	0.029 ug/l	N.D.					76	81	6	53	112
3286	Fluoranthene										
	0.019 ug/l	N.D.					87	93	6	43	147
3287	Pyrene										
	0.17 ug/l	N.D.					93	98	6	39	149
3288	Benzo(a)anthracene										
	0.017 ug/l	N.D.					86	91	6	73	117
3289	Chrysene										
	0.056 ug/l	N.D.					89	93	4	68	125
3290	Benzo(b)fluoranthene										
	0.033 ug/l	N.D.					87	92	6	71	123
3291	Benzo(k)fluoranthene										
	0.026 ug/l	N.D.					88	94	7	75	118
3292	Benzo(a)pyrene										
	0.021 ug/l	N.D.					80	84	6	61	127
3293	Dibenzo(a,h)anthracene										
	0.044 ug/l	N.D.					88	94	7	71	121
3294	Benzo(g,h,i)perylene										
	0.094 ug/l	N.D.					91	97	7	70	125
3295	Indeno(1,2,3-cd)pyrene										
	0.061 ug/l	N.D.					90	97	8	73	125

8213 BTEX (8021)		Batch: 99352A02									

0776	Benzene										
	0.20 ug/l	N.D.		104			104	96	8	79	119
0777	Toluene										
	0.20 ug/l	N.D.		106			104	98	6	81	124
0778	Ethylbenzene										
	0.20 ug/l	N.D.		107			105	99	6	80	118
0779	Total Xylenes										
	0.60 ug/l	N.D.		109			108	101	6	81	118



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LLI Sample No. 3292677

MW-5S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 695913
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	86	29	136
	Triphenyle	85	33	139
8213 BTEX (8021)	TFT-P	98	69	132



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LLI Sample No. WW 3292678
Collected: 12/15/99 at 11:00 by JA

Submitted: 12/16/99 Reported: 01/26/00

MW-20S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
20S08 SDG#: MOS34-04

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

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

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

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

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
21:49:06 D 0003 7 REP 128410 695913
310 0.00 00021753 DIS000



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Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs
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LLI Sample No. WW 3292678
 Collected: 12/15/99 at 11:00 by JA

Submitted: 12/16/99 Reported: 01/26/00

MW-20S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
 20S08 SDG#: MOS34-04

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

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CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.76	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

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



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Collected: 12/15/99 at 11:00 by JA

Submitted: 12/16/99 Reported: 01/26/00

MW-20S-08 Grab Water Sample

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20S08 SDG#: MOS34-04

Account No: 07802

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Oklahoma City OK 73125

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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

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

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



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



LLI Sample No. WW 3292678

Collected: 12/15/99 at 11:00 by JA

Submitted: 12/16/99

MW-20S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
20S08 SDG#: MOS34-04

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		12/21/99 0840	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1		12/18/99 1200	Anita M. Dale
8213	BTEX (8021)	SW-846 8021B	1		12/18/99 1952	Diane E. Wilson



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LLI Sample No. 3292678

MW-20S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 695913
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH	
-----		Batch: 993510004A										
1861 PAH's in Water												

3280	Naphthalene											
	0.76 ug/l	N.D.					69	77	10	45	111	
3281	Acenaphthylene											
	0.76 ug/l	N.D.					77	83	7	59	114	
3282	Acenaphthene											
	0.76 ug/l	N.D.					75	80	6	50	120	
3283	Fluorene											
	0.16 ug/l	N.D.					80	86	6	64	117	
3284	Phenanthrene											
	0.044 ug/l	N.D.					85	89	6	75	114	
3285	Anthracene											
	0.029 ug/l	N.D.					76	81	6	53	112	
3286	Fluoranthene											
	0.019 ug/l	N.D.					87	93	6	43	147	
3287	Pyrene											
	0.17 ug/l	N.D.					93	98	6	39	149	
3288	Benzo(a)anthracene											
	0.017 ug/l	N.D.					86	91	6	73	117	
3289	Chrysene											
	0.056 ug/l	N.D.					89	93	4	68	125	
3290	Benzo(b)fluoranthene											
	0.033 ug/l	N.D.					87	92	6	71	123	
3291	Benzo(k)fluoranthene											
	0.026 ug/l	N.D.					88	94	7	75	118	
3292	Benzo(a)pyrene											
	0.021 ug/l	N.D.					80	84	6	61	127	
3293	Dibenzo(a,h)anthracene											
	0.045 ug/l	N.D.					88	94	7	71	121	
3294	Benzo(g,h,i)perylene											
	0.094 ug/l	N.D.					91	97	7	70	125	
3295	Indeno(1,2,3-cd)pyrene											
	0.061 ug/l	N.D.					90	97	8	73	125	
-----		Batch: 99352A02										
8213 BTEX (8021)												

0776	Benzene											
	0.20 ug/l	N.D.		104			104	96	8	79	119	
0777	Toluene											
	0.20 ug/l	N.D.		106			104	98	6	81	124	
0778	Ethylbenzene											
	0.20 ug/l	N.D.		107			105	99	6	80	118	
0779	Total Xylenes											
	0.60 ug/l	N.D.		109			108	101	6	81	118	



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LLI Sample No. 3292678

MW-20S-08 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 695913
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	85	29	136
	Triphenyle	87	33	139
8213 BTEX (8021)	TFT-P	99	69	132



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LLI Sample No. WW 3292679
Collected: 12/15/99 at 11:30 by JA

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

P.O. MOSS-AMERICAN
Rel.

Submitted: 12/16/99 Reported: 01/26/00

FB-02-08 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
208FB SDG#: MOS34-05FB

AS RECEIVED

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

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

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

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
21:49:31 D 0003 7 REP 128410 695913
310 0.00 00021753 DIS000



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



LLI Sample No. WW 3292679
 Collected: 12/15/99 at 11:30 by JA

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

P.O. MOSS-AMERICAN
 Rel.

Submitted: 12/16/99 Reported: 01/26/00

FB-02-08 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
 208FB SDG#: MOS34-05FB

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.81	ug/l
3281	Acenaphthylene	N.D.	0.81	ug/l
3282	Acenaphthene	N.D.	0.81	ug/l
3283	Fluorene	N.D.	0.17	ug/l
3284	Phenanthrene	0.048 J	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.	0.100	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.065	ug/l

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

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 3292679
Collected: 12/15/99 at 11:30 by JA

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

P.O. MOSS-AMERICAN
Rel.

Submitted: 12/16/99 Reported: 01/26/00

FB-02-08 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
208FB SDG#: MOS34-05FB

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

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

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

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



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LLI Sample No. WW 3292679

Collected: 12/15/99 at 11:30 by JA

Submitted: 12/16/99

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

FB-02-08 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
208FB SDG#: MOS34-05FB

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS		ANALYST
				ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1		12/21/99 0901	Michelle J. Kolodziejewski
3337	PAH Water Extraction	SW-846 3510C	1		12/18/99 1200	Anita M. Dale
8213	BTEX (8021)	SW-846 8021B	1		12/18/99 2027	Diane E. Wilson



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LLI Sample No. 3292679
 FB-02-08 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 695913
 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: 993510004A									

3280	Naphthalene 0.81 ug/l	N.D.					69	77	10	45	111
3281	Acenaphthylene 0.81 ug/l	N.D.					77	83	7	59	114
3282	Acenaphthene 0.81 ug/l	N.D.					75	80	6	50	120
3283	Fluorene 0.17 ug/l	N.D.					80	86	6	64	117
3284	Phenanthrene 0.046 ug/l	N.D.					85	89	6	75	114
3285	Anthracene 0.031 ug/l	N.D.					76	81	6	53	112
3286	Fluoranthene 0.020 ug/l	N.D.					87	93	6	43	147
3287	Pyrene 0.18 ug/l	N.D.					93	98	6	39	149
3288	Benzo(a)anthracene 0.018 ug/l	N.D.					86	91	6	73	117
3289	Chrysene 0.059 ug/l	N.D.					89	93	4	68	125
3290	Benzo(b)fluoranthene 0.035 ug/l	N.D.					87	92	6	71	123
3291	Benzo(k)fluoranthene 0.027 ug/l	N.D.					88	94	7	75	118
3292	Benzo(a)pyrene 0.022 ug/l	N.D.					80	84	6	61	127
3293	Dibenzo(a,h)anthracene 0.047 ug/l	N.D.					88	94	7	71	121
3294	Benzo(g,h,i)perylene 0.100 ug/l	N.D.					91	97	7	70	125
3295	Indeno(1,2,3-cd)pyrene 0.065 ug/l	N.D.					90	97	8	73	125

8213 BTEX (8021)		Batch: 99352A02									

0776	Benzene 0.20 ug/l	N.D.		104			104	96	8	79	119
0777	Toluene 0.20 ug/l	N.D.		106			104	98	6	81	124
0778	Ethylbenzene 0.20 ug/l	N.D.		107			105	99	6	80	118
0779	Total Xylenes 0.60 ug/l	N.D.		109			108	101	6	81	118



LLI Sample No. **3292679**
 FB-02-08 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 695913
 Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	94	29	136
	Triphenyle	91	33	139
8213 BTEX (8021)	TFT-P	97	69	132



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LLI Sample No. WW **3292680**
Collected: 12/15/99 by JA

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

P.O. MOSS-AMERICAN
Rel.

Submitted: 12/16/99 Reported: 01/26/00

FD-02-08 Field Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
208FD SDG#: MOS34-06

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

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
21:50:08 D 0003 7 REP 128410 695913
310 0.00 00021753 DIS000



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



LLI Sample No. **WW 3292680**
 Collected: 12/15/99 by JA

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

P.O. MOSS-AMERICAN
 Rel.

Submitted: 12/16/99 Reported: 01/26/00

FD-02-08 Field Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
 208FD SDG#: MOS34-06

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		UNITS
		RESULTS	DETECTION LIMIT	
PAH's in Water				
3280	Naphthalene	N.D.	0.77	ug/l
3281	Acenaphthylene	0.78 J	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	0.032 J	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	N.D.	0.057	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.034	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.095	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.061	ug/l

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

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



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



LLI Sample No. WW **3292680**
Collected: 12/15/99 by JA

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

P.O. MOSS-AMERICAN
Rel.

Submitted: 12/16/99 Reported: 01/26/00

FD-02-08 Field Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
208FD SDG#: MOS34-06

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

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

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

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



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LLI Sample No. WW **3292680**
Collected: 12/15/99 by JA

Submitted: 12/16/99

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

FD-02-08 Field Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
208FD SDG#: MOS34-06

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		
			TRIAL ID	DATE AND TIME	ANALYST
1861	PAH's in Water	SW-846 8310	1	12/21/99 0923	Michelle J. Kolodziejcki
3337	PAH Water Extraction	SW-846 3510C	1	12/18/99 1200	Anita M. Dale
8213	BTEX (8021)	SW-846 8021B	1	12/18/99 2101	Diane E. Wilson



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LLI Sample No. 3292680
 FD-02-08 Field Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 695913
 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: 993510004A									

3280	Naphthalene 0.77 ug/l	N.D.					69	77	10	45	111
3281	Acenaphthylene 0.77 ug/l	N.D.					77	83	7	59	114
3282	Acenaphthene 0.77 ug/l	N.D.					75	80	6	50	120
3283	Fluorene 0.16 ug/l	N.D.					80	86	6	64	117
3284	Phenanthrene 0.044 ug/l	N.D.					85	89	6	75	114
3285	Anthracene 0.030 ug/l	N.D.					76	81	6	53	112
3286	Fluoranthene 0.019 ug/l	N.D.					87	93	6	43	147
3287	Pyrene 0.17 ug/l	N.D.					93	98	6	39	149
3288	Benzo(a)anthracene 0.017 ug/l	N.D.					86	91	6	73	117
3289	Chrysene 0.057 ug/l	N.D.					89	93	4	68	125
3290	Benzo(b)fluoranthene 0.034 ug/l	N.D.					87	92	6	71	123
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.					88	94	7	75	118
3292	Benzo(a)pyrene 0.021 ug/l	N.D.					80	84	6	61	127
3293	Dibenzo(a,h)anthracene 0.045 ug/l	N.D.					88	94	7	71	121
3294	Benzo(g,h,i)perylene 0.095 ug/l	N.D.					91	97	7	70	125
3295	Indeno(1,2,3-cd)pyrene 0.061 ug/l	N.D.					90	97	8	73	125

8213 BTEX (8021)		Batch: 99352A02									

0776	Benzene 0.20 ug/l	N.D.		104			104	96	8	79	119
0777	Toluene 0.20 ug/l	N.D.		106			104	98	6	81	124
0778	Ethylbenzene 0.20 ug/l	N.D.		107			105	99	6	80	118
0779	Total Xylenes 0.60 ug/l	N.D.		109			108	101	6	81	118



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LLI Sample No. 3292680

FD-02-08 Field Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 695913
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	94	29	136
	Triphenyle	93	33	139
8213 BTEX (8021)	TFT-P	97	69	132



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LLI Sample No. **WW 3292681**
Collected: 12/15/99 by JA

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

P.O. MOSS-AMERICAN
Rel.

Submitted: 12/16/99 Reported: 01/28/00

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI
TR--B SDG#: MOS34-07TB*

AS RECEIVED
METHOD
RESULTS DETECTION LIMIT UNITS

CAT
NO. ANALYSIS NAME

8213 BTEX (8021)

See Page 2

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

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

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
12:12:55 D 0003 7 REP 128410 695913
050 0.00 00005933 DIS000



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



LLI Sample No. WW 3292681
Collected: 12/15/99 by JA

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

P.O. MOSS-AMERICAN
Rel.

Submitted: 12/16/99 Reported: 01/28/00

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI
TR--B SDG#: MOS34-07TB*

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

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

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



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

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



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Where quality is a science.

LLI Sample No. WW **3292681**
Collected: 12/15/99 by JA

Submitted: 12/16/99

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

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI
TR--B SDG#: MOS34-07TB*

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
8213	BTEX (8021)	SW-846 8021B	1	12/18/99 0209	Diane E. Wilson



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LLI Sample No. 3292681

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 695913
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: 99352A02									
0776	Benzene										
	0.20 ug/l	N.D.		104			104	96	8	79	119
0777	Toluene										
	0.20 ug/l	N.D.		106			104	98	6	81	124
0778	Ethylbenzene										
	0.20 ug/l	N.D.		107			105	99	6	80	118
0779	Total Xylenes										
	0.60 ug/l	N.D.		109			108	101	6	81	118



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LLI Sample No. 3292681
Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 695913
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
8213 BTEX (8021)	TFT-P	100	69	132



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