

Received 09/18/98



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10 September 1998

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

Work Order No. 02687-007-003

Re: Quarterly Groundwater Monitoring Report, 2nd Quarter
Moss-American Site, Milwaukee, Wisconsin

Dear Mr. Hart:

On behalf of the Kerr-McGee Chemical LLC (KMC), Roy F. Weston, Inc. (WESTON®) is submitting this report summarizing the results of the second quarterly groundwater monitoring event completed at the above referenced project in June 1998. A description of the groundwater monitoring program and the results obtained during this monitoring period are presented in the following sections

The free-product recovery system at the site was turned off for the winter in early November 1997 and restarted in early May 1998. Therefore, groundwater analytical results reported for 2nd quarter 1998 reflect conditions at the site after the free-product recovery system was on for approximately 2 months.

1.0 BACKGROUND

In accordance with paragraph 4a of the Remedial Design and Remedial Action Statement of Work (RD/RA SOW), KMC is required to implement a groundwater monitoring program capable of detecting changes in chemical concentrations in the groundwater. As previously agreed, the monitoring network includes 23 groundwater monitoring wells—MW-3S, MW-3I, MW-4S, MW-4I, MW-5S, MW-6S, MW-7S, MW-7I, MW-8S, MW-8I, MW-9S, MW-9I, MW-10S, MW-13S, MW-20S, MW-20I, MW-25S, MW-26S, MW-27S, MW-28S, MW-29S, TW-05, and TW-09. The sampling event of June 1998 entailed sampling of all shallow monitoring wells. The monitoring well network of 23 wells that include the shallow and intermediate wells will be sampled during the 3rd quarter in September 1998, and semi-annually thereafter.

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





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(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 second quarterly groundwater monitoring event at the Moss-American site was completed between 23 and 25 June 1998. Tasks completed during the field effort for this event included the collection of groundwater elevation data from all the shallow monitoring wells and the collection of groundwater samples from 16 of the 17 shallow monitoring wells. Groundwater sample was not collected from well MW-8S because this well had approximately 3 feet of free-product. Therefore, as with any well observed to contain free-product, MW-8S is assumed to be contaminated. The results of these efforts are described in the following subsections.

2.1 GROUNDWATER ELEVATION MEASUREMENTS

The depth to water was measured in each of the monitoring wells mentioned in Section 1.0 of this report. The measurements were conducted on 23 June 1998, prior to the beginning of groundwater sampling. These measurements were used to determine the elevation of the potentiometric surface of the shallow groundwater-bearing zone underlying the site. The water level measurements and resulting elevations are presented in Table 1. Figure 1 presents a groundwater elevation contour map that shows the potentiometric surface of the shallow groundwater-bearing zone. An evaluation of these results is presented in the following paragraphs.

As Figure 1 shows, the groundwater within the shallow groundwater-bearing zone generally flows northeastward toward the Little Menominee River. In the topographically higher, western portion of the site, the horizontal hydraulic gradient of the potentiometric surface is relatively steep at approximately 0.027 feet per foot (ft/ft). The gradient flattens near the river, as does the ground surface, with an average of approximately 0.012 ft/ft.

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



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approximately 0.11 ft/day. Near the river, the velocity of groundwater flow is calculated to be approximately 0.048 ft/day.

2.2 GROUNDWATER SAMPLE ANALYSES RESULTS

Groundwater samples were collected from 16 wells (MW-3S, MW-4S, MW-5S, MW-6S, MW-7S, MW-9S, MW-10S, MW-13S, MW-20S, MW-25S, MW-26S, MW-27S, MW-28S, MW-29S, TW-05, and TW-09) screened within the shallow groundwater-bearing zone. In addition, for quality assurance/quality control (QA/QC) purposes, two sample duplicates (indicated by a D qualifier), one matrix spike/matrix spike duplicate (MS/MSD), and two field blanks were collected. Trip blanks accompanied each cooler of sample bottles from the laboratory to the site and were shipped back to the laboratory within each cooler full of samples.

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

2.2.1 Field-Measured Parameters

The groundwater samples were measured in the field for pH, specific conductance, temperature, redox potential, dissolved oxygen, and turbidity. The results of these measurements are provided in Table 2. As shown in Table 2, the groundwater pH ranged from 6.69 to 8.11 standard pH units (S.U.) in the shallow groundwater samples. The specific conductivity ranges from 0.48 to 0.97 mΩ/cm in the shallow groundwater samples. Groundwater temperatures ranged from 10.2 to 14.9 °C in the shallow groundwater samples. The redox potentials of the groundwater ranged from a negative 445 to a negative 319 millivolts (mV). Dissolved oxygen levels ranged from 1.0 to 4.0 mg/L. Turbidity ranged from 20 to 1,263 nephelometric turbidity units (NTU) in the groundwater samples.

2.2.2 Laboratory Analyses

Each groundwater sample collected during the second quarter 1998 monitoring period was analyzed for BTEX and PAH compounds. The results of these analyses are presented in Table 3. Table 3 also indicates those parameters that were detected at concentrations that exceed their respective PALs. These results are summarized in the following paragraphs. The laboratory reports are presented in Attachment A.

Groundwater Sample Results



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

- Benzene was detected at concentrations exceeding the WDNR PAL of 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, MW-20S, TW-05, and TW-09.
- Benzo(a)pyrene was detected at concentrations exceeding the WDNR PAL of 0.02 µg/L in groundwater samples collected from monitoring wells MW-4S, MW-7S, MW-13S, MW-27S, MW-28S, MW-29S, TW-05 and TW-09.

These results show that the width of the contaminant plume boundaries (shown in Figure 1) has increased in the middle portion of the plume since groundwater samples collected from wells MW-27S, MW-28S and MW-29S indicate benzo(a)pyrene at a concentration of estimated 0.024 µg/L, 0.04 µg/L and an estimated 0.031 µg/L, respectively. These concentrations exceed the WDNR PAL of 0.02 µg/L. Additionally, with the sampling of MW-20S in this quarter, the lateral extent of the plume has been extended to MW-20S.

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

Very truly yours,

ROY F. WESTON, INC.

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

TPG/sl
Attachments

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

Table 1

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

Well	Ground Elevation (ft. MSL)	TOC Elevation (ft. MSL)	Depth to Water (ft.)	Groundwater Elevation (ft. MSL)	Product Thickness (ft.)
MW-3S	729.00	731.50	7.03	724.47	ND
MW-4S	731.00	732.86	5.20	727.66	ND
MW-5S	723.00	724.70	5.19	719.51	ND
MW-6S	727.00	724.28	5.42	718.86	ND
MW-7S	720.00	721.70	6.70	715.00	ND
MW-8S	718.00	721.73	5.84	715.89	2.7
MW-9S	720.00	721.71	7.81	713.90	ND
MW-10S	723.00	726.58	8.01	718.57	ND
MW-13S	737.00	738.68	3.90	734.78	ND
MW-20S	716.00	719.94	5.20	714.74	ND
MW-25S	736.83	739.24	4.24	735.00	ND
MW-26S	732.31	731.66	3.95	727.71	ND
MW-27S	720.59	723.15	4.42	718.73	ND
MW-28S	720.04	722.65	4.28	718.37	ND
MW-29S	720.01	722.39	5.89	716.50	ND
TW-05	721.76	724.16	3.91	720.25	ND
TW-09	717.61	719.96	4.83	715.13	trace

NM - Not measured.

ND - Not detected.

Measurements taken on 23 June 1998.

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

Well Number	PH (Standard Units)	Specific Conductance (mΩ/cm)	Temperature (°C)	Redox Potential (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)
MW-3S	7.64	0.81	11.5	-397	2.7	484
MW-4S	8.11	0.86	12.6	-443	1.8	785
MW-5S	7.13	0.62	10.2	-362	4.0	1,263
MW-6S	7.56	0.57	12.5	-375	1.5	590
MW-7S	6.84	0.90	12.8	-433	1.0	66
MW-9S	6.86	0.87	12.1	-432	1.4	1,197
MW-10S	7.28	0.68	14.5	-411	2.0	1,224
MW-13S	7.86	0.73	14.9	-427	2.8	1,252
MW-20S	6.69	0.97	13.8	-450	1.2	237
MW-25S	7.62	0.71	13.6	-424	3.8	1,098
MW-26S	7.36	0.72	12.3	-413	3.2	917
MW-27S	6.80	0.83	12.4	-398	1.4	1,129
MW-28S	7.81	0.52	11.7	-319	1.9	20
MW-29S	7.91	0.48	11.8	-445	1.2	938
TW-05	6.85	0.58	13.3	-361	1.6	1,000
TW-09	NM	NM	NM	NM	NM	NM

NM - Not measured.

Table 3

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

Sample ID:	MW-3S-02	MW-3S-02(D)	MW-4S-02	MW-5S-02	MW-6S-02	MW-7S-02	MW-07-02(D)	WDNR PAL ug/L
Sample Matrix:	Groundwater							
Sample Date:	6/24/98	6/25/98	6/24/98	6/24/98	6/25/98	6/25/98	6/26/98	
Units of Measure:	ug/L							
Parameters								
VOCs								
Benzene	ES=5	0.2	U	0.2	U	8		0.5
Toluene		0.2	U	0.2	U	17		68.6
Ethylbenzene		0.2	U	0.2	U	24		140
Total Xylenes		0.6	U	0.6	U	46		124
PAHs								
Naphthalene	ES=40	0.77	U	0.80	UJ	172	J	8.0
Acenaphthalene		0.77	U	0.80	UJ	39	U	NA
Acenaphthene		0.77	U	0.8	UJ	168	J	NA
Fluorene		0.16	U	0.17	UJ	50		80
Phenanthrene		0.044	U	0.046	UJ	325		NA
Anthracene		0.030	U	0.031	UJ	80.7		NA
Fluoranthene		0.021	J	0.020	UJ	366		NA
Pyrene		0.17	U	0.18	UJ	407		NA
Benzo(a)anthracene		0.017	U	0.018	UJ	142		NA
Chrysene		0.057	U	0.059	UJ	151		NA
Benzo(b)fluoranthene		0.034	U	0.035	UJ	106		NA
Benzo(k)fluoranthene		0.026	U	0.027	UJ	61.3		NA
Benzo(a)pyrene	ES=0.7	0.021	U	0.022	UJ	112		0.02
Dibenzo(a,h)pyrene		0.045	U	0.047	UJ	2.3	U	NA
Benzo(g,h,l)perylene		0.095	U	0.099	UJ	76		NA
Indeno(1,2,3-cd)pyrene		0.061	U	0.064	UJ	75		NA

VOC - Volatile Organic Compound.

---- Not analyzed.

PAL - Wisconsin Department of Natural Resources Preventative Action Limit.

PAH - Polynuclear Aromatic Hydrocarbon.

NA - PAL not available for this parameter.

Table 3 (Cont.)

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

Sample ID:	MW-9S-02	MW-10S-02	MW-13S-02	MW-20S-02	MW-25S-02	WDNR
Sample Matrix:	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	PAL
Sample Date:	6/24/98	6/25/98	6/24/98	6/25/98	6/24/98	ug/L
Units of Measure:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Parameters						
VOCs						
Benzene	0.2	U	0.2	U	0.2	U
Toluene	0.2	U	6.0		0.3	J
Ethylbenzene	0.2	U	0.2	U	0.4	J
Total Xylenes	0.6	U	0.6	U	1.3	J
PAHs						
Naphthalene <i>ES=40</i>	0.77	U	0.79	U	0.77	U
Acenaphthalene	0.77	U	0.79	U	1.19	J
Acenaphthene	0.77	U	0.79	U	0.76	U
Fluorene	0.16	U	0.17	U	0.16	U
Phenanthrene	0.044	U	0.046	U	0.084	J
Anthracene	0.030	U	0.031	U	0.030	U
Fluoranthene	0.019	U	0.02	U	0.138	J
Pyrene	0.17	U	0.18	U	0.17	U
Benzo(a)anthracene	0.017	U	0.018	U	0.063	J
Chrysene	0.057	U	0.059	U	0.097	J
Benzo(b)fluoranthene	0.034	U	0.035	U	0.076	
Benzo(k)fluoranthene	0.026	U	0.027	U	0.035	J
Benzo(a)pyrene <i>PCP=0.02</i>	0.021	U	0.022	U	0.072	J
Dibenz(a,h)pyrene	0.045	U	0.047	U	0.045	U
Benzo(g,h,l)perylene	0.095	U	0.098	U	0.095	U
Indeno(1,2,3-cd)pyrene	0.062	U	0.063	U	0.061	U

VOC - Volatile Organic Compound.

PAH - Polynuclear Aromatic Hydrocarbon.

Table 3 (Cont.)

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

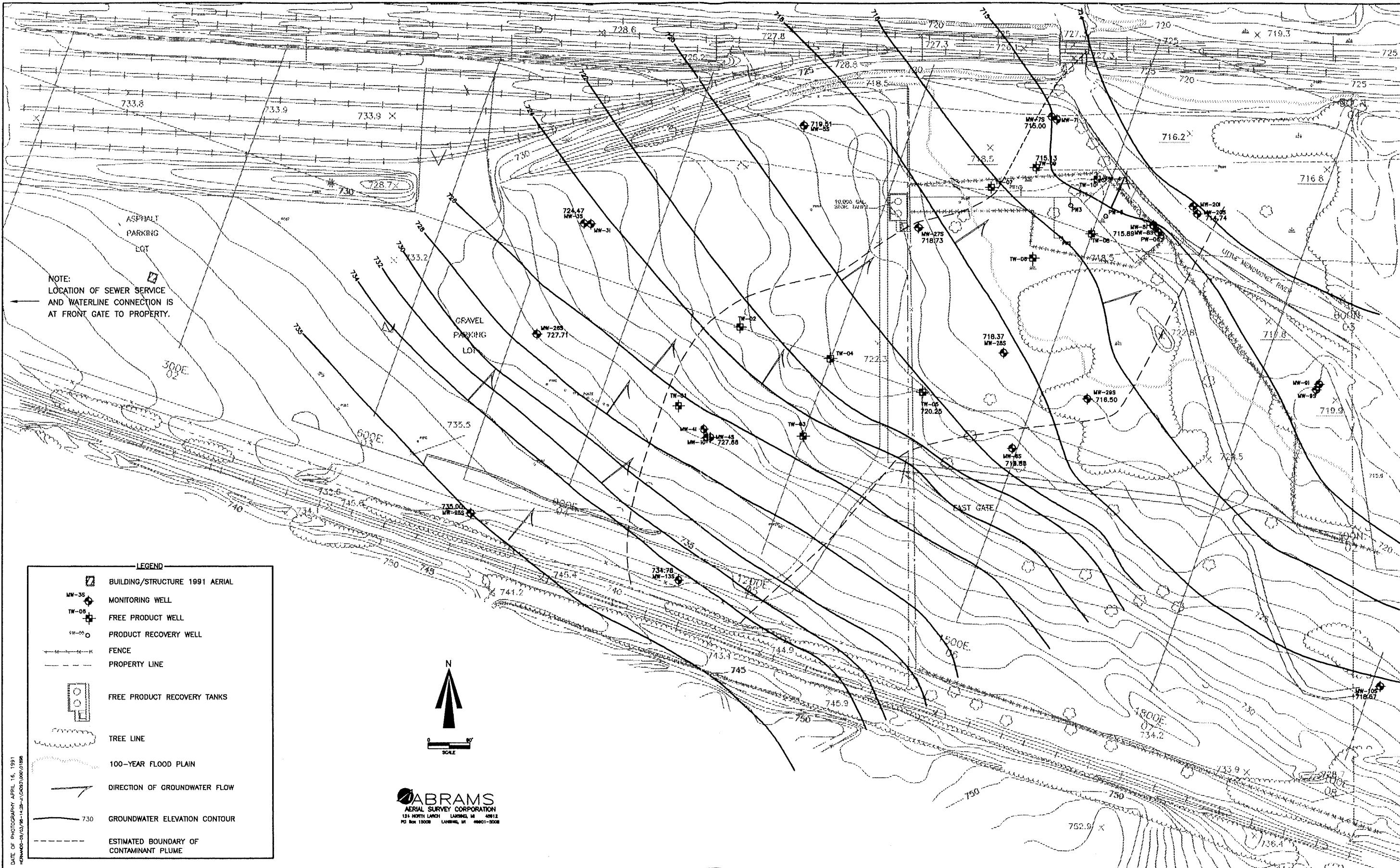
Sample ID:	MW-26S-02	MW-27S-02	MW-28S-02	MW-29S-02	TW-05-02	TW-09-02	FB-01	FB-02	WDNR PAL ug/L	
Sample Matrix:	Groundwater									
Sample Date:	6/24/98	6/25/98	6/24/98	6/24/98	6/25/98	6/25/98	6/24/98	6/25/98		
Units of Measure:	ug/L									
Parameters										
VOCs										
Benzene	0.2	U	0.2	U	0.2	U	0.2	U	0.5	
Toluene	0.2	U	0.2	U	0.2	U	0.2	U	3	
Ethylbenzene	0.2	U	0.2	U	0.2	U	0.2	U	9	
Total Xylenes	0.6	U	0.6	U	0.6	U	0.6	U	28	
PAHs										
Naphthalene <i>ES=40</i>	1.59	J	0.77	U	0.77	U	15.1	J	11,800	
Acenaphthylene	0.77	U	0.77	U	0.77	U	24.1	J	1,470	
Acenaphthene	0.77	U	0.77	U	0.77	U	150		5,000	
Fluorene <i>ES=800</i>	0.16	U	0.16	U	0.16	U	105		3,590	
Phenanthrene	0.044	U	0.044	U	0.044	U	0.069	J	2.9	
Anthracene	0.03	U	0.030	U	0.030	U	0.83	J	9.6	
Fluoranthene	0.019	U	0.042	J	0.019	U	0.59		33.4	
Pyrene	0.17	U	0.17	U	0.17	U	0.48	J	39.7	
Benzo(a)anthracene	0.017	U	0.017	U	0.018	J	0.082		4.8	
Chrysene	0.057	U	0.057	U	0.057	U	0.135	J	6.8	
Benzo(b)fluoranthene	0.034	U	0.045	J	0.056	J	0.044	J	1.76	
Benzo(k)fluoranthene	0.026	U	0.026	U	0.026	U	0.026	U	1.01	
Benzo(a)pyrene <i>ES=0.2</i>	0.021	U	0.024	J	0.04	J	0.031	J	1.63	
Dibenzo(a,h)pyrene	0.045	U	0.045	U	0.045	U	0.045	U	226	
Benzo(g,h,i)perylene	0.095	U	0.095	U	0.095	U	0.095	U	1	
Indeno(1,2,3-cd)pyrene	0.062	U	0.062	U	0.061	U	0.061	U	776	

VOC - Volatile Organic Compound.

PAH - Polynuclear Aromatic Hydrocarbon.

U = Analyte not detected at or above the reporting limit.

J = Estimated concentration.



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NO. DATE APPN.	NO. DATE APPN.	REVISION	

VERNON HILLS

CHECKED	DATE	CLIENT APPROVALS	DATE
DES. ENCL.			
PROJ. ENCL.			
PROJ. MNR.			
APPROVED			
APPROVED		ISSUED FOR	DATE

DRWNR. R.J.B.	DATE FEB 98	FIGURE	REV. NO.
SCALE 1" = 60'	WA. NO. 02687007002002200	REV. _____	OF 11

ATTACHMENT A

LABORATORY REPORTS



Roy F. Weston, Inc.
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2125 University Park Drive
Okemos, Michigan 48864-3975
517-349-8255 • Fax 517-349-0798

9 September 1998

Mr. Tom Graan
Roy F. Weston, Inc.
Three Hawthorn Parkway
Suite 400
Vernon Hills, Illinois 60061

Re: Data Validation of Polynuclear Aromatic Hydrocarbon Analyses and Volatiles Analyses
Performed by Lancaster Laboratories, Lancaster, Pennsylvania for the
Kerr-McGee Corporation

Dear Mr. Graan:

I have reviewed the analytical data provided by Lancaster Laboratories of Lancaster, Pennsylvania for the Moss American site. The findings from the validation of the data are summarized below:

Polynuclear Aromatic Hydrocarbons (PAHs by HPLC) SDG # MOS03-01

1. Samples

Weston Code	Lab Sample No.	Date Collected	Date Extracted	Date Analyzed
MW-5S-02	2953039	6/24/98	6/27/98	7/1/98
MW-3S-02	2953040	6/24/98	6/27/98	7/1/98
MW-3S-02DUP	2953041	6/24/98	6/27/98	7/1/98
MW-26S-02	2953042	6/24/98	6/27/98	7/1/98
MW-25S-02	2953043	6/24/98	6/27/98	7/1/98
MW-13S-02	2953044	6/24/98	6/27/98	7/1/98
MW-4S-02	2953045	6/24/98	6/27/98	7/13/98
MW-10S-02	2953046	6/24/98	6/27/98	7/1/98
MW-9S-02	2953047	6/24/98	6/27/98	7/1/98
MW-29S-02	2953048	6/24/98	6/27/98	7/1/98
MW-6S-02	2953049	6/24/98	6/27/98	7/1/98
MW-28S-02	2953050	6/24/98	6/27/98	7/1/98
MW-28S-02MS	2953051	6/24/98	6/27/98	7/1/98
MW-28S-02MSD	2953052	6/24/98	6/27/98	7/1/98
FB-01-02	2953053	6/24/98	6/27/98	7/1/98
TW-05-02	2954048	6/25/98	6/29/98	7/2/98
MW-27S-02	2954049	6/25/98	6/29/98	6/30/98
TW-09-02	2954050	6/25/98	6/29/98	7/13/98
MW-07-02	2954051	6/25/98	6/29/98	7/13/98





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**Moss American
SDG # MOS03-01**

Polynuclear Aromatic Hydrocarbons (PAHs by HPLC)

<u>Weston Code</u>	<u>Lab Sample No.</u>	<u>Date Collected</u>	<u>Date Extracted</u>	<u>Date Analyzed</u>
MW-07-02DUP	2954052	6/25/98	6/29/98	7/13/98
MW-20S-02	2954053	6/25/98	6/29/98	6/30/98
FB-02-02	2954054	6/25/98	6/29/98	6/30/98

2. Holding Times

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

3. Method Blanks

Two method blanks were associated with these samples. Method Blank PBLKFD was free of contamination. Method Blank PBLKF7 contained acenaphthene at 3.4 ug/L. This contamination had no affect on the associated data and no action was taken.

4. Field Blanks

Sample FB-01-02 and FB-02-02 were field blanks. These samples were free of polynuclear aromatic hydrocarbon (PNA) contamination.

5. Matrix Spike/Matrix Spike Duplicate

Sample MW-28S-02 was used for the matrix spike/matrix spike duplicate audit. All matrix spike and matrix spike duplicate recoveries were within the Moss American QAPP acceptance limits. All relative percent difference values were acceptable.

6. Surrogates

Sample MW-3S-02DUP had surrogate spike recoveries for nitrobenzene (17%) and triphenylene (18%) outside acceptance limits. The Sample was re-extracted outside of holding time and the surrogate recoveries were acceptable for the re-analysis. Surrogate spike recoveries for



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nitrobenzene in Sample MW-07-02DUP and MW-07-02 were diluted out. Surrogate spike recoveries for triphenylene in Samples MW-07-02DUP, MW-4S-02, MW-07-02, TW-09-02, TW-09-02DIL, and TW-05-02 were diluted out.

Qualify all PNA results for sample MW-3S-02DUP as estimated (J).

Moss American
SDG # MOS03-01

7. Overall Assessment

The surrogate recoveries for nitrobenzene and triphenylene in Sample MW-3S-02DUP were outside the acceptance limits. The sample was re-extracted and reanalyzed after holding time. The surrogate recoveries for the reanalysis were acceptable. Therefore, the PNA results for Sample MW-3S-02DUP were qualified as estimated (J).

Volatiles by GC (BTEX)

SDG # MOS03-01

1. Samples

<u>Weston Code</u>	<u>Lab Sample No.</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
MW-5S-02	2953039	6/24/98	6/26/98
MW-3S-02	2953040	6/24/98	6/26/98
MW-3S-02DUP	2953041	6/24/98	6/26/98
MW-26S-02	2953042	6/24/98	6/26/98
MW-25S-02	2953043	6/24/98	6/26/98
MW-13S-02	2953044	6/24/98	6/26/98
MW-4S-02	2953045	6/24/98	6/26/98
MW-10S-02	2953046	6/24/98	6/27/98
MW-9S-02	2953047	6/24/98	6/27/98
MW-29S-02	2953048	6/24/98	6/27/98
MW-6S-02	2953049	6/24/98	6/27/98
MW-28S-02	2953050	6/24/98	6/26/98
MW-28S-02MS	2953051	6/24/98	6/26/98
MW-28S-02MSD	2953052	6/24/98	6/26/98
FB-01-02	2953053	6/24/98	6/27/98
TRIP BLANK1	2953054	6/17/98	6/26/98
TW-05-02	2954048	6/25/98	7/03/98



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<u>Weston Code</u>	<u>Lab Sample No.</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
MW-27S-02	2954049	6/25/98	7/02/98
TW-09-02	2954050	6/25/98	7/03/98
MW-07-02	2954051	6/25/98	7/03/98
MW-07-02DUP	2954052	6/25/98	7/03/98
MW-20S-02	2954053	6/25/98	7/03/98
FB-02-02	2954054	6/25/98	7/02/98
TRIP BLANK2	2954055	6/17/98	7/02/98

**Moss American
SDG # MOS03-01**

2. Holding Times

All samples were analyzed within the required holding times.

3. Method Blanks

Three method blanks were associated with these samples. All method blanks were free of contamination.

4. Field Blanks

Samples FB-01-02 and FB-02-02 were designated as field blanks. Both samples were free of contamination.

5. Matrix Spike/Matrix Spike Duplicate

Sample MW-28S-02 was used for the matrix spike/matrix spike duplicate audit. All matrix spike/matrix spike duplicate recoveries were acceptable. All relative percent difference values were acceptable.

6. Surrogates

All trifluorotoluene surrogate spike recoveries were acceptable for all samples.



Mr. Tom Graan
Roy F. Weston, Inc.

-5-

9 September 1998

7. Overall Assessment

The BTEX results for the samples presented in this sample delivery group were acceptable for use without qualification.

If you have any questions regarding this report, feel free to call me at your convenience at (517) 349-8255.

Very truly yours

ROY F. WESTON, INC.

A handwritten signature in black ink that reads "Linda J. Korobka".

Linda J. Korobka
Senior Project Scientist

LJK/sl



Lancaster Laboratories

A division of Thermo Analytical Inc.

Page: 1 of 6

LLI Sample No. WW 2953040

Collected: 6/24/98 at 10:40 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-3S-02 Grab Water Sample

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

P.O. MOSS-AMERICAN
Rel.

Moss-American Superfund Site - Milwaukee, WI
MW-3S SDG#: MOS03-02

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
20:45:51 D 0003 16 128410 620823
320 0.00 00021753 ASR000

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

MEMBER ANALYSTS ASSOCIATION
OF AMERICA
1998

**LLI Sample No. WW 2953040**

Collected: 6/24/98 at 10:40 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-3S-02 Grab Water Sample

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

P.O. MOSS-AMERICAN
 Rel.

Moss-American Superfund Site - Milwaukee, WI
 MW-3S SDG#: MOS03-02

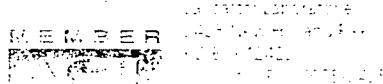
CAT NO.	ANALYSIS NAME	AS RECEIVED		METHOD
		RESULTS	DETECTION LIMIT UNITS	

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

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

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





Lancaster Laboratories
A division of Thermo Analytical Inc.

Page: 3 of 6

LLI Sample No. WW 2953040

Collected: 6/24/98 at 10:40 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-3S-02 Grab Water Sample

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

P.O. MOSS-AMERICAN
Rel.

Moss-American Superfund Site - Milwaukee, WI
MW-3S SDG#: MOS03-02

AS RECEIVED

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

BTEX (8021)

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

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



Page: 4 of 6

LLI Sample No. WW 2953040

Collected: 06/24/98 at 10:40 by JA

Submitted: 06/25/98

MW-3S-02 Grab Water Sample

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

Moss-American Superfund Site - Milwaukee, WI
MW-3S SDG#: MOS03-02

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		
			TRIAL	ID	DATE AND TIME
1861	PAH's in Water	SW-846 8310	1	07/01/98 1450	Lori L. Conley-Shoemaker
3337	PAH Water Extraction	SW-846 3510C	1	06/27/98 1230	Deborah M. Zimmerman
8213	BTEX (8021)	SW-846 8021B	1	06/26/98 1336	Danerys Clark



LLI Sample No. 2953040

MW-3S-02 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
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: 981770007A									
3280 Naphthalene	0.77 ug/l	N.D.		97	87	11	80			37	120
3281 Acenaphthylene	0.77 ug/l	N.D.		98	89	10	83			41	135
3282 Acenaphthene	0.77 ug/l	3.4 J ug/l		97	91	6	90			38	135
3283 Fluorene	0.16 ug/l	N.D.		100	92	7	88			41	140
3284 Phenanthrene	0.044 ug/l	N.D.		99	92	6	89			48	152
3285 Anthracene	0.030 ug/l	N.D.		96	90	6	88			42	143
3286 Fluoranthene	0.019 ug/l	N.D.		98	92	5	89			48	155
3287 Pyrene	0.17 ug/l	N.D.		97	94	3	92			51	146
3288 Benzo(a)anthracene	0.017 ug/l	N.D.		93	89	4	88			52	146
3289 Chrysene	0.057 ug/l	N.D.		96	92	3	87			56	145
3290 Benzo(b)fluoranthene	0.034 ug/l	N.D.		94	87	6	91			59	141
3291 Benzo(k)fluoranthene	0.026 ug/l	N.D.		95	91	3	91			60	137
3292 Benzo(a)pyrene	0.021 ug/l	N.D.		92	88	4	90			42	158
3293 Dibenz(a,h)anthracene	0.045 ug/l	N.D.		93	93	1	92			49	142
3294 Benzo(g,h,i)perylene	0.095 ug/l	N.D.		95	94	0	93			46	148
3295 Indeno(1,2,3-cd)pyrene	0.061 ug/l	N.D.		98	96	2	96			64	134
8213 BTEX (8021)		Batch: 98176A65									
0776 Benzene	0.2 ug/l	N.D.		101	105	4	111			78	138
0777 Toluene	0.2 ug/l	N.D.		103	104	1	108			78	118
0778 Ethylbenzene	0.2 ug/l	N.D.		101	101	0	106			77	119
0779 Total Xylenes	0.6 ug/l	N.D.		104	104	0	109			76	116

100-1000-0000
100-1000-0000
100-1000-0000



Page: 6 of

LLI Sample No. 2953040

MW-3S-02 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
Kerr-McGee Corporation

1861 PAH's in Water

8213 BTEX (8021)

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
	Nitrobenz	88	60	120
	Triphenyle	81	60	120
	TFT	108	70	130



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Page: 1 of 6

LLI Sample No. WW 2953041

Collected: 6/24/98 at 10:40 by JA

Submitted: 6/25/98 Reported: 7/20/98
Discard: 8/20/98

MW-3S-02DUP Grab Water Sample

Account No: 07802

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

P.O. MOSS-AMERICAN
Rel.

Moss-American Superfund Site - Milwaukee, WI
MWD3S SDG#: MOS03-03

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
20:46:36 D 0003 16 128410 620823
320 0.00 00021753 ASR000

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

MEMBER
ESTD 1948



LLI Sample No. WW 2953041

Collected: 6/24/98 at 10:40 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-3S-02DUP Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
MWD3S SDG#: MOS03-03Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125P.O. MOSS-AMERICAN
Rel.

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

PAH's in Water

3280	Naphthalene	N.D.	0.80	ug/l
3281	Acenaphthylene	N.D.	0.80	ug/l
3282	Acenaphthene	N.D.	0.8	ug/l
3283	Fluorene	N.D.	0.17	ug/l
3284	Phenanthrene	N.D.	0.046	ug/l
3285	Anthracene	N.D.	0.031	ug/l
3286	Fluoranthene	N.D.	0.020	ug/l
3287	Pyrene	N.D.	0.18	ug/l
3288	Benzo(a)anthracene	N.D.	0.018	ug/l
3289	Chrysene	N.D.	0.059	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.035	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.027	ug/l
3292	Benzo(a)pyrene	N.D.	0.022	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.047	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.099	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.064	ug/l

The surrogate data is outside the QC limits. Results from the reextraction are within the limits. The hold time had expired prior to the reextraction so all results are reported from the original extract. Similar results were obtained in both extracts.

*4/15/98
J.E.H.*

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

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



LLI Sample No. WW 2953041

Collected: 6/24/98 at 10:40 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-3S-02DUP Grab Water Sample

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

P.O. MOSS-AMERICAN
Rel.

Moss-American Superfund Site - Milwaukee, WI
MWD3S SDG#: MOS03-03

AS RECEIVED

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

BTEX (8021)

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

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

MEMBER
ANALYSTS
ASSOCIATION
DC - 12429
APPROVED FOR RELEASE

**LLI Sample No. WW 2953041**

Collected: 06/24/98 at 10:40 by JA

Submitted: 06/25/98

MW-3S-02DUP Grab Water Sample

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

Moss-American Superfund Site - Milwaukee, WI
MWD3S SDG#: MOS03-03

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS ID	DATE AND TIME	ANALYST
1861	PAH's in Water	SW-846 8310	1	07/01/98 1612	Lori L. Conley-Shoemaker	
3337	PAH Water Extraction	SW-846 3510C	1	06/27/98 1230	Deborah M. Zimmerman	
8213	BTEX (8021)	SW-846 8021B	1	06/26/98 1408	Danerys Clark	

**LLI Sample No. 2953041**

MW-3S-02DUP Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH
<hr/> 1861 PAH's in Water										
		Batch: 981770007A								
3280	Naphthalene 0.80 ug/l	N.D.		97	87	11	80		37	120
3281	Acenaphthylene 0.80 ug/l	N.D.		98	89	10	83		41	135
3282	Acenaphthene 0.8 ug/l	3.4 J ug/l		97	91	6	90		38	135
3283	Fluorene 0.17 ug/l	N.D.		100	92	7	88		41	140
3284	Phenanthrene 0.046 ug/l	N.D.		99	92	6	89		48	152
3285	Anthracene 0.031 ug/l	N.D.		96	90	6	88		42	143
3286	Fluoranthene 0.020 ug/l	N.D.		98	92	5	89		48	155
3287	Pyrene 0.18 ug/l	N.D.		97	94	3	92		51	146
3288	Benzo(a)anthracene 0.018 ug/l	N.D.		93	89	4	88		52	146
3289	Chrysene 0.059 ug/l	N.D.		96	92	3	87		56	145
3290	Benzo(b)fluoranthene 0.035 ug/l	N.D.		94	87	6	91		59	141
3291	Benzo(k)fluoranthene 0.027 ug/l	N.D.		95	91	3	91		60	137
3292	Benzo(a)pyrene 0.022 ug/l	N.D.		92	88	4	90		42	158
3293	Dibenz(a,h)anthracene 0.047 ug/l	N.D.		93	93	1	92		49	142
3294	Benzo(g,h,i)perylene 0.099 ug/l	N.D.		95	94	0	93		46	148
3295	Indeno(1,2,3-cd)pyrene 0.064 ug/l	N.D.		98	96	2	96		64	134
<hr/> 8213 BTEX (8021)										
		Batch: 98176A65								
0776	Benzene 0.2 ug/l	N.D.		101	105	4	111		78	138
0777	Toluene 0.2 ug/l	N.D.		103	104	1	108		78	118
0778	Ethylbenzene 0.2 ug/l	N.D.		101	101	0	106		77	119
0779	Total Xylenes 0.6 ug/l	N.D.		104	104	0	109		76	116

**LLI Sample No. 2953041**

MW-3S-02DUP Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz Triphenyle	17 18	60 60	120 120
8213 BTEX (8021)	TFT	108	70	130

**LLI Sample No. WW 2953045**

Collected: 6/24/98 at 13:25 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-4S-02 Grab Water Sample

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

P.O. MOSS-AMERICAN
Rel.Moss-American Superfund Site - Milwaukee, WI
M4--S SDG#: MOS03-07**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
 20:49:50 D 0003 16 128410 620823
 320 0.00 00021753 ASR000

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

REMEMBER
 Quality Control
 Quality Assurance
 Quality Testing
 Quality Inspection
 Quality Management



LLI Sample No. WW 2953045

Collected: 6/24/98 at 13:25 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-4S-02 Grab Water Sample

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

P.O. MOSS-AMERICAN
ReL.

Moss-American Superfund Site - Milwaukee, WI
M4--S SDG#: MOS03-07

AS RECEIVED

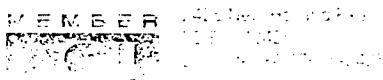
CAT NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT UNITS
---------	---------------	---------	--------	-----------------------

PAH's in Water

3280	Naphthalene	172.	J	39.	ug/l
3281	Acenaphthylene		N.D.	39.	ug/l
3282	Acenaphthene	168.	J	39.	ug/l
3283	Fluorene	50.		8.2	ug/l
3284	Phenanthrene	325.		2.2	ug/l
3285	Anthracene	80.7		1.5	ug/l
3286	Fluoranthene	366.		1.0	ug/l
3287	Pyrene	407.		8.7	ug/l
3288	Benzo(a)anthracene	142.		0.87	ug/l
3289	Chrysene	151.		2.8	ug/l
3290	Benzo(b)fluoranthene	106.		1.7	ug/l
3291	Benzo(k)fluoranthene	61.3		1.3	ug/l
3292	Benzo(a)pyrene	112.		1.1	ug/l
3293	Dibenz(a,h)anthracene		N.D.	2.3	ug/l
3294	Benzo(g,h,i)perylene	76.		4.8	ug/l
3295	Indeno(1,2,3-cd)pyrene	75.		3.1	ug/l

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

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





Lancaster Laboratories
A division of Thermo Analytical Inc.

Analysis Report
Page: 3 of 6

LLI Sample No. WW 2953045

Collected: 6/24/98 at 13:25 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-4S-02 Grab Water Sample

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

P.O. MOSS-AMERICAN
Rel.

Moss-American Superfund Site - Milwaukee, WI
M4--S SDG#: MOS03-07

AS RECEIVED

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

BTEX (8021)

0776	Benzene	8.	0.2	ug/l
0777	Toluene	17.	0.2	ug/l
0778	Ethylbenzene	24.	0.2	ug/l
0779	Total Xylenes	46.	0.6	ug/l

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

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

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

MEMBER



Page: 4 of 6

LLI Sample No. WW 2953045

Collected: 06/24/98 at 13:25 by JA

Submitted: 06/25/98

MW-4S-02 Grab Water Sample

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

Moss-American Superfund Site - Milwaukee, WI
M4--S SDG#: MOS03-07

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS ID	DATE AND TIME	ANALYST
1861	PAH's in Water	SW-846 8310	1		07/13/98 2352	Lori L. Conley-Shoemaker
3337	PAH Water Extraction	SW-846 3510C	1		06/27/98 1230	Deborah M. Zimmerman
8213	BTEX (8021)	SW-846 8021B	1		06/26/98 1618	Danerys Clark





Lancaster Laboratories

A division of Thermo Analytical Inc.

QUALITY CONTROL REPORT

Page: 5 of 6

LLI Sample No. 2953045

MW-4S-02 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
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: 981770007A									
3280 Naphthalene											
39. ug/l		N.D.		97	87	11	80			37	120
3281 Acenaphthylene											
39. ug/l		N.D.		98	89	10	83			41	135
3282 Acenaphthene											
39. ug/l		3.4 J ug/l		97	91	6	90			38	135
3283 Fluorene											
8.2 ug/l		N.D.		100	92	7	88			41	140
3284 Phenanthrene											
2.2 ug/l		N.D.		99	92	6	89			48	152
3285 Anthracene											
1.5 ug/l		N.D.		96	90	6	88			42	143
3286 Fluoranthene											
1.0 ug/l		N.D.		98	92	5	89			48	155
3287 Pyrene											
8.7 ug/l		N.D.		97	94	3	92			51	146
3288 Benzo(a)anthracene											
0.87 ug/l		N.D.		93	89	4	88			52	146
3289 Chrysene											
2.8 ug/l		N.D.		96	92	3	87			56	145
3290 Benzo(b)fluoranthene											
1.7 ug/l		N.D.		94	87	6	91			59	141
3291 Benzo(k)fluoranthene											
1.3 ug/l		N.D.		95	91	3	91			60	137
3292 Benzo(a)pyrene											
1.1 ug/l		N.D.		92	88	4	90			42	158
3293 Dibenz(a,h)anthracene											
2.3 ug/l		N.D.		93	93	1	92			49	142
3294 Benzo(g,h,i)perylene											
4.8 ug/l		N.D.		95	94	0	93			46	148
3295 Indeno(1,2,3-cd)pyrene											
3.1 ug/l		N.D.		98	96	2	96			64	134
8213 BTEX (8021)		Batch: 98176A65									
0776 Benzene											
0.2 ug/l		N.D.		101	105	4	111			78	138
0777 Toluene											
0.2 ug/l		N.D.		103	104	1	108			78	118
0778 Ethylbenzene											
0.2 ug/l		N.D.		101	101	0	106			77	119
0779 Total Xylenes											
0.6 ug/l		N.D.		104	104	0	109			76	116

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**LLI Sample No. 2953045**

MW-4S-02 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz Triphenyle	71 (5)	60 60	120 120
8213 BTEX (8021)	TFT	110	70	130

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

M A M B E R
L A N C A S T E R
L A B O R A T O R I E S



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A division of Thermo Analytical Inc.

Page: 1 of 6

LLI Sample No. WW 2953039

Collected: 6/24/98 at 10:00 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-5S-02 Grab Water Sample

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

P.O. MOSS-AMERICAN
ReL

Moss-American Superfund Site - Milwaukee, WI
MW-5S SDG#: MOS03-01

AS RECEIVED

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

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

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

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
20:44:53 D 0003 16 128410 620823
320 0.00 00021753 ASR000

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



LLI Sample No. WW 2953039

Collected: 6/24/98 at 10:00 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-5S-02 Grab Water Sample

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

P.O. MOSS-AMERICAN
ReL.

Moss-American Superfund Site - Milwaukee, WI
MW-5S SDG#: MOS03-01

AS RECEIVED

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

PAH's in Water

3280	Naphthalene	N.D.	0.77	ug/l
3281	Acenaphthylene	N.D.	0.77	ug/l
3282	Acenaphthene	N.D.	0.77	ug/l
3283	Fluorene	N.D.	0.16	ug/l
3284	Phenanthrene	N.D.	0.044	ug/l
3285	Anthracene	N.D.	0.030	ug/l
3286	Fluoranthene	N.D.	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	N.D.	0.057	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.034	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.096	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.062	ug/l

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

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

HESNIE, JENIFER E.
GROUP LEADER
PESTICIDES/PCBS



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Analysis Report
Page: 3 of 6

LLI Sample No. WW 2953039

Collected: 6/24/98 at 10:00 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-5S-02 Grab Water Sample

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

P.O. MOSS-AMERICAN
ReL.

Moss-American Superfund Site - Milwaukee, WI
MW-5S SDG#: MOS03-01

AS RECEIVED

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

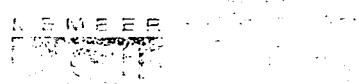
BTEX (8021)

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

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

LE MEE R


**LLI Sample No. WW 2953039**

Collected: 06/24/98 at 10:00 by JA

Submitted: 06/25/98

MW-5S-02 Grab Water Sample

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

Moss-American Superfund Site - Milwaukee, WI
MW-5S SDG#: MOS03-01

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		
			TRIAL	ID	DATE AND TIME
1861	PAH's in Water	SW-846 8310	1	07/01/98 1428	Lori L. Conley-Shoemaker
3337	PAH Water Extraction	SW-846 3510C	1	06/27/98 1230	Deborah M. Zimmerman
8213	BTEX (8021)	SW-846 8021B	1	06/26/98 1303	Danerys Clark



LLI Sample No. 2953039

MW-5S-02 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH
1861 PAH's in Water		Batch: 981770007A								
3280	Naphthalene 0.77 ug/l	N.D.		97	87	11	80		37	120
3281	Acenaphthylene 0.77 ug/l	N.D.		98	89	10	83		41	135
3282	Acenaphthene 0.77 ug/l	3.4 J ug/l		97	91	6	90		38	135
3283	Fluorene 0.16 ug/l	N.D.		100	92	7	88		41	140
3284	Phenanthrene 0.044 ug/l	N.D.		99	92	6	89		48	152
3285	Anthracene 0.030 ug/l	N.D.		96	90	6	88		42	143
3286	Fluoranthene 0.019 ug/l	N.D.		98	92	5	89		48	155
3287	Pyrene 0.17 ug/l	N.D.		97	94	3	92		51	146
3288	Benzo(a)anthracene 0.017 ug/l	N.D.		93	89	4	88		52	146
3289	Chrysene 0.057 ug/l	N.D.		96	92	3	87		56	145
3290	Benzo(b)fluoranthene 0.034 ug/l	N.D.		94	87	6	91		59	141
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.		95	91	3	91		60	137
3292	Benzo(a)pyrene 0.021 ug/l	N.D.		92	88	4	90		42	158
3293	Dibenz(a,h)anthracene 0.045 ug/l	N.D.		93	93	1	92		49	142
3294	Benzo(g,h,i)perylene 0.096 ug/l	N.D.		95	94	0	93		46	148
3295	Indeno(1,2,3-cd)pyrene 0.062 ug/l	N.D.		98	96	2	96		64	134
8213 BTEX (8021)		Batch: 98176A65								
0776	Benzene 0.2 ug/l	N.D.		101	105	4	111		78	138
0777	Toluene 0.2 ug/l	N.D.		103	104	1	108		78	118
0778	Ethylbenzene 0.2 ug/l	N.D.		101	101	0	106		77	119
0779	Total Xylenes 0.6 ug/l	N.D.		104	104	0	109		76	116



Page: 6 of

LLI Sample No. 2953039

MW-5S-02 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	94	60	120
	Triphenyle	90	60	120
8213 BTEX (8021)	TFT	107	70	130

**LLI Sample No. WW 2953049**

Collected: 6/24/98 at 17:15 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-6S-02 Grab Water Sample

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

P.O. MOSS-AMERICAN
Ref.Moss-American Superfund Site - Milwaukee, WI
M6-S2 SDG#: MOS03-11

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

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

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

Questions? Contact your Client Services Representative
 Kay G. Hower at (717) 656-2300
 20:52:40 D 0003 16 128410 620823
 320 0.00 00021753 ASR000

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

MEMO # 414144
 DATE 7/20/98
 FROM JENIFER E. HESS
 TO KERR-MCGEE CORPORATION
 SUBJECT: ANALYSIS REPORT FOR SAMPLE NO. 2953049



LLI Sample No. WW 2953049

Collected: 6/24/98 at 17:15 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-6S-02 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
M6-S2 SDG#: MOS03-11

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

PAH's in Water

3280	Naphthalene	N.D.	0.77	ug/l
3281	Acenaphthylene	N.D.	0.77	ug/l
3282	Acenaphthene	N.D.	0.77	ug/l
3283	Fluorene	N.D.	0.16	ug/l
3284	Phenanthrene	N.D.	0.044	ug/l
3285	Anthracene	N.D.	0.030	ug/l
3286	Fluoranthene	N.D.	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	N.D.	0.057	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.034	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.021	ug/l
3293	Dibenz(a,h)anthracene	N.D.	0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.095	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.061	ug/l

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

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

M. E. M. E. R.
M. E. M. E. R.
M. E. M. E. R.

**LLI Sample No. WW 2953049**

Collected: 6/24/98 at 17:15 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-6S-02 Grab Water Sample

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

P.O. MOSS-AMERICAN
 Rel.

Moss-American Superfund Site - Milwaukee, WI
 M6-S2 SDG#: MOS03-11

AS RECEIVED

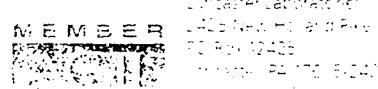
CAT	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT UNITS
-----	---------------	---------	--------	-----------------------

BTEX (8021)

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

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

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





Page: 4 of 6

LLI Sample No. WW 2953049

Collected: 06/24/98 at 17:15 by JA

Submitted: 06/25/98

MW-6S-02 Grab Water Sample

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

Moss-American Superfund Site - Milwaukee, WI
M6-S2 SDG#: MOS03-11

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS ID	DATE AND TIME	ANALYST
1861	PAH's in Water	SW-846 8310	1		07/01/98 1823	Lori L. Conley-Shoemaker
3337	PAH Water Extraction	SW-846 3510C	1		06/27/98 1230	Deborah M. Zimmerman
8213	BTEX (8021)	SW-846 8021B	1		06/27/98 0223	Danerys Clark



LLI Sample No. 2953049

MW-6S-02 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
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: 981770007A									
3280	Naphthalene 0.77 ug/l	N.D.		97	87	11	80			37	120
3281	Acenaphthylene 0.77 ug/l	N.D.		98	89	10	83			41	135
3282	Acenaphthene 0.77 ug/l	3.4 J ug/l		97	91	6	90			38	135
3283	Fluorene 0.16 ug/l	N.D.		100	92	7	88			41	140
3284	Phenanthrene 0.044 ug/l	N.D.		99	92	6	89			48	152
3285	Anthracene 0.030 ug/l	N.D.		96	90	6	88			42	143
3286	Fluoranthene 0.019 ug/l	N.D.		98	92	5	89			48	155
3287	Pyrene 0.17 ug/l	N.D.		97	94	3	92			51	146
3288	Benzo(a)anthracene 0.017 ug/l	N.D.		93	89	4	88			52	146
3289	Chrysene 0.057 ug/l	N.D.		96	92	3	87			56	145
3290	Benzo(b)fluoranthene 0.034 ug/l	N.D.		94	87	6	91			59	141
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.		95	91	3	91			60	137
3292	Benzo(a)pyrene 0.021 ug/l	N.D.		92	88	4	90			42	158
3293	Dibenzo(a,h)anthracene 0.045 ug/l	N.D.		93	93	1	92			49	142
3294	Benzo(g,h,i)perylene 0.095 ug/l	N.D.		95	94	0	93			46	148
3295	Indeno(1,2,3-cd)pyrene 0.061 ug/l	N.D.		98	96	2	96			64	134
8213 BTEX (8021)		Batch: 98177A65									
0776	Benzene 0.2 ug/l	N.D.		104	102	2	107			78	138
0777	Toluene 0.2 ug/l	N.D.		99	100	0	106			78	118
0778	Ethylbenzene 0.2 ug/l	N.D.		94	94	0	105			77	119
0779	Total Xylenes 0.6 ug/l	N.D.		97	97	0	108			76	116

RECEIVED
ANALYST
DATE
FAXED



LLI Sample No. 2953049

MW-6S-02 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz Triphenyle	92 84	60 60	120 120
8213 BTEX (8021)	TFT	110	70	130

**LLI Sample No. WW 2954051**

Collected: 6/25/98 at 10:00 by EC

Submitted: 6/26/98 Reported: 7/16/98

Discard: 8/16/98

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

P.O. MOSS-AMERICAN
 Rel.

MW-07-02 Grab Water Sample
 RFW W.O. #02687-007-002-0022-00
 Moss-American Superfund Site - Milwaukee, WI
 MW-07 SDG#: MOS03-18

AS RECEIVED

CAT	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
1861	PAH's in Water				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
 21:17:56 D 0003 8 128410 621065
 232 0.00 00015820 ASR000

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



Lancaster Laboratories
 A Division of Thermo Analytical Inc.
 1000 Lancaster Avenue
 West Chester, PA 19382

**LLI Sample No. WW 2954051**

Collected: 6/25/98 at 10:00 by EC

Submitted: 6/26/98 Reported: 7/16/98

Discard: 8/16/98

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

P.O. MOSS-AMERICAN
 Rel.

MW-07-02 Grab Water Sample
 RFW W.O. #02687-007-002-0022-00
 Moss-American Superfund Site - Milwaukee, WI
 MW-07 SDG#: MOS03-18

AS RECEIVED

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

PAH's in Water

3280	Naphthalene	22.3	J	7.7	ug/l
3281	Acenaphthylene	N.D.		7.7	ug/l
3282	Acenaphthene	29.2	J	7.7	ug/l
3283	Fluorene	3.8	J	1.6	ug/l
3284	Phenanthrene	25.2		0.44	ug/l
3285	Anthracene	5.2		0.30	ug/l
3286	Fluoranthene	45.2		0.19	ug/l
3287	Pyrene	59.1		1.7	ug/l
3288	Benzo(a)anthracene	21.2		0.17	ug/l
3289	Chrysene	40.4		0.57	ug/l
3290	Benzo(b)fluoranthene	18.6		0.34	ug/l
3291	Benzo(k)fluoranthene	11.1		0.26	ug/l
3292	Benzo(a)pyrene	30.5		0.21	ug/l
3293	Dibenzo(a,h)anthracene	4.2		0.45	ug/l
3294	Benzo(g,h,i)perylene	42.0		1.0	ug/l
3295	Indeno(1,2,3-cd)pyrene	17.2		0.61	ug/l

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

The % difference for the calibration verification standard fell outside the +/- 15% criteria for the compounds listed below. Since the average of the % difference values met the criteria, the results were reported.

The compounds are fluorene, chrysene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene.

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

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



Lancaster Laboratories
 3417 New Holland Pike
 Elizabethtown, PA 17022-0425



Page: 3 of 5

LLI Sample No. WW 2954051

Collected: 06/25/98 at 10:00 by EC

Submitted: 06/26/98

MW-07-02 Grab Water Sample
RFW W.O. #02687-007-002-0022-00
Moss-American Superfund Site - Milwaukee, WI
MW-07 SDG#: MOS03-18

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

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS ID	DATE AND TIME	ANALYST
1861	PAH's in Water	SW-846 8310	1		07/13/98 2234	Lori L. Conley-Shoemaker
3337	PAH Water Extraction	SW-846 3510C	1		06/29/98 0800	Joseph S. Feister



Lancaster Laboratories
A Division of Thermo Analytical Inc.
P.O. Box 12421
Milwaukee, WI 53242-12421

**LLI Sample No. 2954051**

MW-07-02 Grab Water Sample
RFW W.O. #02687-007-002-0022-00
Moss-American Superfund Site - Milwaukee, WI

Group No. 621065
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: 981770007B									
3280 Naphthalene											
7.7 ug/l		N.D.		97	87	11	64	71	10	37	120
3281 Acenaphthylene											
7.7 ug/l		N.D.		98	89	10	75	82	10	41	135
3282 Acenaphthene											
7.7 ug/l		N.D.		97	91	6	70	79	12	38	135
3283 Fluorene											
1.6 ug/l		N.D.		100	92	7	76	84	10	41	140
3284 Phenanthrene											
0.44 ug/l		N.D.		99	92	6	82	88	7	48	152
3285 Anthracene											
0.30 ug/l		N.D.		96	90	6	79	84	7	42	143
3286 Fluoranthene											
0.19 ug/l		N.D.		98	92	5	88	92	5	48	155
3287 Pyrene											
1.7 ug/l		N.D.		97	94	3	94	98	4	51	146
3288 Benzo(a)anthracene											
0.17 ug/l		N.D.		93	89	4	88	91	4	52	146
3289 Chrysene											
0.57 ug/l		N.D.		96	92	3	88	91	3	56	145
3290 Benzo(b)fluoranthene											
0.34 ug/l		N.D.		94	87	6	87	91	4	59	141
3291 Benzo(k)fluoranthene											
0.26 ug/l		N.D.		95	91	3	88	91	4	60	137
3292 Benzo(a)pyrene											
0.21 ug/l		N.D.		92	88	4	88	91	3	42	158
3293 Dibenz(a,h)anthracene											
0.45 ug/l		N.D.		93	93	1	89	92	4	49	142
3294 Benzo(g,h,i)perylene											
1.0 ug/l		N.D.		95	94	0	95	98	3	46	148
3295 Indeno(1,2,3-cd)pyrene											
0.61 ug/l		N.D.		98	96	2	134	139	4	64	134



Lancaster Laboratories
2000 University Park
P.O. Box 10421
West Chester, PA 19384-0421
(800) 424-4273

**LLI Sample No. 2954051**

MW-07-02 Grab Water Sample
RFW W.O. #02687-007-002-0022-00
Moss-American Superfund Site - Milwaukee, WI

Group No. 621065
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz Triphenyle	15 354	60 60	120 120



Lancaster Laboratories
2415 New Rd and Pkwy
Milwaukee, WI 53211-3242
(414) 767-3242



Page: 1 of 6

LLI Sample No. ww 2954052

Collected: 6/25/98 at 10:00 by EC

Submitted: 6/26/98 Reported: 7/16/98
Discard: 8/16/98MW-07-02 DUP Grab Water Sample
RFW W.O. #02687-007-002-0022-00
Moss-American Superfund Site - Milwaukee, WI
07DUP SDG#: MOS03-19

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
 21:18:57 D 0003 8 128410 621065
 232 0.00 00021753 ASR000

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



Lancaster Laboratories
440 New Hanover Pike
PO Box 10435
Lancaster PA 17603-9435



LLI Sample No. WW 2954052

Collected: 6/25/98 at 10:00 by EC

Submitted: 6/26/98 Reported: 7/16/98

Discard: 8/16/98

MW-07-02 DUP Grab Water Sample

RFW W.O. #02687-007-002-0022-00

Moss-American Superfund Site - Milwaukee, WI
07DUP SDG#: MOS03-19

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

P.O. MOSS-AMERICAN
Re1.

AS RECEIVED

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

PAH's in Water

3280	Naphthalene	16.1	J	7.7	ug/l
3281	Acenaphthylene	N.D.		7.7	ug/l
3282	Acenaphthene	24.4	J	7.7	ug/l
3283	Fluorene	3.6	J	1.6	ug/l
3284	Phenanthrene	27.6		0.44	ug/l
3285	Anthracene	7.7		0.30	ug/l
3286	Fluoranthene	59.0		0.19	ug/l
3287	Pyrene	75.7		1.7	ug/l
3288	Benzo(a)anthracene	25.6		0.17	ug/l
3289	Chrysene	34.1		0.57	ug/l
3290	Benzo(b)fluoranthene	20.2		0.34	ug/l
3291	Benzo(k)fluoranthene	11.6		0.26	ug/l
3292	Benzo(a)pyrene	25.3		0.21	ug/l
3293	Dibenzo(a,h)anthracene	2.3		0.45	ug/l
3294	Benzo(g,h,i)perylene	41.9		1.0	ug/l
3295	Indeno(1,2,3-cd)pyrene	15.0		0.62	ug/l

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

The % difference for the calibration verification standard fell outside the +/- 15% criteria for the compounds listed below. Since the average of the % difference values met the criteria, the results were reported.

The compounds are fluorene, chrysene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene.

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

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



Lancaster Laboratories
7425 New Holland Pike
PO Box 12421
Lancaster PA 17605-0421
717-656-2300

**LLI Sample No. WW 2954052**

Collected: 6/25/98 at 10:00 by EC

Submitted: 6/26/98 Reported: 7/16/98
Discard: 8/16/98

MW-07-02 DUP Grab Water Sample
 RFW W.O. #02687-007-002-0022-00
 Moss-American Superfund Site - Milwaukee, WI
 07DUP SDG#: MOS03-19

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

P.O. MOSS-AMERICAN
ReL.

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT UNITS
BTEX (8021)				
0776	Benzene	5.	0.2	ug/l
0777	Toluene	1.	0.2	ug/l
0778	Ethylbenzene	22.	0.2	ug/l
0779	Total Xylenes	68.	0.6	ug/l

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

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

Lancaster Laboratories
 1425 New Holland Pike
 P.O. Box 12425
 Lancaster, PA 17603-2425





Page: 4 of 6

LLI Sample No. WW 2954052

Collected: 06/25/98 at 10:00 by EC

Submitted: 06/26/98

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

MW-07-02 DUP Grab Water Sample
 RFW W.O. #02687-007-002-0022-00
 Moss-American Superfund Site - Milwaukee, WI
 07DUP SDG#: MOS03-19

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		
			TRIAL ID	DATE AND TIME	ANALYST
1861	PAH's in Water	SW-846 8310	1	07/13/98 2254	Lori L. Conley-Shoemaker
3337	PAH Water Extraction	SW-846 3510C	1	06/29/98 0800	Joseph S. Feister
8213	BTEX (8021)	SW-846 8021B	1	07/03/98 0119	Danerys Clark



Lancaster Laboratories
 2425 New Hol and Pike
 PO Box 12425
 Lancaster PA 17606-0425
 717-543-1100 Fax 717-543-1101

**LLI Sample No. 2954052**

MW-07-02 DUP Grab Water Sample
RFW W.O. #02687-007-002-0022-00
Moss-American Superfund Site - Milwaukee, WI

Group No. 621065
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: 981770007B									
3280	Naphthalene 7.7 ug/l	N.D.		97	87	11	64	71	10	37	120
3281	Acenaphthylene 7.7 ug/l	N.D.		98	89	10	75	82	10	41	135
3282	Acenaphthene 7.7 ug/l	N.D.		97	91	6	70	79	12	38	135
3283	Fluorene 1.6 ug/l	N.D.		100	92	7	76	84	10	41	140
3284	Phenanthrene 0.44 ug/l	N.D.		99	92	6	82	88	7	48	152
3285	Anthracene 0.30 ug/l	N.D.		96	90	6	79	84	7	42	143
3286	Fluoranthene 0.19 ug/l	N.D.		98	92	5	88	92	5	48	155
3287	Pyrene 1.7 ug/l	N.D.		97	94	3	94	98	4	51	146
3288	Benzo(a)anthracene 0.17 ug/l	N.D.		93	89	4	88	91	4	52	146
3289	Chrysene 0.57 ug/l	N.D.		96	92	3	88	91	3	56	145
3290	Benzo(b)fluoranthene 0.34 ug/l	N.D.		94	87	6	87	91	4	59	141
3291	Benzo(k)fluoranthene 0.26 ug/l	N.D.		95	91	3	88	91	4	60	137
3292	Benzo(a)pyrene 0.21 ug/l	N.D.		92	88	4	88	91	3	42	158
3293	Dibenzo(a,h)anthracene 0.45 ug/l	N.D.		93	93	1	89	92	4	49	142
3294	Benzo(g,h,i)perylene 1.0 ug/l	N.D.		95	94	0	95	98	3	46	148
3295	Indeno(1,2,3-cd)pyrene 0.62 ug/l	N.D.		98	96	2	134	139	4	64	134
8213 BTEX (8021)											
		Batch: 98182A65									
0776	Benzene 0.2 ug/l	N.D.		107	105	3	102			78	138
0777	Toluene 0.2 ug/l	N.D.		106	103	3	101			78	118
0778	Ethylbenzene 0.2 ug/l	N.D.		105	101	3	100			77	119
0779	Total Xylenes 0.6 ug/l	N.D.		107	104	2	103			76	116



Page: 6 of

LLI Sample No. 2954052

MW-07-02 DUP Grab Water Sample
RFW W.O. #02687-007-002-0022-00
Moss-American Superfund Site - Milwaukee, WI

Group No. 621065
Kerr-McGee Corporation

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz Triphenyle	15 300	60 60	120 120
8213 BTEX (8021)	TFT	107	70	130



Lancaster Laboratories,
2421 N.W. Howard Pike
P.O. Box 12425
Lancaster, PA 17605-0425



The logo for Lancaster Laboratories features a stylized black diamond shape on the left, followed by the company name "Lancaster Laboratories" in a bold, serif font. Below the main name, the text "A division of Thermo Analytical Inc." is written in a smaller, italicized, serif font.

Page: 1 of 6

LLI Sample No. WW 2954048

Collected: 6/25/98 at 08:10 by EC

Submitted: 6/26/98 Reported: 7/16/98
Discard: 8/16/98

TW-05-02 Grab Water Sample
RFW W.O. #02687-007-002-0022-00
Moss-American Superfund Site - Milwaukee, WI
TW-05 SDG#: MOS03-15

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

P.O. MOSS-AMERICAN
Rel.

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

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

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
21:14:01 D 0003 8 128410 621065
232 0.00 00021753 ASR000

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



Page: 2 of 6

LLI Sample No. WW 2954048

Collected: 6/25/98 at 08:10 by EC

Submitted: 6/26/98 Reported: 7/16/98

Discard: 8/16/98

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

P.O. MOSS-AMERICAN
 Rel.

TW-05-02 Grab Water Sample
 RFW W.O. #02687-007-002-0022-00
 Moss-American Superfund Site - Milwaukee, WI
 TW-05 SDG#: MOS03-15

AS RECEIVED

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

PAH's in Water

3280	Naphthalene	15.1	J	7.7	ug/l
3281	Acenaphthylene	24.1	J	7.7	ug/l
3282	Acenaphthene	150.		7.7	ug/l
3283	Fluorene	105.		1.6	ug/l
3284	Phenanthrene		N.D.	2.9	ug/l
3285	Anthracene	9.6		0.30	ug/l
3286	Fluoranthene	33.4		0.19	ug/l
3287	Pyrene	39.7		1.7	ug/l
3288	Benzo(a)anthracene	4.80		0.17	ug/l
3289	Chrysene	6.8		0.57	ug/l
3290	Benzo(b)fluoranthene	1.76		0.34	ug/l
3291	Benzo(k)fluoranthene	1.01		0.26	ug/l
3292	Benzo(a)pyrene	1.63		0.21	ug/l
3293	Dibenz(a,h)anthracene	0.52	J	0.45	ug/l
3294	Benzo(g,h,i)perylene		N.D.	1.0	ug/l
3295	Indeno(1,2,3-cd)pyrene		N.D.	2.9	ug/l

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

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



Lancaster Laboratories
 2425 New Holland Pike
 PO Box 12418
 Lancaster, PA 17606-0418
 (717) 656-2300



Lancaster Laboratories

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Page: 3 of 6

LLI Sample No. WW 2954048

Collected: 6/25/98 at 08:10 by EC

Submitted: 6/26/98 Reported: 7/16/98
Discard: 8/16/98

TW-05-02 Grab Water Sample
RFW W.O. #02687-007-002-0022-00
Moss-American Superfund Site - Milwaukee, WI
TW-05 SDG#: MOS03-15

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

P.O. MOSS-AMERICAN
ReL.

AS RECEIVED

CAT	NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
BTEX (8021)						
	0776	Benzene	N.D.	0.2	ug/1	
	0777	Toluene	N.D.	0.2	ug/1	
	0778	Ethylbenzene	N.D.	0.2	ug/1	
	0779	Total Xylenes	N.D.	0.6	ug/1	

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

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

Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster PA 17605-0425
Phone: 717-656-2300 Fax: 717-656-2301





Page: 4 of 6

LLI Sample No. WW 2954048

Collected: 06/25/98 at 08:10 by EC

Submitted: 06/26/98

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

TW-05-02 Grab Water Sample
 RFW W.O. #02687-007-002-0022-00
 Moss-American Superfund Site - Milwaukee, WI
 TW-05 SDG#: MOS03-15

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		
			TRIAL	ID	DATE AND TIME
1861	PAH's in Water	SW-846 8310	1		07/02/98 2121 Lori L. Conley-Shoemaker
3337	PAH Water Extraction	SW-846 3510C	1		06/29/98 0800 Joseph S. Feister
8213	BTEX (8021)	SW-846 8021B	1		07/03/98 0015 Danerys Clark



Lancaster Laboratories
 2425 New Holland Pike
 PO Box 12425
 Lancaster PA 17603-0425
 (717) 543-12425
 FAX: (717) 543-12426

**LLI Sample No. 2954048**

TW-05-02 Grab Water Sample
RFW W.O. #02687-007-002-0022-00
Moss-American Superfund Site - Milwaukee, WI

Group No. 621065
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: 981770007B									
3280 Naphthalene	7.7 ug/l	N.D.		97	87	11	64	71	10	37	120
3281 Acenaphthylene	7.7 ug/l	N.D.		98	89	10	75	82	10	41	135
3282 Acenaphthene	7.7 ug/l	N.D.		97	91	6	70	79	12	38	135
3283 Fluorene	1.6 ug/l	N.D.		100	92	7	76	84	10	41	140
3284 Phenanthrene	2.9 ug/l	N.D.		99	92	6	82	88	7	48	152
3285 Anthracene	0.30 ug/l	N.D.		96	90	6	79	84	7	42	143
3286 Fluoranthene	0.19 ug/l	N.D.		98	92	5	88	92	5	48	155
3287 Pyrene	1.7 ug/l	N.D.		97	94	3	94	98	4	51	146
3288 Benzo(a)anthracene	0.17 ug/l	N.D.		93	89	4	88	91	4	52	146
3289 Chrysene	0.57 ug/l	N.D.		96	92	3	88	91	3	56	145
3290 Benzo(b)fluoranthene	0.34 ug/l	N.D.		94	87	6	87	91	4	59	141
3291 Benzo(k)fluoranthene	0.26 ug/l	N.D.		95	91	3	88	91	4	60	137
3292 Benzo(a)pyrene	0.21 ug/l	N.D.		92	88	4	88	91	3	42	158
3293 Dibenz(a,h)anthracene	0.45 ug/l	N.D.		93	93	1	89	92	4	49	142
3294 Benzo(g,h,i)perylene	1.0 ug/l	N.D.		95	94	0	95	98	3	46	148
3295 Indeno(1,2,3-cd)pyrene	2.9 ug/l	N.D.		98	96	2	134	139	4	64	134
8213 BTEX (8021)		Batch: 98182A65									
0776 Benzene	0.2 ug/l	N.D.		107	105	3	102			78	138
0777 Toluene	0.2 ug/l	N.D.		106	103	3	101			78	118
0778 Ethylbenzene	0.2 ug/l	N.D.		105	101	3	100			77	119
0779 Total Xylenes	0.6 ug/l	N.D.		107	104	2	103			76	116



Page: 6 of

LLI Sample No. 2954048

TW-05-02 Grab Water Sample
RFW W.O. #02687-007-002-0022-00
Moss-American Superfund Site - Milwaukee, WI

Group No. 621065
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz Triphenyle	97 269	60 60	120 120
8213 BTEX (8021)	TFT	105	70	130



Lancaster Laboratories,
2425 New Franklin
Road • 12425
Phone: 423-1767 • 2437

**LLI Sample No. WW 2954050**

Collected: 6/25/98 at 09:15 by EC

Submitted: 6/26/98 Reported: 7/16/98
Discard: 8/16/98Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125P.O. MOSS-AMERICAN
ReL.TW-09-02 Grab Water Sample
RFW W.O. #02687-007-002-0022-00
Moss-American Superfund Site - Milwaukee, WI
TW-09 SDG#: MOS03-17

AS RECEIVED

CAT	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
21:16:43 D 0003 8 128410 621065
232 0.00 00021753 ASR000

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



Lancaster Laboratories
2425 New Holland Pike
P.O. Box 12405
Lancaster, PA 17605-2405
Phone: 717-594-17605-2405
Fax: 717-594-17605-2406

**LLI Sample No. WW 2954050**

Collected: 6/25/98 at 09:15 by EC

Submitted: 6/26/98 Reported: 7/16/98

Discard: 8/16/98

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

P.O. MOSS-AMERICAN
Rel.

TW-09-02 Grab Water Sample
 RFW W.O. #02687-007-002-0022-00
 Moss-American Superfund Site - Milwaukee, WI
 TW-09 SDG#: MOS03-17

AS RECEIVED

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

PAH's in Water

3280	Naphthalene	11,800.		200.	ug/l
3281	Acenaphthylene	1,470.	J	200.	ug/l
3282	Acenaphthene	5,000.		200.	ug/l
3283	Fluorene	3,590.		43.	ug/l
3284	Phenanthrene	8,630.		120.	ug/l
3285	Anthracene		N.D.	7.8	ug/l
3286	Fluoranthene	3,700.		50.	ug/l
3287	Pyrene	4,520.		45.	ug/l
3288	Benzo(a)anthracene	609.		4.5	ug/l
3289	Chrysene	647.		15.	ug/l
3290	Benzo(b)fluoranthene	66.		8.8	ug/l
3291	Benzo(k)fluoranthene	99.		6.8	ug/l
3292	Benzo(a)pyrene	226.		5.5	ug/l
3293	Dibenzo(a,h)anthracene	164.		12.	ug/l
3294	Benzo(g,h,i)perylene	1,220.		25.	ug/l
3295	Indeno(1,2,3-cd)pyrene	776.		16.	ug/l

The % difference for the calibration verification standard fell outside the +/- 15% criteria for the compounds listed below. Since the average of the % difference values met the criteria, the results were reported.

The compounds are acenaphthylene, chrysene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, inden(1,2,3-cd)pyrene, and fluoranthene.

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

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



Lancaster Laboratories
 2425 West Hanover Street
 P.O. Box 12425
 Lancaster PA 17605-2425



LLI Sample No. WW 2954050

Collected: 6/25/98 at 09:15 by EC

Submitted: 6/26/98 Reported: 7/16/98

Discard: 8/16/98

TW-09-02 Grab Water Sample
RFW W.O. #02687-007-002-0022-00
Moss-American Superfund Site - Milwaukee, WI
TW-09 SDG#: MOS03-17

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

P.O. MOSS-AMERICAN
Ref.

AS RECEIVED

CAT	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
BTEX (8021)					
0776	Benzene	0.5	J	0.2	ug/l
0777	Toluene	3.		0.2	ug/l
0778	Ethylbenzene	9.		0.2	ug/l
0779	Total Xylenes	28.		0.6	ug/l

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

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

Lancaster Laboratories

1420 New Holland Pike

P.O. Box 12420

Lancaster, PA 17605-0420





Page: 4 of 6

LLI Sample No. WW 2954050

Collected: 06/25/98 at 09:15 by EC

Submitted: 06/26/98

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

TW-09-02 Grab Water Sample
RFW W.O. #02687-007-002-0022-00
Moss-American Superfund Site - Milwaukee, WI
TW-09 SDG#: MOS03-17

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS		ANALYST
				ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	07/13/98 2214	Lori L. Conley-Shoemaker	
3337	PAH Water Extraction	SW-846 3510C	1	06/29/98 0800	Joseph S. Feister	
8213	BTEX (8021)	SW-846 8021B	1	07/03/98 0304	Danerys Clark	



Lancaster Laboratories
1425 New Holland Pike
PO Box 12421
Anchorage, AK 99508-2421



Lancaster Laboratories
A division of Thermo Analytical Inc.

LLI Sample No. 2954050

TW-09-02 Grab Water Sample
RFW W.O. #02687-007-002-0022-00
Moss-American Superfund Site - Milwaukee, WI

Group No. 621065
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: 981770007B											
3280 Naphthalene		N.D.		97	87	11	64	71	10	37	120
200. ug/l											
3281 Acenaphthylene		N.D.		98	89	10	75	82	10	41	135
200. ug/l											
3282 Acenaphthene		N.D.		97	91	6	70	79	12	38	135
200. ug/l											
3283 Fluorene		N.D.		100	92	7	76	84	10	41	140
43. ug/l											
3284 Phenanthrene		N.D.		99	92	6	82	88	7	48	152
120. ug/l											
3285 Anthracene		N.D.		96	90	6	79	84	7	42	143
7.8 ug/l											
3286 Fluoranthene		N.D.		98	92	5	88	92	5	48	155
50. ug/l											
3287 Pyrene		N.D.		97	94	3	94	98	4	51	146
45. ug/l											
3288 Benzo(a)anthracene		N.D.		93	89	4	88	91	4	52	146
4.5 ug/l											
3289 Chrysene		N.D.		96	92	3	88	91	3	56	145
15. ug/l											
3290 Benzo(b)fluoranthene		N.D.		94	87	6	87	91	4	59	141
8.8 ug/l											
3291 Benzo(k)fluoranthene		N.D.		95	91	3	88	91	4	60	137
6.8 ug/l											
3292 Benzo(a)pyrene		N.D.		92	88	4	88	91	3	42	158
5.5 ug/l											
3293 Dibenzo(a,h)anthracene		N.D.		93	93	1	89	92	4	49	142
12. ug/l											
3294 Benzo(g,h,i)perylene		N.D.		95	94	0	95	98	3	46	148
25. ug/l											
3295 Indeno(1,2,3-cd)pyrene		N.D.		98	96	2	134	139	4	64	134
16. ug/l											
8213 BTEX (8021) Batch: 98182A65											
0776 Benzene		N.D.		107	105	3	102			78	138
0.2 ug/l											
0777 Toluene		N.D.		106	103	3	101			78	118
0.2 ug/l											
0778 Ethylbenzene		N.D.		105	101	3	100			77	119
0.2 ug/l											
0779 Total Xylenes		N.D.		107	104	2	103			76	116
0.6 ug/l											



AOAC Member Laboratory
4231 University Park
P.O. Box 1220
Gaithersburg, MD 20878-1220



Page: 6 of

LLI Sample No. 2954050

TW-09-02 Grab Water Sample
RFW W.O. #02687-007-002-0022-00
Moss-American Superfund Site - Milwaukee, WI

Group No. 621065
Kerr-McGee Corporation

SURROGATE SUMMARY			SURROGATE LIMITS	
TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water	Nitrobenz Triphenyle	69 (5)	60 60	120 120
8213 BTEX (8021)	TFT	106	70	130

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



Lancaster Laboratories
1425 New Holland Pike
PO Box 12421
Lancaster, PA 17604-2421

**LLI Sample No. WW 2953047**

Collected: 6/24/98 at 16:15 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-9S-02 Grab Water Sample

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

P.O. MOSS-AMERICAN
 Rel.

Moss-American Superfund Site - Milwaukee, WI
 M9-S SDG#: MOS03-09

AS RECEIVED

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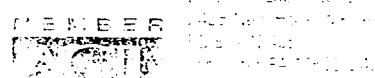
1861	PAH's in Water		See Page	2
8213	BTEX (8021)		See Page	3

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

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

Questions? Contact your Client Services Representative
 Kay G. Hower at (717) 656-2300
 20:51:14 D 0003 16 128410 620823
 320 0.00 00021753 ASR000

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





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A division of Thermo Analytical Inc.

Page: 2 of 6

LLI Sample No. WW 2953047

Collected: 6/24/98 at 16:15 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-9S-02 Grab Water Sample

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

P.O. MOSS-AMERICAN
Rel.

Moss-American Superfund Site - Milwaukee, WI
M9--S SDG#: MOS03-09

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

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

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

**LLI Sample No. WW 2953047**

Collected: 6/24/98 at 16:15 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-9S-02 Grab Water Sample

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

P.O. MOSS-AMERICAN
Rel.Moss-American Superfund Site - Milwaukee, WI
M9-S SDG#: MOS03-09

AS RECEIVED

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

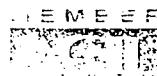
BTEX (8021)

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

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





Page: 4 of 6

LLI Sample No. WW 2953047

Collected: 06/24/98 at 16:15 by JA

Submitted: 06/25/98

MW-9S-02 Grab Water Sample

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

Moss-American Superfund Site - Milwaukee, WI
M9--S SDG#: MOS03-09

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		
			TRIAL	ID	DATE AND TIME
1861	PAH's in Water	SW-846 8310	1	07/01/98 1657	Lori L. Conley-Shoemaker
3337	PAH Water Extraction	SW-846 3510C	1	06/27/98 1230	Deborah M. Zimmerman
8213	BTEX (8021)	SW-846 8021B	1	06/27/98 0118	Danerys Clark

RECEIVED
Lancaster Laboratories
Milwaukee, WI
06/25/98

**LLI Sample No. 2953047**

MW-9S-02 Grab Water Sample

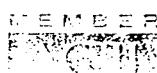
Moss-American Superfund Site - Milwaukee, WI

 Group No. 620823
 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: 981770007A								
3280 Naphthalene 0.77 ug/l		N.D.		97	87	11	80		37	120
3281 Acenaphthylene 0.77 ug/l		N.D.		98	89	10	83		41	135
3282 Acenaphthene 0.77 ug/l		3.4 J ug/l		97	91	6	90		38	135
3283 Fluorene 0.16 ug/l		N.D.		100	92	7	88		41	140
3284 Phenanthrene 0.044 ug/l		N.D.		99	92	6	89		48	152
3285 Anthracene 0.030 ug/l		N.D.		96	90	6	88		42	143
3286 Fluoranthene 0.019 ug/l		N.D.		98	92	5	89		48	155
3287 Pyrene 0.17 ug/l		N.D.		97	94	3	92		51	146
3288 Benzo(a)anthracene 0.017 ug/l		N.D.		93	89	4	88		52	146
3289 Chrysene 0.057 ug/l		N.D.		96	92	3	87		56	145
3290 Benzo(b)fluoranthene 0.034 ug/l		N.D.		94	87	6	91		59	141
3291 Benzo(k)fluoranthene 0.026 ug/l		N.D.		95	91	3	91		60	137
3292 Benzo(a)pyrene 0.021 ug/l		N.D.		92	88	4	90		42	158
3293 Dibenz(a,h)anthracene 0.045 ug/l		N.D.		93	93	1	92		49	142
3294 Benzo(g,h,i)perylene 0.095 ug/l		N.D.		95	94	0	93		46	148
3295 Indeno(1,2,3-cd)pyrene 0.062 ug/l		N.D.		98	96	2	96		64	134

8213 BTEX (8021)		Batch: 98177A65								
0776 Benzene 0.2 ug/l		N.D.		104	102	2	107		78	138
0777 Toluene 0.2 ug/l		N.D.		99	100	0	106		78	118
0778 Ethylbenzene 0.2 ug/l		N.D.		94	94	0	105		77	119
0779 Total Xylenes 0.6 ug/l		N.D.		97	97	0	108		76	116



**LLI Sample No. 2953047**

MW-9S-02 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
Kerr-McGee Corporation

SURROGATE SUMMARY			SURROGATE LIMITS	
TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water	Nitrobenz Triphenyle	84 87	60 60	120 120
8213 BTEX (8021)	TFT	108	70	130



Lancaster Laboratories

A division of Thermo Analytical Inc.

Page: 1 of 6

LLI Sample No. WW 2953046

Collected: 6/24/98 at 15:35 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-10S-02 Grab Water Sample

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

P.O. MOSS-AMERICAN
Rel.

Moss-American Superfund Site - Milwaukee, WI
M10-S SDG#: MOS03-08

AS RECEIVED

METHOD

RESULTS DETECTION LIMIT UNITS

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

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

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

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
20:50:30 D 0003 16 128410 620823
320 0.00 00021753 ASR000

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

MEMBER
ANALYTICAL CHEMISTS INTERNATIONAL



LLI Sample No. WW 2953046

Collected: 6/24/98 at 15:35 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-10S-02 Grab Water Sample

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

P.O. MOSS-AMERICAN
Rel.

Moss-American Superfund Site - Milwaukee, WI
M10-S SDG#: MOS03-08

AS RECEIVED

METHOD

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.	0.059	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.035	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.027	ug/l
3292	Benzo(a)pyrene	N.D.	0.022	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.047	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.098	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.063	ug/l

RESULTS

DETECTION LIMIT UNITS

PAH's in Water

3280	Naphthalene	N.D.	0.79	ug/l
3281	Acenaphthylene	N.D.	0.79	ug/l
3282	Acenaphthene	N.D.	0.79	ug/l
3283	Fluorene	N.D.	0.17	ug/l
3284	Phenanthrene	N.D.	0.046	ug/l
3285	Anthracene	N.D.	0.031	ug/l
3286	Fluoranthene	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.	0.098	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

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

MEMBER
Environmental Monitoring
and Laboratory Association

**LLI Sample No. WW 2953046**

Collected: 6/24/98 at 15:35 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-10S-02 Grab Water Sample

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

P.O. MOSS-AMERICAN
 Rel.

Moss-American Superfund Site - Milwaukee, WI
 M10-S SDG#: MOS03-08

AS RECEIVED

METHOD

RESULTS DETECTION LIMIT UNITS

CAT
 NO. ANALYSIS NAME

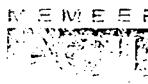
BTEX (8021)

0776	Benzene	N.D.	0.2	ug/l
0777	Toluene	6.	0.2	ug/l
0778	Ethylbenzene	N.D.	0.2	ug/l
0779	Total Xylenes	N.D.	0.6	ug/l

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

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

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

MEET




LLI Sample No. WW 2953046

Collected: 06/24/98 at 15:35 by JA

Submitted: 06/25/98

MW-10S-02 Grab Water Sample

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

Moss-American Superfund Site - Milwaukee, WI
M10-S SDG#: MOS03-08

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		
			TRIAL	ID	DATE AND TIME
1861	PAH's in Water	SW-846 8310	1	07/01/98 1636	Lori L. Conley-Shoemaker
3337	PAH Water Extraction	SW-846 3510C	1	06/27/98 1230	Deborah M. Zimmerman
8213	BTEX (8021)	SW-846 8021B	1	06/27/98 0045	Danerys Clark

**LLI Sample No. 2953046**

MW-10S-02 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LIMITS HIGH
1861 PAH's in Water		Batch: 981770007A								
3280 Naphthalene	0.79 ug/l	N.D.		97	87	11	80		37	120
3281 Acenaphthylene	0.79 ug/l	N.D.		98	89	10	83		41	135
3282 Acenaphthene	0.79 ug/l	3.4 J ug/l		97	91	6	90		38	135
3283 Fluorene	0.17 ug/l	N.D.		100	92	7	88		41	140
3284 Phenanthrene	0.046 ug/l	N.D.		99	92	6	89		48	152
3285 Anthracene	0.031 ug/l	N.D.		96	90	6	88		42	143
3286 Fluoranthene	0.020 ug/l	N.D.		98	92	5	89		48	155
3287 Pyrene	0.18 ug/l	N.D.		97	94	3	92		51	146
3288 Benzo(a)anthracene	0.018 ug/l	N.D.		93	89	4	88		52	146
3289 Chrysene	0.059 ug/l	N.D.		96	92	3	87		56	145
3290 Benzo(b)fluoranthene	0.035 ug/l	N.D.		94	87	6	91		59	141
3291 Benzo(k)fluoranthene	0.027 ug/l	N.D.		95	91	3	91		60	137
3292 Benzo(a)pyrene	0.022 ug/l	N.D.		92	88	4	90		42	158
3293 Dibenz(a,h)anthracene	0.047 ug/l	N.D.		93	93	1	92		49	142
3294 Benzo(g,h,i)perylene	0.098 ug/l	N.D.		95	94	0	93		46	148
3295 Indeno(1,2,3-cd)pyrene	0.063 ug/l	N.D.		98	96	2	96		64	134
8213 BTEX (8021)		Batch: 98177A65								
0776 Benzene	0.2 ug/l	N.D.		104	102	2	107		78	138
0777 Toluene	0.2 ug/l	N.D.		99	100	0	106		78	118
0778 Ethylbenzene	0.2 ug/l	N.D.		94	94	0	105		77	119
0779 Total Xylenes	0.6 ug/l	N.D.		97	97	0	108		76	116

R E M M E R
L A N C A S T E R
L A B O R A T O R I E S



Page: 6 of

LLI Sample No. 2953046

MW-10S-02 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	91	60	120
	Triphenyle	83	60	120
8213 BTEX (8021)	TFT	110	70	130



LLI Sample No. WW 2953044

Collected: 6/24/98 at 12:45 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-13S-02 Grab Water Sample

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

P.O. MOSS-AMERICAN
Rel.

Moss-American Superfund Site - Milwaukee, WI
M13-S SDG#: MOS03-06

AS RECEIVED

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
20:49:08 D 0003 16 128410 620823
320 0.00 00021753 ASR000

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

MEMBER
APGC



LLI Sample No. WW 2953044

Collected: 6/24/98 at 12:45 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-13S-02 Grab Water Sample

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

P.O. MOSS-AMERICAN
Rel.

Moss-American Superfund Site - Milwaukee, WI
M13-S SDG#: MOS03-06

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	N.D.	0.77	ug/l
3282	Acenaphthene	N.D.	0.77	ug/l
3283	Fluorene	N.D.	0.16	ug/l
3284	Phenanthrene	0.084	J 0.044	ug/l
3285	Anthracene	N.D.	0.030	ug/l
3286	Fluoranthene	0.138	J 0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	0.063	J 0.017	ug/l
3289	Chrysene	0.097	J 0.057	ug/l
3290	Benzo(b)fluoranthene	0.076	0.034	ug/l
3291	Benzo(k)fluoranthene	0.035	J 0.026	ug/l
3292	Benzo(a)pyrene	0.072	J 0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.095	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.061	ug/l

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

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

THE MERRILL CO.
ANALYTICAL LABORATORY
1000 N. 10th Street, Suite 100
Milwaukee, WI 53202-3100
(414) 273-1111



Lancaster Laboratories
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Page: 3 of 6

LLI Sample No. WW 2953044

Collected: 6/24/98 at 12:45 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-13S-02 Grab Water Sample

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

P.O. MOSS-AMERICAN
ReL.

Moss-American Superfund Site - Milwaukee, WI
M13-S SDG#: MOS03-06

AS RECEIVED

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

BTEX (8021)

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

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

MEMBER
American Society for Testing and Materials
ASTM International
West Conshohocken, PA 19428-2959



Page: 4 of 6

LLI Sample No. WW 2953044

Collected: 06/24/98 at 12:45 by JA

Submitted: 06/25/98

MW-13S-02 Grab Water Sample

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

Moss-American Superfund Site - Milwaukee, WI
M13-S SDG#: MOS03-06

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		
			TRIAL	ID	DATE AND TIME
1861	PAH's in Water	SW-846 8310	1	07/01/98 1615	Lori L. Conley-Shoemaker
3337	PAH Water Extraction	SW-846 3510C	1	06/27/98 1230	Deborah M. Zimmerman
8213	BTEX (8021)	SW-846 8021B	1	06/26/98 1545	Danerys Clark



LLI Sample No. 2953044

MW-13S-02 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
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: 981770007A									
3280	Naphthalene 0.77 ug/l	N.D.		97	87	11	80			37	120
3281	Acenaphthylene 0.77 ug/l	N.D.		98	89	10	83			41	135
3282	Acenaphthene 0.77 ug/l	3.4 J ug/l		97	91	6	90			38	135
3283	Fluorene 0.16 ug/l	N.D.		100	92	7	88			41	140
3284	Phenanthrene 0.044 ug/l	N.D.		99	92	6	89			48	152
3285	Anthracene 0.030 ug/l	N.D.		96	90	6	88			42	143
3286	Fluoranthene 0.019 ug/l	N.D.		98	92	5	89			48	155
3287	Pyrene 0.17 ug/l	N.D.		97	94	3	92			51	146
3288	Benzo(a)anthracene 0.017 ug/l	N.D.		93	89	4	88			52	146
3289	Chrysene 0.057 ug/l	N.D.		96	92	3	87			56	145
3290	Benzo(b)fluoranthene 0.034 ug/l	N.D.		94	87	6	91			59	141
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.		95	91	3	91			60	137
3292	Benzo(a)pyrene 0.021 ug/l	N.D.		92	88	4	90			42	158
3293	Dibenz(a,h)anthracene 0.045 ug/l	N.D.		93	93	1	92			49	142
3294	Benzo(g,h,i)perylene 0.095 ug/l	N.D.		95	94	0	93			46	148
3295	Indeno(1,2,3-cd)pyrene 0.061 ug/l	N.D.		98	96	2	96			64	134
8213 BTEX (8021)		Batch: 98176A65									
0776	Benzene 0.2 ug/l	N.D.		101	105	4	111			78	138
0777	Toluene 0.2 ug/l	N.D.		103	104	1	108			78	118
0778	Ethylbenzene 0.2 ug/l	N.D.		101	101	0	106			77	119
0779	Total Xylenes 0.6 ug/l	N.D.		104	104	0	109			76	116



Page: 6 of

LLI Sample No. 2953044

MW-13S-02 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	82	60	120
	Triphenyle	86	60	120
8213 BTEX (8021)	TFT	109	70	130

**LLI Sample No. WW 2954053**

Collected: 6/25/98 at 11:00 by EC

Submitted: 6/26/98 Reported: 7/16/98
Discard: 8/16/98MW-20S-02 Grab Water Sample
RFW W.O. #02687-007-002-0022-00
Moss-American Superfund Site - Milwaukee, WI
MW20S SDG#: MOS03-20

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

P.O. MOSS-AMERICAN
ReL.

AS RECEIVED

CAT	NO.	ANALYSIS NAME	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
 21:20:13 D 0003 8 128410 621065
 232 0.00 00021753 ASR000

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



Lancaster Laboratories
 1429 New Holland Pike
 P.O. Box 12425
 Lancaster, PA 17606-9425
 (717) 656-2300/(717) 656-2301

**LLI Sample No. WW 2954053**

Collected: 6/25/98 at 11:00 by EC

Submitted: 6/26/98 Reported: 7/16/98
Discard: 8/16/98MW-20S-02 Grab Water Sample
RFW W.O. #02687-007-002-0022-00
Moss-American Superfund Site - Milwaukee, WI
MW20S SDG#: MOS03-20

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

P.O. MOSS-AMERICAN
Re1.

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

PAH's in Water

3280	Naphthalene	37.7	0.76	ug/l
3281	Acenaphthylene	1.19	J	ug/l
3282	Acenaphthene	N.D.	0.76	ug/l
3283	Fluorene	N.D.	0.16	ug/l
3284	Phenanthrene	N.D.	0.044	ug/l
3285	Anthracene	N.D.	0.030	ug/l
3286	Fluoranthene	N.D.	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	N.D.	0.056	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.033	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.021	ug/l
3293	Dibenz(a,h)anthracene	N.D.	0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.095	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.061	ug/l

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

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



Lancaster Laboratories
 2429 New Holland Pike
 PO Box 12413
 Lancaster PA 17606-2413
 717-599-1260/1262/1263

**LLI Sample No. WW 2954053**

Collected: 6/25/98 at 11:00 by EC

Submitted: 6/26/98 Reported: 7/16/98

Discard: 8/16/98

MW-20S-02 Grab Water Sample
 RFW W.O. #02687-007-002-0022-00
 Moss-American Superfund Site - Milwaukee, WI
 MW20S SDG#: MOS03-20

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

P.O. MOSS-AMERICAN
 Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD		DETECTION LIMIT UNITS
			DET	LIM	
BTEX (8021)					
0776	Benzene	N.D.		0.2	ug/l
0777	Toluene	0.3	J	0.2	ug/l
0778	Ethylbenzene	0.4	J	0.2	ug/l
0779	Total Xylenes	1.3	J	0.6	ug/l

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

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

Lancaster Laboratories,
 2419 New Holland Ave
 Lititz, PA 17543
 Tel: (717) 656-2300





Page: 4 of 6

LII Sample No. WW 2954053

Collected: 06/25/98 at 11:00 by EC

Submitted: 06/26/98

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

MW-20S-02 Grab Water Sample
 RFW W.O. #02687-007-002-0022-00
 Moss-American Superfund Site - Milwaukee, WI
 MW20S SDG#: MOS03-20

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		
			TRIAL	ID	DATE AND TIME
1861	PAH's in Water	SW-846 8310	1	06/30/98 2043	Lori L. Conley-Shoemaker
3337	PAH Water Extraction	SW-846 3510C	1	06/29/98 0800	Joseph S. Feister
8213	BTEX (8021)	SW-846 8021B	1	07/03/98 0047	Danerys Clark



Lancaster Laboratories
 2421 N. 4th St.
 PO Box 17421
 Milwaukee, WI 53217-0421
 (414) 765-1400

**LLI Sample No. 2954053**

MW-20S-02 Grab Water Sample
RFW W.O. #02687-007-002-0022-00
Moss-American Superfund Site - Milwaukee, WI

Group No. 621065
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: 981770007B									
3280	Naphthalene 0.76 ug/l	N.D.		97	87	11	64	71	10	37	120
3281	Acenaphthylene 0.76 ug/l	N.D.		98	89	10	75	82	10	41	135
3282	Acenaphthene 0.76 ug/l	N.D.		97	91	6	70	79	12	38	135
3283	Fluorene 0.16 ug/l	N.D.		100	92	7	76	84	10	41	140
3284	Phenanthrene 0.044 ug/l	N.D.		99	92	6	82	88	7	48	152
3285	Anthracene 0.030 ug/l	N.D.		96	90	6	79	84	7	42	143
3286	Fluoranthene 0.019 ug/l	N.D.		98	92	5	88	92	5	48	155
3287	Pyrene 0.17 ug/l	N.D.		97	94	3	94	98	4	51	146
3288	Benzo(a)anthracene 0.017 ug/l	N.D.		93	89	4	88	91	4	52	146
3289	Chrysene 0.056 ug/l	N.D.		96	92	3	88	91	3	56	145
3290	Benzo(b)fluoranthene 0.033 ug/l	N.D.		94	87	6	87	91	4	59	141
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.		95	91	3	88	91	4	60	137
3292	Benzo(a)pyrene 0.021 ug/l	N.D.		92	88	4	88	91	3	42	158
3293	Dibenzo(a,h)anthracene 0.045 ug/l	N.D.		93	93	1	89	92	4	49	142
3294	Benzo(g,h,i)perylene 0.095 ug/l	N.D.		95	94	0	95	98	3	46	148
3295	Indeno(1,2,3-cd)pyrene 0.061 ug/l	N.D.		98	96	2	134	139	4	64	134
8213 BTEX (8021)											
		Batch: 98182A65									
0776	Benzene 0.2 ug/l	N.D.		107	105	3	102			78	138
0777	Toluene 0.2 ug/l	N.D.		106	103	3	101			78	118
0778	Ethylbenzene 0.2 ug/l	N.D.		105	101	3	100			77	119
0779	Total Xylenes 0.6 ug/l	N.D.		107	104	2	103			76	116



Lancaster Laboratories
1405 Newland Avenue
P.O. Box 1423
West Chester, PA 19381-1423



Lancaster Laboratories
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Page: 6 of

LLI Sample No. 2954053

MW-20S-02 Grab Water Sample
RFW W.O. #02687-007-002-0022-00
Moss-American Superfund Site - Milwaukee, WI

Group No. 621065
Kerr-McGee Corporation

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz Triphenyle	68 75	60 60	120 120
8213 BTEX (8021)	TFT	107	70	130



Lancaster Laboratories

A division of Thermo Analytical Inc.

Analysis Rep
Page: 1 of 6

LLI Sample No. WW 2953043

Collected: 6/24/98 at 12:00 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-25S-02 Grab Water Sample

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

P.O. MOSS-AMERICAN
Rel.

Moss-American Superfund Site - Milwaukee, WI
M250S SDG#: MOS03-05

AS RECEIVED

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

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

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

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

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
20:48:12 D 0003 16 128410 620823
320 0.00 00021753 ASR000

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

MEMBER ANALYSTS ASSOCIATION

**LLI Sample No. WW 2953043**

Collected: 6/24/98 at 12:00 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-25S-02 Grab Water Sample

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

P.O. MOSS-AMERICAN
 Rel.

Moss-American Superfund Site - Milwaukee, WI
 M250S SDG#: MOS03-05

AS RECEIVED

METHOD

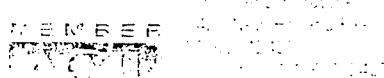
RESULTS DETECTION LIMIT UNITS

PAH's in Water

3280	Naphthalene	N.D.	0.77	ug/l
3281	Acenaphthylene	N.D.	0.77	ug/l
3282	Acenaphthene	N.D.	0.77	ug/l
3283	Fluorene	N.D.	0.16	ug/l
3284	Phenanthrene	N.D.	0.044	ug/l
3285	Anthracene	N.D.	0.030	ug/l
3286	Fluoranthene	N.D.	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benz(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	N.D.	0.057	ug/l
3290	Benz(b)fluoranthene	N.D.	0.034	ug/l
3291	Benz(k)fluoranthene	N.D.	0.026	ug/l
3292	Benz(a)pyrene	N.D.	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.045	ug/l
3294	Benz(g,h,i)perylene	N.D.	0.095	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.062	ug/l

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

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





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Page: 3 of 6

LLI Sample No. WW 2953043

Collected: 6/24/98 at 12:00 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-25S-02 Grab Water Sample

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

P.O. MOSS-AMERICAN
ReL.

Moss-American Superfund Site - Milwaukee, WI
M250S SDG#: MOS03-05

AS RECEIVED

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

BTEX (8021)

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

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

1. M. B. E. F.
2. S. J. T.



Page: 4 of 6

LLI Sample No. WW 2953043

Collected: 06/24/98 at 12:00 by JA

Submitted: 06/25/98

MW-25S-02 Grab Water Sample

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

Moss-American Superfund Site - Milwaukee, WI
M250S SDG#: MOS03-05

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		
			TRIAL	ID	DATE AND TIME
1861	PAH's in Water	SW-846 8310	1	07/01/98 1554	Lori L. Conley-Shoemaker
3337	PAH Water Extraction	SW-846 3510C	1	06/27/98 1230	Deborah M. Zimmerman
8213	BTEX (8021)	SW-846 8021B	1	06/26/98 1513	Danerys Clark



LLI Sample No. 2953043

MW-25S-02 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LIMITS HIGH
1861 PAH's in Water										
		Batch: 981770007A								
3280	Naphthalene 0.77 ug/l	N.D.		97	87	11	80		37	120
3281	Acenaphthylene 0.77 ug/l	N.D.		98	89	10	83		41	135
3282	Acenaphthene 0.77 ug/l	3.4 J ug/l		97	91	6	90		38	135
3283	Fluorene 0.16 ug/l	N.D.		100	92	7	88		41	140
3284	Phenanthrene 0.044 ug/l	N.D.		99	92	6	89		48	152
3285	Anthracene 0.030 ug/l	N.D.		96	90	6	88		42	143
3286	Fluoranthene 0.019 ug/l	N.D.		98	92	5	89		48	155
3287	Pyrene 0.17 ug/l	N.D.		97	94	3	92		51	146
3288	Benzo(a)anthracene 0.017 ug/l	N.D.		93	89	4	88		52	146
3289	Chrysene 0.057 ug/l	N.D.		96	92	3	87		56	145
3290	Benzo(b)fluoranthene 0.034 ug/l	N.D.		94	87	6	91		59	141
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.		95	91	3	91		60	137
3292	Benzo(a)pyrene 0.021 ug/l	N.D.		92	88	4	90		42	158
3293	Dibenzo(a,h)anthracene 0.045 ug/l	N.D.		93	93	1	92		49	142
3294	Benzo(g,h,i)perylene 0.095 ug/l	N.D.		95	94	0	93		46	148
3295	Indeno(1,2,3-cd)pyrene 0.062 ug/l	N.D.		98	96	2	96		64	134
8213 BTEX (8021)										
		Batch: 98176A65								
0776	Benzene 0.2 ug/l	N.D.		101	105	4	111		78	138
0777	Toluene 0.2 ug/l	N.D.		103	104	1	108		78	118
0778	Ethylbenzene 0.2 ug/l	N.D.		101	101	0	106		77	119
0779	Total Xylenes 0.6 ug/l	N.D.		104	104	0	109		76	116

RECEIVED
ANALYST: [Signature]
DATE: [Signature]

**LLI Sample No. 2953043**

MW-25S-02 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
Kerr-McGee Corporation

TRIAL ID	SURROGATE	SURROGATE SUMMARY		SURROGATE LIMITS	
		RECOVERY %		LOW	HIGH
1861 PAH's in Water	Nitrobenz Triphenyle	99 87		60 60	120 120
8213 BTEX (8021)	TFT	118		70	130

**LLI Sample No. WW 2953042**

Collected: 6/24/98 at 11:20 by JA

Submitted: 6/25/98 Reported: 7/20/98
Discard: 8/20/98

MW-26S-02 Grab Water Sample

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

P.O. MOSS-AMERICAN
Re1.Moss-American Superfund Site - Milwaukee, WI
M26-S SDG#: MOS03-04

AS RECEIVED

CAT	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
 20:47:23 D 0003 16 128410 620823
 320 0.00 00021753 ASR000

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



LLI Sample No. WW 2953042

Collected: 6/24/98 at 11:20 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-26S-02 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
M26-S SDG#: MOS03-04

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

P.O. MOSS-AMERICAN
Rel.

AS RECEIVED

METHOD

RESULTS DETECTION LIMIT UNITS

PAH's in Water

3280	Naphthalene	1.59	J	0.77	ug/l
3281	Acenaphthylene	N.D.		0.77	ug/l
3282	Acenaphthene	N.D.		0.77	ug/l
3283	Fluorene	N.D.		0.16	ug/l
3284	Phenanthrene	N.D.		0.044	ug/l
3285	Anthracene	N.D.		0.030	ug/l
3286	Fluoranthene	N.D.		0.019	ug/l
3287	Pyrene	N.D.		0.17	ug/l
3288	Benzo(a)anthracene	N.D.		0.017	ug/l
3289	Chrysene	N.D.		0.057	ug/l
3290	Benzo(b)fluoranthene	N.D.		0.034	ug/l
3291	Benzo(k)fluoranthene	N.D.		0.026	ug/l
3292	Benzo(a)pyrene	N.D.		0.021	ug/l
3293	Dibenz(a,h)anthracene	N.D.		0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.		0.095	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.		0.062	ug/l

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

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

EMERGENCY
TELEPHONE
NUMBER
1-800-535-5020



LLI Sample No. WW 2953042

Collected: 6/24/98 at 11:20 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-26S-02 Grab Water Sample

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

P.O. MOSS-AMERICAN
 Rel.

Moss-American Superfund Site - Milwaukee, WI
 M26-S SDG#: MOS03-04

AS RECEIVED

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

BTEX (8021)

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

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

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

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

ANALYST: **Lancaster Laboratories**
 MEMBER: **Thermo Analytical Inc.**
SDG#: **MOS03-04**
DATE: **7/20/98**
TIME: **11:20**
LABORATORY: **Milwaukee, WI**

**LLI Sample No. WW 2953042**

Collected: 06/24/98 at 11:20 by JA

Submitted: 06/25/98

MW-26S-02 Grab Water Sample

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

Moss-American Superfund Site - Milwaukee, WI
M26-S SDG#: MOS03-04

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		
			TRIAL	ID	DATE AND TIME
1861	PAH's in Water	SW-846 8310	1	07/01/98 1532	Lori L. Conley-Shoemaker
3337	PAH Water Extraction	SW-846 3510C	1	06/27/98 1230	Deborah M. Zimmerman
8213	BTEX (8021)	SW-846 8021B	1	06/26/98 1441	Danerys Clark



LLI Sample No. 2953042

MW-26S-02 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH
<hr/>										
1861 PAH's in Water		Batch: 981770007A								
3280 Naphthalene 0.77 ug/l		N.D.		97	87	11	80		37	120
3281 Acenaphthylene 0.77 ug/l		N.D.		98	89	10	83		41	135
3282 Acenaphthene 0.77 ug/l		3.4 J ug/l		97	91	6	90		38	135
3283 Fluorene 0.16 ug/l		N.D.		100	92	7	88		41	140
3284 Phenanthrene 0.044 ug/l		N.D.		99	92	6	89		48	152
3285 Anthracene 0.030 ug/l		N.D.		96	90	6	88		42	143
3286 Fluoranthene 0.019 ug/l		N.D.		98	92	5	89		48	155
3287 Pyrene 0.17 ug/l		N.D.		97	94	3	92		51	146
3288 Benzo(a)anthracene 0.017 ug/l		N.D.		93	89	4	88		52	146
3289 Chrysene 0.057 ug/l		N.D.		96	92	3	87		56	145
3290 Benzo(b)fluoranthene 0.034 ug/l		N.D.		94	87	6	91		59	141
3291 Benzo(k)fluoranthene 0.026 ug/l		N.D.		95	91	3	91		60	137
3292 Benzo(a)pyrene 0.021 ug/l		N.D.		92	88	4	90		42	158
3293 Dibeno(a,h)anthracene 0.045 ug/l		N.D.		93	93	1	92		49	142
3294 Benzo(g,h,i)perylene 0.095 ug/l		N.D.		95	94	0	93		46	148
3295 Indeno(1,2,3-cd)pyrene 0.062 ug/l		N.D.		98	96	2	96		64	134
<hr/>										
8213 BTEX (8021)		Batch: 98176A65								
0776 Benzene 0.2 ug/l		N.D.		101	105	4	111		78	138
0777 Toluene 0.2 ug/l		N.D.		103	104	1	108		78	118
0778 Ethylbenzene 0.2 ug/l		N.D.		101	101	0	106		77	119
0779 Total Xylenes 0.6 ug/l		N.D.		104	104	0	109		76	116

Q3116 ECR
FEB 1999

**LLI Sample No. 2953042**

MW-26S-02 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	96	60	120
	Triphenyle	89	60	120
8213 BTEX (8021)	TFT	106	70	130



Lancaster Laboratories

A division of Thermo Analytical Inc.

Page: 1 of 6

LLI Sample No. ww 2954049

Collected: 6/25/98 at 08:45 by EC

Submitted: 6/26/98 Reported: 7/16/98

Discard: 8/16/98

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

P.O. MOSS-AMERICAN
ReL.

MW-27S-02 Grab Water Sample
RFW W.O. #02687-007-002-0022-00
Moss-American Superfund Site - Milwaukee, WI
MW27S SDG#: MOS03-16

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD		UNITS
			DETECTION LIMIT	See Page	
1861	PAH's in Water			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
21:15:21 D 0003 8 128410 621065
232 0.00 00021753 ASR000

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

MEMBER



Lancaster Laboratories
2425 New Holland Pike
P.O. Box 10425
Lancaster PA 17605-0425
(717) 656-2300



Lancaster Laboratories
A division of Thermo Analytical Inc.

Page: 2 of 6

LLI Sample No. WW 2954049

Collected: 6/25/98 at 08:45 by EC

Submitted: 6/26/98 Reported: 7/16/98

Discard: 8/16/98

MW-27S-02 Grab Water Sample
RFW W.O. #02687-007-002-0022-00
Moss-American Superfund Site - Milwaukee, WI
MW27S SDG#: MOS03-16

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

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD	DETECTION LIMIT UNITS
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	0.042	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	0.045	J	0.034 ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	0.024	J	0.021 ug/l
3293	Dibenz(a,h)anthracene	N.D.	0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.095	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.062	ug/l

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

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



Lancaster Laboratories,
2425 New Holland Pike
PO Box 12425
Lancaster PA 17605-0425
717-656-2300 FAX 717-656-2301

**LLI Sample No. WW 2954049**

Collected: 6/25/98 at 08:45 by EC

Submitted: 6/26/98 Reported: 7/16/98

Discard: 8/16/98

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

P.O. MOSS-AMERICAN
 Rel.

MW-27S-02 Grab Water Sample
 RFW W.O. #02687-007-002-0022-00
 Moss-American Superfund Site - Milwaukee, WI
 MW27S SDG#: MOS03-16

AS RECEIVED

CAT	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
BTEX (8021)					
0776	Benzene	N.D.	0.2	ug/l	
0777	Toluene	N.D.	0.2	ug/l	
0778	Ethylbenzene	N.D.	0.2	ug/l	
0779	Total Xylenes	N.D.	0.6	ug/l	

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

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



Lancaster Laboratories, Inc.
 1455 New Rd, Lancaster,
 PA 17601-1942
 (717) 656-2300/(717)
 656-2301/(717) 656-2302



Page: 4 of 6

LLI Sample No. WW 2954049

Collected: 06/25/98 at 08:45 by EC

Submitted: 06/26/98

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

MW-27S-02 Grab Water Sample
RFW W.O. #02687-007-002-0022-00
Moss-American Superfund Site - Milwaukee, WI
MW27S SDG#: MOS03-16

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		
			TRIAL	ID	DATE AND TIME
1861	PAH's in Water	SW-846 8310	1	06/30/98 1800	Lori L. Conley-Shoemaker
3337	PAH Water Extraction	SW-846 3510C	1	06/29/98 0800	Joseph S. Feister
8213	BTEX (8021)	SW-846 8021B	1	07/02/98 1015	Danerys Clark



Lancaster Laboratories
2425 New Holland Rd.
PO Box 12425
Lancaster, PA 17604-2425
(717) 544-2425

**LLI Sample No. 2954049**

MW-27S-02 Grab Water Sample
RFW W.O. #02687-007-002-0022-00
Moss-American Superfund Site - Milwaukee, WI

Group No. 621065
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: 981770007B									
3280	Naphthalene 0.77 ug/l	N.D.		97	87	11	64	71	10	37	120
3281	Acenaphthylene 0.77 ug/l	N.D.		98	89	10	75	82	10	41	135
3282	Acenaphthene 0.77 ug/l	N.D.		97	91	6	70	79	12	38	135
3283	Fluorene 0.16 ug/l	N.D.		100	92	7	76	84	10	41	140
3284	Phenanthrene 0.044 ug/l	N.D.		99	92	6	82	88	7	48	152
3285	Anthracene 0.030 ug/l	N.D.		96	90	6	79	84	7	42	143
3286	Fluoranthene 0.019 ug/l	N.D.		98	92	5	88	92	5	48	155
3287	Pyrene 0.17 ug/l	N.D.		97	94	3	94	98	4	51	146
3288	Benzo(a)anthracene 0.017 ug/l	N.D.		93	89	4	88	91	4	52	146
3289	Chrysene 0.057 ug/l	N.D.		96	92	3	88	91	3	56	145
3290	Benzo(b)fluoranthene 0.034 ug/l	N.D.		94	87	6	87	91	4	59	141
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.		95	91	3	88	91	4	60	137
3292	Benzo(a)pyrene 0.021 ug/l	N.D.		92	88	4	88	91	3	42	158
3293	Dibenzo(a,h)anthracene 0.045 ug/l	N.D.		93	93	1	89	92	4	49	142
3294	Benzo(g,h,i)perylene 0.095 ug/l	N.D.		95	94	0	95	98	3	46	148
3295	Indeno(1,2,3-cd)pyrene 0.062 ug/l	N.D.		98	96	2	134	139	4	64	134
8213 BTEX (8021)											
		Batch: 98182A65									
0776	Benzene 0.2 ug/l	N.D.		107	105	3	102			78	138
0777	Toluene 0.2 ug/l	N.D.		106	103	3	101			78	118
0778	Ethylbenzene 0.2 ug/l	N.D.		105	101	3	100			77	119
0779	Total Xylenes 0.6 ug/l	N.D.		107	104	2	103			76	116



Page: 6 of

LLI Sample No. 2954049

MW-27S-02 Grab Water Sample
RFW W.O. #02687-007-002-0022-00
Moss-American Superfund Site - Milwaukee, WI

Group No. 621065
Kerr-McGee Corporation

SURROGATE SUMMARY			SURROGATE LIMITS	
TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water	Nitrobenz	76	60	120
	Triphenyle	87	60	120
8213 BTEX (8021)	TFT	104	70	130



Lancaster Laboratories
2425 West Maryland Pike
PO Box 12421
Lancaster, PA 17605-0421
Phone: 717-544-1111
Fax: 717-544-1112



Lancaster Laboratories

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Page: 1 of 6

LLI Sample No. WW 2953052

Collected: 6/24/98 at 18:20 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-28S-02 Matrix Spike Duplicate Grab Water Sample

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

P.O. MOSS-AMERICAN
ReL.

Moss-American Superfund Site - Milwaukee, WI
M28S2 SDG#: MOS03-12MSD

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
20:54:57 D 0003 16 128410 620823
320 0.00 00021753 ASR000

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



LLI Sample No. WW 2953052

Collected: 6/24/98 at 18:20 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

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

P.O. MOSS-AMERICAN
Re1.

MW-285-02 Matrix Spike Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
M28S2 SDG#: MOS03-12MSD

AS RECEIVED

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

PAH's in Water

3280	Naphthalene	169.	0.77	ug/l
3281	Acenaphthylene	172.	0.77	ug/l
3282	Acenaphthene	176.	0.77	ug/l
3283	Fluorene	17.9	0.16	ug/l
3284	Phenanthrene	5.37	0.044	ug/l
3285	Anthracene	2.61	0.030	ug/l
3286	Fluoranthene	2.69	0.019	ug/l
3287	Pyrene	18.2	0.17	ug/l
3288	Benzo(a)anthracene	1.31	0.017	ug/l
3289	Chrysene	5.36	0.057	ug/l
3290	Benzo(b)fluoranthene	1.07	0.034	ug/l
3291	Benzo(k)fluoranthene	1.06	0.026	ug/l
3292	Benzo(a)pyrene	1.31	0.021	ug/l
3293	Dibenzo(a,h)anthracene	2.70	0.045	ug/l
3294	Benzo(g,h,i)perylene	10.9	0.096	ug/l
3295	Indeno(1,2,3-cd)pyrene	5.59	0.062	ug/l

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

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

11 EME EEF
FEB 1999
Lancaster Laboratories

**LLI Sample No. WW 2953052**

Collected: 6/24/98 at 18:20 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-28S-02 Matrix Spike Duplicate Grab Water Sample

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

P.O. MOSS-AMERICAN
Rel.Moss-American Superfund Site - Milwaukee, WI
M28S2 SDG#: MOS03-12MSD

AS RECEIVED

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

BTEX (8021)

0776	Benzene	20.	0.2	ug/l
0777	Toluene	20.	0.2	ug/l
0778	Ethylbenzene	19.	0.2	ug/l
0779	Total Xylenes	58.	0.6	ug/l

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

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

W E M E E R
C O M P A N Y



Page: 4 of 6

LLI Sample No. WW 2953052

Collected: 06/24/98 at 18:20 by JA

Submitted: 06/25/98

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

MW-28S-02 Matrix Spike Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
M28S2 SDG#: MOS03-12MSD

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS			ANALYST
			TRIAL	ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	07/01/98 1407	Lori L. Conley-Shoemaker	
3337	PAH Water Extraction	SW-846 3510C	1	06/27/98 1230	Deborah M. Zimmerman	
8213	BTEX (8021)	SW-846 8021B	1	06/26/98 2203	Danerys Clark	



LLI Sample No. 2953052
MW-28S-02 Matrix Spike Duplicate Grab Water Sample
Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
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: 981770007A									
3280	Naphthalene 0.77 ug/l	N.D.		97	87	11	80			37	120
3281	Acenaphthylene 0.77 ug/l	N.D.		98	89	10	83			41	135
3282	Acenaphthene 0.77 ug/l	3.4 J ug/l		97	91	6	90			38	135
3283	Fluorene 0.16 ug/l	N.D.		100	92	7	88			41	140
3284	Phenanthrene 0.044 ug/l	N.D.		99	92	6	89			48	152
3285	Anthracene 0.030 ug/l	N.D.		96	90	6	88			42	143
3286	Fluoranthene 0.019 ug/l	N.D.		98	92	5	89			48	155
3287	Pyrene 0.17 ug/l	N.D.		97	94	3	92			51	146
3288	Benzo(a)anthracene 0.017 ug/l	N.D.		93	89	4	88			52	146
3289	Chrysene 0.057 ug/l	N.D.		96	92	3	87			56	145
3290	Benzo(b)fluoranthene 0.034 ug/l	N.D.		94	87	6	91			59	141
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.		95	91	3	91			60	137
3292	Benzo(a)pyrene 0.021 ug/l	N.D.		92	88	4	90			42	158
3293	Dibenzo(a,h)anthracene 0.045 ug/l	N.D.		93	93	1	92			49	142
3294	Benzo(g,h,i)perylene 0.096 ug/l	N.D.		95	94	0	93			46	148
3295	Indeno(1,2,3-cd)pyrene 0.062 ug/l	N.D.		98	96	2	96			64	134
8213 BTEX (8021)											
		Batch: 98177A65									
0776	Benzene 0.2 ug/l	N.D.		104	102	2	107			78	138
0777	Toluene 0.2 ug/l	N.D.		99	100	0	106			78	118
0778	Ethylbenzene 0.2 ug/l	N.D.		94	94	0	105			77	119
0779	Total Xylenes 0.6 ug/l	N.D.		97	97	0	108			76	116

64 E M B E F

64 E M B E F



Page: 6 of

LLI Sample No. 2953052

MW-285-02 Matrix Spike Duplicate Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
Kerr-McGee Corporation

1861 PAH's in Water

8213 BTEX (8021)

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
	Nitrobenz	86	60	120
	Triphenyle	86	60	120
	TFT	109	70	130



LLI Sample No. WW 2953051

Collected: 6/24/98 at 18:20 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-28S-02 Matrix Spike Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
M28S2 SDG#: MOS03-12MS

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

P.O. MOSS-AMERICAN
ReL.

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

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

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

Questions? Contact your Client Services Representative
 Kay G. Hower at (717) 656-2300
 20:54:14 D 0003 16 128410 620823
 320 0.00 00021753 ASR000

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



LLI Sample No. WW 2953051

Collected: 6/24/98 at 18:20 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-28S-02 Matrix Spike Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
M28S2 SDG#: MOS03-12MS

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	188.	0.77	ug/l
3281	Acenaphthylene	189.	0.77	ug/l
3282	Acenaphthene	187.	0.77	ug/l
3283	Fluorene	19.2	0.16	ug/l
3284	Phenanthrene	5.71	0.044	ug/l
3285	Anthracene	2.78	0.030	ug/l
3286	Fluoranthene	2.83	0.019	ug/l
3287	Pyrene	18.8	0.17	ug/l
3288	Benzo(a)anthracene	1.36	0.017	ug/l
3289	Chrysene	5.55	0.057	ug/l
3290	Benzo(b)fluoranthene	1.14	0.034	ug/l
3291	Benzo(k)fluoranthene	1.09	0.026	ug/l
3292	Benzo(a)pyrene	1.36	0.021	ug/l
3293	Dibenzo(a,h)anthracene	2.68	0.045	ug/l
3294	Benzo(g,h,i)perylene	11.0	0.095	ug/l
3295	Indeno(1,2,3-cd)pyrene	5.69	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

NAME: _____
 DATE: _____
 SIGNATURE: _____

**LLI Sample No. WW 2953051**

Collected: 6/24/98 at 18:20 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-28S-02 Matrix Spike Grab Water Sample

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

P.O. MOSS-AMERICAN
Rel.

Moss-American Superfund Site - Milwaukee, WI
M28S2 SDG#: MOS03-12MS

AS RECEIVED

CAT	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
BTEX (8021)					
0776	Benzene	21.	0.2	0.2	ug/l
0777	Toluene	20.	0.2	0.2	ug/l
0778	Ethylbenzene	19.	0.2	0.2	ug/l
0779	Total Xylenes	58.	0.6	0.6	ug/l

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

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



Page: 4 of 6

LLI Sample No. WW 2953051

Collected: 06/24/98 at 18:20 by JA

Submitted: 06/25/98

MW-28S-02 Matrix Spike Grab Water Sample

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

Moss-American Superfund Site - Milwaukee, WI
M28S2 SDG#: MOS03-12MS

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS ID		DATE AND TIME	ANALYST
				ID	NAME		
1861	PAH's in Water	SW-846 8310	1	07/01/98	1303	Lori L. Conley-Shoemaker	
3337	PAH Water Extraction	SW-846 3510C	1	06/27/98	1230	Deborah M. Zimmerman	
8213	BTEX (8021)	SW-846 8021B	1	06/26/98	2131	Danerys Clark	



LLI Sample No. 2953051
MW-28S-02 Matrix Spike Grab Water Sample
Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
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: 981770007A									
3280	Naphthalene 0.77 ug/l	N.D.		97	87	11	80			37	120
3281	Acenaphthylene 0.77 ug/l	N.D.		98	89	10	83			41	135
3282	Acenaphthene 0.77 ug/l	3.4 J ug/l		97	91	6	90			38	135
3283	Fluorene 0.16 ug/l	N.D.		100	92	7	88			41	140
3284	Phenanthrene 0.044 ug/l	N.D.		99	92	6	89			48	152
3285	Anthracene 0.030 ug/l	N.D.		96	90	6	88			42	143
3286	Fluoranthene 0.019 ug/l	N.D.		98	92	5	89			48	155
3287	Pyrene 0.17 ug/l	N.D.		97	94	3	92			51	146
3288	Benzo(a)anthracene 0.017 ug/l	N.D.		93	89	4	88			52	146
3289	Chrysene 0.057 ug/l	N.D.		96	92	3	87			56	145
3290	Benzo(b)fluoranthene 0.034 ug/l	N.D.		94	87	6	91			59	141
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.		95	91	3	91			60	137
3292	Benzo(a)pyrene 0.021 ug/l	N.D.		92	88	4	90			42	158
3293	Dibenzo(a,h)anthracene 0.045 ug/l	N.D.		93	93	1	92			49	142
3294	Benzo(g,h,i)perylene 0.095 ug/l	N.D.		95	94	0	93			46	148
3295	Indeno(1,2,3-cd)pyrene 0.061 ug/l	N.D.		98	96	2	96			64	134
8213 BTEX (8021)											
		Batch: 98177A65									
0776	Benzene 0.2 ug/l	N.D.		104	102	2	107			78	138
0777	Toluene 0.2 ug/l	N.D.		99	100	0	106			78	118
0778	Ethylbenzene 0.2 ug/l	N.D.		94	94	0	105			77	119
0779	Total Xylenes 0.6 ug/l	N.D.		97	97	0	108			76	116

RECEIVED
Lancaster Laboratories



Page: 6 of

LLI Sample No. 2953051

MW-28S-02 Matrix Spike Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
Kerr-McGee Corporation

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	97	60	120
	Triphenyle	87	60	120
8213 BTEX (8021)	TFT	109	70	130



Page: 1 of 6

LLI Sample No. WW 2953050

Collected: 6/24/98 at 18:20 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-28S-02 Unspiked Grab Water Sample

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

P.O. MOSS-AMERICAN
Rel.Moss-American Superfund Site - Milwaukee, WI
M28S2 SDG#: MOS03-12BKG

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
20:53:25 D 0003 16 128410 620823
320 0.00 00021753 ASR000

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



LLI Sample No. WW **2953050**

Collected: 6/24/98 at 18:20 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-28S-02 Unspiked Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
M28S2 SDG#: MOS03-12BKG

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

P.O. MOSS-AMERICAN
Rel.

CAT

NO. ANALYSIS NAME

AS RECEIVED

METHOD

RESULTS DETECTION LIMIT UNITS

PAH's in Water

3280	Naphthalene	N.D.	0.77	ug/l
3281	Acenaphthylene	N.D.	0.77	ug/l
3282	Acenaphthene	N.D.	0.77	ug/l
3283	Fluorene	N.D.	0.16	ug/l
3284	Phenanthrene	N.D.	0.044	ug/l
3285	Anthracene	N.D.	0.030	ug/l
3286	Fluoranthene	N.D.	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	0.018 J	0.017	ug/l
3289	Chrysene	N.D.	0.057	ug/l
3290	Benzo(b)fluoranthene	0.056 J	0.034	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	0.040 J	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.095	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.061	ug/l

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

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

MEMBER
Environmental Testing
Accredited Laboratory

**LLI Sample No. WW 2953050**

Collected: 6/24/98 at 18:20 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-28S-02 Unspiked Grab Water Sample

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

P.O. MOSS-AMERICAN
Rel.

Moss-American Superfund Site - Milwaukee, WI
M28S2 SDG#: MOS03-12BKG

AS RECEIVED

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

BTEX (8021)

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

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



LLI Sample No. WW 2953050

Collected: 06/24/98 at 18:20 by JA

Submitted: 06/25/98

MW-28S-02 Unspiked Grab Water Sample

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

 Moss-American Superfund Site - Milwaukee, WI
 M28S2 SDG#: MOS03-12BKG

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		
			TRIAL	ID	DATE AND TIME
1861	PAH's in Water	SW-846 8310	1	07/01/98 1242	Lori L. Conley-Shoemaker
3337	PAH Water Extraction	SW-846 3510C	1	06/27/98 1230	Deborah M. Zimmerman
8213	BTEX (8021)	SW-846 8021B	1	06/26/98 2058	Danerys Clark



LLI Sample No. 2953050

MW-28S-02 Unspiked Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH
<hr/>											
1861 PAH's in Water		Batch: 981770007A									
3280 Naphthalene 0.77 ug/l		N.D.		97	87	11	80			37	120
3281 Acenaphthylene 0.77 ug/l		N.D.		98	89	10	83			41	135
3282 Acenaphthene 0.77 ug/l		3.4 J ug/l		97	91	6	90			38	135
3283 Fluorene 0.16 ug/l		N.D.		100	92	7	88			41	140
3284 Phenanthrene 0.044 ug/l		N.D.		99	92	6	89			48	152
3285 Anthracene 0.030 ug/l		N.D.		96	90	6	88			42	143
3286 Fluoranthene 0.019 ug/l		N.D.		98	92	5	89			48	155
3287 Pyrene 0.17 ug/l		N.D.		97	94	3	92			51	146
3288 Benzo(a)anthracene 0.017 ug/l		N.D.		93	89	4	88			52	146
3289 Chrysene 0.057 ug/l		N.D.		96	92	3	87			56	145
3290 Benzo(b)fluoranthene 0.034 ug/l		N.D.		94	87	6	91			59	141
3291 Benzo(k)fluoranthene 0.026 ug/l		N.D.		95	91	3	91			60	137
3292 Benzo(a)pyrene 0.021 ug/l		N.D.		92	88	4	90			42	158
3293 Dibenz(a,h)anthracene 0.045 ug/l		N.D.		93	93	1	92			49	142
3294 Benzo(g,h,i)perylene 0.095 ug/l		N.D.		95	94	0	93			46	148
3295 Indeno(1,2,3-cd)pyrene 0.061 ug/l		N.D.		98	96	2	96			64	134
<hr/>											
8213 BTEX (8021)		Batch: 98177A65									
0776 Benzene 0.2 ug/l		N.D.		104	102	2	107			78	138
0777 Toluene 0.2 ug/l		N.D.		99	100	0	106			78	118
0778 Ethylbenzene 0.2 ug/l		N.D.		94	94	0	105			77	119
0779 Total Xylenes 0.6 ug/l		N.D.		97	97	0	108			76	116

LE MEE F
FEB 1998



Page: 6 of

LLI Sample No. 2953050

MW-28S-02 Unspiked Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
Kerr-McGee Corporation

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	91	60	120
	Triphenyle	86	60	120
8213 BTEX (8021)	TFT	110	70	130

**LLI Sample No. WW 2953048**

Collected: 6/24/98 at 16:35 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-29S-02 Grab Water Sample

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

P.O. MOSS-AMERICAN
Rel.Moss-American Superfund Site - Milwaukee, WI
M29-S SDG#: MOS03-10

AS RECEIVED

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

1861	PAH's in Water
8213	BTEX (8021)

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

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

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
20:51:58 D 0003 16 128410 620823
320 0.00 00021753 ASR000

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

MEMBER
EPA Quality Assurance Program



Page: 2 of 6

LLI Sample No. WW 2953048

Collected: 6/24/98 at 16:35 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-295-02 Grab Water Sample

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

P.O. MOSS-AMERICAN
 Rel.

Moss-American Superfund Site - Milwaukee, WI
 M29-S SDG#: MOS03-10

AS RECEIVED

METHOD

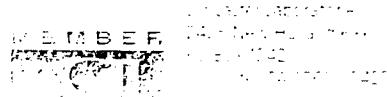
RESULTS DETECTION LIMIT UNITS

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	0.069	J 0.044	ug/l
3285	Anthracene	0.083	J 0.030	ug/l
3286	Fluoranthene	0.59	0.019	ug/l
3287	Pyrene	0.48	J 0.17	ug/l
3288	Benzo(a)anthracene	0.082	0.017	ug/l
3289	Chrysene	0.135	J 0.056	ug/l
3290	Benzo(b)fluoranthene	0.044	J 0.033	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	0.031	J 0.021	ug/l
3293	Dibenz(a,h)anthracene	N.D.	0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.095	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.061	ug/l

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

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





LLI Sample No. WW 2953048

Collected: 6/24/98 at 16:35 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

MW-29S-02 Grab Water Sample

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

P.O. MOSS-AMERICAN
Rel.

Moss-American Superfund Site - Milwaukee, WI
M29-S SDG#: MOS03-10

AS RECEIVED

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

BTEX (8021)

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

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

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

MEMBER
EPAQ

**LLI Sample No. WW 2953048**

Collected: 06/24/98 at 16:35 by JA

Submitted: 06/25/98

MW-29S-02 Grab Water Sample

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

Moss-American Superfund Site - Milwaukee, WI
M29-S SDG#: MOS03-10

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		
			TRIAL	ID	DATE AND TIME
1861	PAH's in Water	SW-846 8310	1	07/01/98 1801	Lori L. Conley-Shoemaker
3337	PAH Water Extraction	SW-846 3510C	1	06/27/98 1230	Deborah M. Zimmerman
8213	BTEX (8021)	SW-846 8021B	1	06/27/98 0150	Danerys Clark



LLI Sample No. 2953048

MW-29S-02 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH
<hr/> 1861 PAH's in Water											
		Batch: 981770007A									
3280	Naphthalene 0.77 ug/l	N.D.		97	87	11	80			37	120
3281	Acenaphthylene 0.77 ug/l	N.D.		98	89	10	83			41	135
3282	Acenaphthene 0.77 ug/l	3.4 J ug/l		97	91	6	90			38	135
3283	Fluorene 0.16 ug/l	N.D.		100	92	7	88			41	140
3284	Phenanthrene 0.044 ug/l	N.D.		99	92	6	89			48	152
3285	Anthracene 0.030 ug/l	N.D.		96	90	6	88			42	143
3286	Fluoranthene 0.019 ug/l	N.D.		98	92	5	89			48	155
3287	Pyrene 0.17 ug/l	N.D.		97	94	3	92			51	146
3288	Benzo(a)anthracene 0.017 ug/l	N.D.		93	89	4	88			52	146
3289	Chrysene 0.056 ug/l	N.D.		96	92	3	87			56	145
3290	Benzo(b)fluoranthene 0.033 ug/l	N.D.		94	87	6	91			59	141
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.		95	91	3	91			60	137
3292	Benzo(a)pyrene 0.021 ug/l	N.D.		92	88	4	90			42	158
3293	Dibenzo(a,h)anthracene 0.045 ug/l	N.D.		93	93	1	92			49	142
3294	Benzo(g,h,i)perylene 0.095 ug/l	N.D.		95	94	0	93			46	148
3295	Indeno(1,2,3-cd)pyrene 0.061 ug/l	N.D.		98	96	2	96			64	134
<hr/> 8213 BTEX (8021)											
		Batch: 98177A65									
0776	Benzene 0.2 ug/l	N.D.		104	102	2	107			78	138
0777	Toluene 0.2 ug/l	N.D.		99	100	0	106			78	118
0778	Ethylbenzene 0.2 ug/l	N.D.		94	94	0	105			77	119
0779	Total Xylenes 0.6 ug/l	N.D.		97	97	0	108			76	116

**LLI Sample No. 2953048**

MW-29S-02 Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
Kerr-McGee Corporation

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	90	60	120
	Triphenyle	88	60	120
8213 BTEX (8021)	TFT	107	70	130

M. E. M. B. E. R.
PROT. NO. 100-241
PRINTED 10/20/98

**LLI Sample No. WW 2953053**

Collected: 6/24/98 at 18:40 by JA

Submitted: 6/25/98 Reported: 7/20/98
Discard: 8/20/98

FB-01-02 Field Blank Grab Water Sample

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

P.O. MOSS-AMERICAN
Rel.Moss-American Superfund Site - Milwaukee, WI
M28FB SDG#: MOS03-13FB

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
20:55:38 D 0003 16 128410 620823
320 0.00 00021753 ASR000

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

RECEIVED
JULY 20 1998
U.S. ENVIRONMENTAL PROTECTION AGENCY
Milwaukee Office
Milwaukee, WI 53201



LLI Sample No. WW 2953053

Collected: 6/24/98 at 18:40 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

FB-01-02 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI
M28FB SDG#: MOS03-13FB

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

P.O. MOSS-AMERICAN
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD	DETECTION LIMIT UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.76	ug/l
3281	Acenaphthylene	N.D.	0.76	ug/l
3282	Acenaphthene	N.D.	0.76	ug/l
3283	Fluorene	N.D.	0.16	ug/l
3284	Phenanthrene	N.D.	0.044	ug/l
3285	Anthracene	N.D.	0.030	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	Crylsene	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

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

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

MEMO F
FAX/Email

**LLI Sample No. WW 2953053**

Collected: 6/24/98 at 18:40 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

FB-01-02 Field Blank Grab Water Sample

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

P.O. MOSS-AMERICAN
Rel.

Moss-American Superfund Site - Milwaukee, WI
M28FB SDG#: MOS03-13FB

AS RECEIVED

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

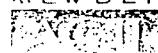
BTEX (8021)

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

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

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

MEMBER



ISO/IEC 17025
RPL 11426
2000-01-01

**LLI Sample No. WW 2953053**

Collected: 06/24/98 at 18:40 by JA

Submitted: 06/25/98

FB-01-02 Field Blank Grab Water Sample

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

Moss-American Superfund Site - Milwaukee, WI
M28FB SDG#: MOS03-13FB

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		
			TRIAL	ID	DATE AND TIME
1861	PAH's in Water	SW-846 8310	1	07/01/98 1844	Lori L. Conley-Shoemaker
3337	PAH Water Extraction	SW-846 3510C	1	06/27/98 1230	Deborah M. Zimmerman
8213	BTEX (8021)	SW-846 8021B	1	06/27/98 0013	Danerys Clark



LLI Sample No. 2953053
FB-01-02 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
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: 981770007A	
3280 Naphthalene											
0.76 ug/l		N.D.		97	87	11	80			37	120
3281 Acenaphthylene											
0.76 ug/l		N.D.		98	89	10	83			41	135
3282 Acenaphthene											
0.76 ug/l		3.4 J ug/l		97	91	6	90			38	135
3283 Fluorene											
0.16 ug/l		N.D.		100	92	7	88			41	140
3284 Phenanthrene											
0.044 ug/l		N.D.		99	92	6	89			48	152
3285 Anthracene											
0.030 ug/l		N.D.		96	90	6	88			42	143
3286 Fluoranthene											
0.019 ug/l		N.D.		98	92	5	89			48	155
3287 Pyrene											
0.17 ug/l		N.D.		97	94	3	92			51	146
3288 Benzo(a)anthracene											
0.017 ug/l		N.D.		93	89	4	88			52	146
3289 Chrysene											
0.056 ug/l		N.D.		96	92	3	87			56	145
3290 Benzo(b)fluoranthene											
0.033 ug/l		N.D.		94	87	6	91			59	141
3291 Benzo(k)fluoranthene											
0.026 ug/l		N.D.		95	91	3	91			60	137
3292 Benzo(a)pyrene											
0.021 ug/l		N.D.		92	88	4	90			42	158
3293 Dibenz(a,h)anthracene											
0.045 ug/l		N.D.		93	93	1	92			49	142
3294 Benzo(g,h,i)perylene											
0.095 ug/l		N.D.		95	94	0	93			46	148
3295 Indeno(1,2,3-cd)pyrene											
0.061 ug/l		N.D.		98	96	2	96			64	134
8213 BTEX (8021)										Batch: 98177A65	
0776 Benzene											
0.2 ug/l		N.D.		104	102	2	107			78	138
0777 Toluene											
0.2 ug/l		N.D.		99	100	0	106			78	118
0778 Ethylbenzene											
0.2 ug/l		N.D.		94	94	0	105			77	119
0779 Total Xylenes											
0.6 ug/l		N.D.		97	97	0	108			76	116



Page: 6 of

LLI Sample No. 2953053
FB-01-02 Field Blank Grab Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
Kerr-McGee Corporation

SURROGATE SUMMARY			SURROGATE LIMITS	
TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water	Nitrobenz	87	60	120
	Triphenyle	87	.60	120
8213 BTEX (8021)	TFT	108	70	130

MEMBER
EPA Quality Assurance
Program

**LLI Sample No. WW 2954054**

Collected: 6/25/98 at 12:30 by EC

Submitted: 6/26/98 Reported: 7/16/98

Discard: 8/16/98

FB-02-02 Field Blank Grab Water Sample
 RFW W.O. #02687-007-002-0022-00
 Moss-American Superfund Site - Milwaukee, WI
 FB-02 SDG#: MOS03-21FB

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
 21:21:31 D 0003 8 128410 621065
 232 0.00 00021753 ASR000

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



Lancaster Laboratories
 4425 New Hope Lane
 PC Box 12425
 Lancaster, PA 17606-0425



LLI Sample No. WW 2954054

Collected: 6/25/98 at 12:30 by EC

Submitted: 6/26/98 Reported: 7/16/98

Discard: 8/16/98

FB-02-02 Field Blank Grab Water Sample
RFW W.O. #02687-007-002-0022-00
Moss-American Superfund Site - Milwaukee, WI
FB-02 SDG#: MOS03-21FB

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

P.O. MOSS-AMERICAN
ReL.

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

PAH's in Water

3280	Naphthalene	N.D.	0.77	ug/l
3281	Acenaphthylene	N.D.	0.77	ug/l
3282	Acenaphthene	N.D.	0.77	ug/l
3283	Fluorene	N.D.	0.16	ug/l
3284	Phenanthrene	N.D.	0.044	ug/l
3285	Anthracene	N.D.	0.030	ug/l
3286	Fluoranthene	N.D.	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	N.D.	0.057	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.034	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.021	ug/l
3293	Dibenz(a,h)anthracene	N.D.	0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.095	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.061	ug/l

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

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



Lancaster Laboratories
2415 New Holland Pike
PO Box 11420
Lancaster PA 17605-1420

**LLI Sample No. ww 2954054**

Collected: 6/25/98 at 12:30 by EC

Submitted: 6/26/98 Reported: 7/16/98

Discard: 8/16/98

FB-02-02 Field Blank Grab Water Sample
 RFW W.O. #02687-007-002-0022-00
 Moss-American Superfund Site - Milwaukee, WI
 FB-02 SDG#: MOS03-21FB

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

P.O. MOSS-AMERICAN
 Rel.

AS RECEIVED

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

BTEX (8021)

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

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

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



Lancaster Lab Co. Inc.
 4425 New Holland Ave.
 C.B.# 10421
 Lancaster PA 17608 USA



Page: 4 of 6

LLI Sample No. WW 2954054

Collected: 06/25/98 at 12:30 by EC

Submitted: 06/26/98

FB-02-02 Field Blank Grab Water Sample
 RFW W.O. #02687-007-002-0022-00
 Moss-American Superfund Site - Milwaukee, WI
 FB-02 SDG#: MOS03-21FB

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		
			TRIAL	ID	DATE AND TIME
1861	PAH's in Water	SW-846 8310	1		06/30/98 2105
3337	PAH Water Extraction	SW-846 3510C	1		06/29/98 0800
8213	BTEX (8021)	SW-846 8021B	1		07/02/98 1611
					Danerys Clark

**LLI Sample No. 2954054**

FB-02-02 Field Blank Water Sample

RFW W.O. #02687-007-002-0022-00

Moss-American Superfund Site - Milwaukee, WI

Group No. 621065
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: 981770007B									
3280 Naphthalene											
0.77 ug/l		N.D.		97	87	11	64	71	10	37	120
3281 Acenaphthylene											
0.77 ug/l		N.D.		98	89	10	75	82	10	41	135
3282 Acenaphthene											
0.77 ug/l		N.D.		97	91	6	70	79	12	38	135
3283 Fluorene											
0.16 ug/l		N.D.		100	92	7	76	84	10	41	140
3284 Phenanthrene											
0.044 ug/l		N.D.		99	92	6	82	88	7	48	152
3285 Anthracene											
0.030 ug/l		N.D.		96	90	6	79	84	7	42	143
3286 Fluoranthene											
0.019 ug/l		N.D.		98	92	5	88	92	5	48	155
3287 Pyrene											
0.17 ug/l		N.D.		97	94	3	94	98	4	51	146
3288 Benzo(a)anthracene											
0.017 ug/l		N.D.		93	89	4	88	91	4	52	146
3289 Chrysene											
0.057 ug/l		N.D.		96	92	3	88	91	3	56	145
3290 Benzo(b)fluoranthene											
0.034 ug/l		N.D.		94	87	6	87	91	4	59	141
3291 Benzo(k)fluoranthene											
0.026 ug/l		N.D.		95	91	3	88	91	4	60	137
3292 Benzo(a)pyrene											
0.021 ug/l		N.D.		92	88	4	88	91	3	42	158
3293 Dibenz(a,h)anthracene											
0.045 ug/l		N.D.		93	93	1	89	92	4	49	142
3294 Benzo(g,h,i)perylene											
0.095 ug/l		N.D.		95	94	0	95	98	3	46	148
3295 Indeno(1,2,3-cd)pyrene											
0.061 ug/l		N.D.		98	96	2	134	139	4	64	134
8213 BTEX (8021)		Batch: 98182A65									
0776 Benzene											
0.2 ug/l		N.D.		107	105	3	102			78	138
0777 Toluene											
0.2 ug/l		N.D.		106	103	3	101			78	118
0778 Ethylbenzene											
0.2 ug/l		N.D.		105	101	3	100			77	119
0779 Total Xylenes											
0.6 ug/l		N.D.		107	104	2	103			76	116



Lancaster Laboratories
4415 North 44th Street
Milwaukee, WI 53211-3141
Telephone: 414-761-3401
Facsimile: 414-761-3402



Page: 6 of

LLI Sample No. 2954054

FB-02-02 Field Blank Grab Water Sample
RFW W.O. #02687-007-002-0022-00
Moss-American Superfund Site - Milwaukee, WI

Group No. 621065
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	78	60	120
	Triphenyle	82	60	120
8213 BTEX (8021)	TFT	108	70	130



Lancaster Laboratories
4405 New Franklin Road
Milwaukee, WI 53215
Phone: 414-768-2400
Fax: 414-768-2401



LLI Sample No. WW 2954055

Collected:

Submitted: 6/26/98 Reported: 7/16/98
Discard: 8/16/98Trip Blank Water Sample
RFW W.O. #02687-007-002-0022-00
Moss-American Superfund Site - Milwaukee, WI
TB--- SDG#: MOS03-22TB*Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125P.O. MOSS-AMERICAN
Rel.

AS RECEIVED

RESULTS METHOD

DETECTION LIMIT UNITS

CAT
NO. ANALYSIS NAME

8213 BTEX (8021)

See Page 2

1 COPY TO Kerr-McGee Corporation
1 COPY TO Roy F. Weston
1 COPY TO Data Package GroupATTN: Garet Van de Steeg, PhD
ATTN: Mr. Tom GraanQuestions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
21:22:54 D 0003 8 128410 621065
232 0.00 00005933 ASR000Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBsLancaster Laboratories
1421 New Hope Lane
Tulsa, OK 74142
Phone: (918) 664-5474



Page: 2 of 5

LLI Sample No. WW 2954055

Collected:

Submitted: 6/26/98 Reported: 7/16/98

Discard: 8/16/98

Trip Blank Water Sample
 RFW W.O. #02687-007-002-0022-00
 Moss-American Superfund Site - Milwaukee, WI
 TB--- SDG#: MOS03-22TB*

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

P.O. MOSS-AMERICAN
 Rel.

AS RECEIVED

METHOD

RESULTS DETECTION LIMIT UNITS

CAT
 NO. ANALYSIS NAME

BTEX (8021)

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

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

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



Lancaster Laboratories
 300 South Holland Drive
 P.O. Box 12425
 Lancaster, PA 17606-12425



Page: 3 of 5

LLI Sample No. WW 2954055

Collected:

Submitted: 06/26/98

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

Trip Blank Water Sample
RFW W.O. #02687-007-002-0022-00
Moss-American Superfund Site - Milwaukee, WI
TB--- SDG#: MOS03-22TB*

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS ID	DATE	AND TIME	ANALYST
8213	BTEX (8021)	SW-846 8021B	1		07/02/98	1538	Danerys Clark

Lancaster Laboratories
1425 New Holland Pike
P.O. Box 12425
Lancaster, PA 17603-2425





Lancaster Laboratories
A division of Thermo Analytical Inc.

Page: 4 of

LLI Sample No. 2954055

Trip Blank Water Sample

RFW W.O. #02687-007-002-0022-00

Moss-American Superfund Site - Milwaukee, WI

Group No. 621065
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LIMITS HIGH
8213 BTEX (8021)		Batch: 98182A65									
0776	Benzene 0.2 ug/l	N.D.		107	105	3	102			78	138
0777	Toluene 0.2 ug/l	N.D.		106	103	3	101			78	118
0778	Ethylbenzene 0.2 ug/l	N.D.		105	101	3	100			77	119
0779	Total Xylenes 0.6 ug/l	N.D.		107	104	2	103			76	116



LLI Sample No. 2954055

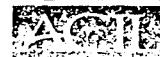
Trip Blank Water Sample
RFW W.O. #02687-007-002-0022-00
Moss-American Superfund Site - Milwaukee, WI

Group No. 621065
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
8213 BTEX (8021)	TFT	109	70	130

MEMBER



Lancaster Laboratories,
1405 New Holland Pike
PO Box 12435
Lancaster, PA 17606-0235
717-587-1111 • 800-553-1111

**LLI Sample No. WW 2953054**

Collected: 6/17/98 by JA

Submitted: 6/25/98 Reported: 7/20/98
Discard: 8/20/98

Trip Blank Water Sample

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

P.O. MOSS-AMERICAN
ReL.Moss-American Superfund Site - Milwaukee, WI
M28TB SDG#: MOS03-14TB

AS RECEIVED

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

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

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300
20:56:18 D 0003 16 128410 620823
320 0.00 00005933 ASR000

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



Lancaster Laboratories
A division of Thermo Analytical Inc.

Page: 2 of 5

LLI Sample No. WW **2953054**

Collected: 6/17/98 by JA

Submitted: 6/25/98 Reported: 7/20/98

Discard: 8/20/98

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI
M28TB SDG#: MOS03-14TB

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			
BTEX (8021)					
0776	Benzene	N.D.	0.2	ug/l	
0777	Toluene	N.D.	0.2	ug/l	
0778	Ethylbenzene	N.D.	0.2	ug/l	
0779	Total Xylenes	N.D.	0.6	ug/l	

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

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



Lancaster Laboratories
A Division of Thermo Analytical Inc.
1000 Lancaster Avenue
Exton, PA 19341
(800) 345-4488



LLI Sample No. WW **2953054**
Collected: 06/17/98 by JA

Submitted: 06/25/98

Trip Blank Water Sample

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

Moss-American Superfund Site - Milwaukee, WI
M28TB SDG#: MOS03-14TB

CAT NO	ANALYSIS NAME	METHOD	TRIAL ID	ANALYSIS DATE AND TIME	ANALYST
8213	BTEX (8021)	SW-846 8021B	1	06/26/98 2308	Danerys Clark



LLI Sample No. 2953054

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS LCS DUP	LCS RPD	LCS LOW	LIMITS HIGH
8213 BTEX (8021)		Batch: 98177A65								
0776 Benzene	0.2 ug/l	N.D.		104	102	2	107		78	138
0777 Toluene	0.2 ug/l	N.D.		99	100	0	106		78	118
0778 Ethylbenzene	0.2 ug/l	N.D.		94	94	0	105		77	119
0779 Total Xylenes	0.6 ug/l	N.D.		97	97	0	108		76	116



**LLI Sample No. 2953054**

Trip Blank Water Sample

Moss-American Superfund Site - Milwaukee, WI

Group No. 620823
Kerr-McGee Corporation

SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
8213 BTEX (8021)	TFT	108	70	130