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received  
06/23/98

12 June 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, 1<sup>st</sup> 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 first quarterly groundwater monitoring event completed at the above referenced project in March 1998. A description of the groundwater monitoring program and the results obtained during the first 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, the free-product measurements and groundwater analytical results reported for 1<sup>st</sup> quarter 1998 reflect conditions at the site after the free-product recovery system was off for approximately five months.

## 1.0 BACKGROUND

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

In accordance with paragraph 4a (i) of the RD/RA SOW, the field measurement and analysis of groundwater samples includes groundwater elevation, pH, temperature, turbidity, specific conductance, redox potential, dissolved oxygen. Laboratory analyses include BTEX compounds (benzene, toluene, ethylbenzene, and xylene) and polynuclear aromatic hydrocarbon (PAH) compounds (acenaphthylene, acenaphthene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)-anthracene, fluorene, fluoranthene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, and pyrene).

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## 2.0 GROUNDWATER MONITORING RESULTS

The first quarterly groundwater monitoring event at the Moss-American site was completed between 23 and 26 March 1998. Tasks completed during the field effort for this event included the collection of groundwater elevation data, the measurement of free-product thickness, the collection of groundwater samples, and the inspection of well integrity. 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, temporary wells, and production wells prior to beginning groundwater sampling. These measurements were used to determine the elevation of the potentiometric surface of the shallow groundwater-bearing zone underlying the site. The water level measurements and resulting elevations are presented in Table 1. Figure 1 presents a groundwater elevation contour map that shows the potentiometric surface of the shallow groundwater-bearing zone. An evaluation of these results is presented in the following paragraphs.

As Figure 1 shows, the groundwater within the shallow groundwater-bearing zone generally flows northeastward toward the Little Menomonee River. In the topographically higher, western portion of the site, the horizontal hydraulic gradient of the potentiometric surface is relatively steep at approximately 0.042 feet per foot (ft/ft). The gradient flattens nearer to 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 approximately 0.17 ft/day. Nearer to the river, the velocity of groundwater flow is calculated to be approximately 0.048 ft/day.

### 2.2 FREE-PRODUCT MEASUREMENTS

Free-product levels were measured in the monitoring network wells, some of the temporary monitoring wells, and the product recovery wells. The results of these measurements indicate that the area of free-product remains relatively consistent with historical measurements. The thickness of product in the wells ranged from a trace in wells TW-09, PW-02, and PW-03 to



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several feet in wells MW-8S, PW-01, and PW-04. The product thickness measurements are shown in Table 1.

### 2.3 GROUNDWATER SAMPLE ANALYSES RESULTS

Groundwater samples were collected from 15 wells (MW-3S, MW-4S, MW-5S, MW-6S, MW-7S, MW-9S, MW-10S, MW-13S, MW-25S, MW-26S, MW-27S, MW-28S, MW-29S, TW-05, and TW-09) screened within the shallow groundwater-bearing zone and from five wells (MW-3I, MW-4I, MW-8I, MW-9I, and MW-20I) screened within the intermediate groundwater-bearing zone. In addition, for quality assurance/quality control (QA/QC) purposes, three sample duplicates (indicated by a D qualifier), two matrix spike/matrix spike duplicates (MS/MSD), and three 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.

#### 2.3.1 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 6.44 to 8.21 standard pH units (S.U.) in the shallow groundwater samples and from 6.80 to 8.81 S.U. in the intermediate groundwater samples. The specific conductivity ranges from 0.41 to 0.93 mΩ/cm in the shallow groundwater samples and from 0.31 to 0.97 mΩ/cm in the intermediate groundwater samples. Groundwater temperatures ranged from 3.9 to 9.1 °C in the shallow groundwater samples and from 9.8 to 12.0 °C in the intermediate groundwater samples. The redox potentials of the groundwater range from a negative 101 to a positive 230 millivolts (mV) in the shallow groundwater samples and from a negative 15 to a positive 60 mV in the intermediate groundwater samples. Dissolved oxygen levels ranged from 2.0 to 11.2 mg/L in the shallow groundwater samples and from 2.7 to 4.2 mg/L in the intermediate groundwater samples. Turbidity ranged from 49 to 1,385 nephelometric turbidity units (NTU) in the shallow groundwater samples and from 23 to 399 NTU in the intermediate groundwater samples.

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### 2.3.2 Laboratory Analyses

Each groundwater sample collected during the first 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.

#### Shallow Groundwater Sample Results

As Table 3 shows, a few parameters (primarily benzene, naphthalene, and benzo(a)pyrene) were detected at concentrations that exceed their respective PALs in the groundwater samples collected from shallow wells MW-4S, MW-7S, MW-13S, TW-05, and TW-09. It should be noted that a groundwater sample was not collected from well MW-8S because this well was found to have approximately 3 feet of free-product. Therefore, as with any well observed to contain free-product, MW-8S is assumed to be contaminated. A groundwater sample could not be collected from shallow well MW-20S because a bend in the well casing prevented the insertion of the bailer. During the second quarter monitoring event, an attempt will be made to sample this well using a peristaltic pump.

These results show that the contaminant plume boundaries (shown in Figure 1) remain similar to the boundaries determined by past analytical results and observations. However, it should be noted that the width of the plume has been reduced in the middle portion of the plume because the groundwater samples collected from wells MW-28S and MW-29S did not have BTEX or PAH concentrations that exceed PALs.

#### Intermediate Groundwater Sample Results

Table 3 shows that benzo(a)pyrene was detected at concentrations that are slightly above the PAL of 0.02  $\mu\text{g/L}$  in the groundwater samples collected from intermediate wells MW-4I (0.04 J  $\mu\text{g/L}$ ), MW-09I (0.033 J  $\mu\text{g/L}$ ), and MW-20I (0.035 J  $\mu\text{g/L}$ ).

## 2.4 WELL INSPECTIONS

WESTON inspected each monitoring network well prior to sampling to ascertain the integrity of the wells and determine if they were capable of producing representative groundwater samples. The inspection was conducted on 23 March 1998 during collection of groundwater elevation measurements. The inspection entailed visual observation of the above-ground portion of each





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well and a qualitative check of the internal integrity of each well. Inspection of the aboveground portion of the well included determining the condition of the well risers, protective steel casings, and concrete pads. The internal integrity of each well checked by trying to determine the presence of obstructions, bent piping, and/or broken screens, etc.

The results of the inspection indicated that most of the monitoring wells are in good condition and are capable of providing quality representative samples. However, based on the inspection, the following exclusions were noted:

- The concrete pads of monitoring wells MW-3S, MW-4S, and MW-5S are cracked. WESTON proposes to remove the concrete pads and regrout around the surface casing.
- The well riser pipe in monitoring well MW-20S is slightly bent, preventing the insertion of a bailer. WESTON will attempt to sample this well next quarter using a peristaltic pump.
- The well screens of temporary monitoring wells TW-06, TW-07, and TW-10 have apparently collapsed. Water levels, water samples, and product level measurements can no longer be collected from these wells. These wells are in the source area and will be removed when this area is excavated.
- The aboveground portion of the riser pipe in monitoring well MW-7I is compressed at ground level. WESTON will attempt to repair this well.

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

Very truly yours,

ROY F. WESTON, INC.

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

TPG/slr  
Attachments

**Table 1**

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

<b>Well</b>	<b>Ground Elevation (ft. MSL)</b>	<b>TOC Elevation (ft. MSL)</b>	<b>Depth to Water (ft.)</b>	<b>Groundwater Elevation (ft. MSL)</b>	<b>Product Thickness (ft.)</b>
MW-3S	729.00	731.50	6.66	724.84	ND
MW-4S	731.00	732.86	4.60	728.26	ND
MW-5S	723.00	724.70	4.63	720.07	ND
MW-6S	727.00	724.28	3.65	720.63	ND
MW-7S	720.00	721.70	5.20	716.50	ND
MW-8S	718.00	721.73	4.72	717.01	2.7
MW-9S	720.00	721.71	5.60	716.11	ND
MW-10S	723.00	726.58	4.68	721.90	ND
MW-13S	737.00	738.68	2.12	736.56	ND
MW-20S	716.00	719.94	3.89	716.05	ND
MW-25S	736.83	739.24	2.45	736.79	ND
MW-26S	732.31	731.66	3.59	728.07	ND
MW-27S	720.59	723.15	3.33	719.82	ND
MW-28S	720.04	722.65	3.07	719.58	ND
MW-29S	720.01	722.39	4.05	718.34	ND
TW-01	730.01	731.99	NM	NM	NM
TW-02	725.41	727.45	2.54	724.91	NM
TW-03	727.49	730.23	NM	NM	NM
TW-04	723.19	726.40	NM	NM	NM
TW-05	721.76	724.16	2.61	721.55	0
TW-08	718.53	721.03	NM	NM	NM
TW-09	717.61	719.96	3.16	716.80	trace
TW-10	718.47	720.99	NM	NM	destroyed
PW-01	718.26	719.47	1.95	717.52	4.6
PW-02	718.64	720.09	2.35	717.74	0.5
PW-03	718.30	719.75	2.70	717.05	0.19
PW-04	718.80	719.73	2.69	717.04	3.45
PW-05	718.57	719.60	2.42	717.18	NM
PW-06	718.72	719.62	NM	NM	NM

NM - Not measured.

ND - Not detected.

**Table 2**

**Field-Measured Parameters  
First Quarter 1998  
Moss-American Site  
Kerr-McGee Corporation**

<b>Well Number</b>	<b>pH (Standard Units)</b>	<b>Specific Conductance (mΩ/cm)</b>	<b>Temperature (°C)</b>	<b>Redox Potential (mV)</b>	<b>Dissolved Oxygen (mg/L)</b>	<b>Turbidity (NTU)</b>
MW-3S	8.02	0.71	8.0	111	8.4	954
MW-3I	8.20	0.47	9.9	NM	NM	399
MW-4S	8.21	0.90	7.1	-89	4.2	798
MW-4I	8.81	0.97	9.3	-15	3.6	125
MW-5S	7.97	0.86	9.1	51	11.2	782
MW-6S	6.44	0.67	7.1	120	5.2	1,166
MW-7S	7.17	0.52	9.0	-17	2.0	410
MW-7I	NM	NM	NM	NM	NM	NM
MW-8S	NM	NM	NM	NM	NM	NM
MW-8I	6.80	0.31	12.0	60	3.0	23
MW-9S	7.44	0.82	8.1	-25	2.2	1,310
MW-9I	7.89	0.42	9.8	48	4.2	336
MW-10S	7.77	0.72	3.9	124	4.1	227
MW-13S	8.21	0.81	4.9	230	4.9	1,329
MW-20S	NM	NM	NM	NM	NM	NM
MW-20I	7.90	0.34	10.4	40	2.7	120
MW-25S	7.91	0.77	5.1	142	6.0	1,385
MW-26S	7.97	0.76	7.0	115	5.4	986
MW-27S	7.03	0.93	7.1	-101	2.6	768
MW-28S	7.66	0.59	8.4	98	5.8	49
MW-29S	7.68	0.41	8.3	93	3.9	1,362
TW-05	7.07	0.60	6.0	-39	2.9	999
TW-09	NM	NM	NM	NM	NM	NM

NM - Not measured.

Table 3

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

Sample ID:	MW-3S-01	MW-3I-01	MW-4S-01	MW-4I-01	MW-5S-01	MW-6S-01	MW-7S-01	MW-8I-01	WDNR PAL ug/L						
Sample Matrix:	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater							
Sample Date:	3/24/98	3/25/98	3/24/98	3/24/98	3/24/98	3/25/98	3/25/98	3/26/98							
Units of Measure:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L							
<b>Parameters</b>															
<b>VOCs</b>															
Benzene	0.2	U	0.2	U	10	0.2	U	0.2	U	0.2	U	5	0.2	U	0.5
Toluene	0.2	U	0.2	U	30	0.2	U	0.2	U	0.2	U	2	0.2	U	68.6
Ethylbenzene	0.2	U	0.2	U	30	0.2	U	0.2	U	0.2	U	29	0.2	U	140
Total Xylenes	0.6	U	0.6	U	70	0.6	U	0.6	U	0.6	U	85	0.6	U	124
<b>PAHs</b>															
Naphthalene	0.77	U	0.77	U	2,080	0.77	U	0.77	U	0.76	U	6,470	0.76	U	8.0
Acenaphthalene	0.77	U	0.77	U	114	0.77	U	0.77	U	0.76	U	15	0.76	U	NA
Acenaphthene	0.77	U	0.77	U	672	0.77	U	0.77	U	0.76	U	200	0.76	U	NA
Fluorene	0.16	U	0.16	U	368	0.16	U	0.16	U	0.16	U	3.3	0.16	U	80
Phenanthrene	0.044	U	0.052	J	148	0.150	J	0.044	U	0.044	U	0.88	0.044	U	NA
Anthracene	0.030	U	0.030	U	74	0.030	U	0.030	U	0.030	U	0.030	0.131	J	NA
Fluoranthene	0.019	U	0.045	J	374	0.190	J	0.019	U	0.019	U	0.019	0.044	J	NA
Pyrene	0.17	U	0.17	U	393	0.22	J	0.17	U	0.17	U	0.17	0.17	U	NA
Benzo(a)anthracene	0.017	U	0.017	U	64.9	0.039	J	0.041	J	0.017	U	0.017	0.017	U	NA
Chrysene	0.060	J	0.056	U	81	0.086	J	0.057	U	0.129	J	0.056	0.056	U	NA
Benzo(b)fluoranthene	0.034	U	0.033	U	21.3	0.034	U	0.034	U	0.033	U	0.033	0.033	U	NA
Benzo(k)fluoranthene	0.026	U	0.026	U	11.5	0.026	U	0.026	U	0.026	U	0.026	0.026	U	NA
Benzo(a)pyrene	0.021	U	0.021	U	25.3	0.040	J	0.021	U	0.021	U	0.021	0.021	U	0.02
Dibenzo(a,h)pyrene	0.045	U	0.045	U	0.23	U	0.045	U	0.061	J	0.045	U	0.045	U	NA
Benzo(g,h,l)perylene	0.095	U	0.095	U	6.8	0.095	U	0.095	U	0.094	U	0.095	0.094	U	NA
Indeno(1,2,3-cd)pyrene	0.061	U	0.061	U	8.3	0.061	U	0.061	U	0.061	U	0.061	0.061	U	NA

VOC - Volatile Organic Compound.

PAH - Polynuclear Aromatic Hydrocarbon.

PAL - Wisconsin Department of Natural Resources Preventative Action Limit.

NA - PAL not available for this parameter.

Table 3 (Cont.)

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

Sample ID:	MW-9S-01	MW-9I-01	MW-10S-01	MW-13S-01	MW-20I-01	MW-20I-01(D)	MW-25S-01	MW-25S-01(D)	WDNR PAL ug/L								
Sample Matrix:	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater									
Sample Date:	3/25/98	3/25/98	3/25/98	3/24/98	3/26/98	3/26/98	3/24/98	3/24/98									
Units of Measure:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L									
<b>Parameters</b>																	
<b>VOCs</b>																	
Benzene	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.5
Toluene	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	68.6
Ethylbenzene	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	140
Total Xylenes	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	124
<b>PAHs</b>																	
Naphthalene	0.77	U	0.76	U	0.76	U	0.76	U	0.76	U	0.77	U	0.82	U	0.77	U	8.0
Acenaphthalene	0.77	U	0.76	U	0.76	U	0.76	U	0.76	U	0.77	U	0.82	U	0.77	U	NA
Acenaphthene	0.77	U	0.76	U	0.76	U	0.76	U	0.76	U	0.77	U	0.82	U	0.77	U	NA
Fluorene	0.16	U	0.16	U	0.16	U	0.16	U	0.16	U	0.16	U	0.17	U	0.16	U	80
Phenanthrene	0.044	U	0.044	U	0.044	U	0.044	U	0.061	J	0.044	U	0.047	U	0.044	U	NA
Anthracene	0.030	U	0.030	U	0.030	U	0.030	U	0.030	U	0.030	U	0.032	U	0.030	U	NA
Fluoranthene	0.019	U	0.032	J	0.019	U	0.034	J	0.019	U	0.062	J	0.020	U	0.019	U	NA
Pyrene	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.18	U	0.17	U	NA
Benzo(a)anthracene	0.017	U	0.017	U	0.017	U	0.295		0.017	U	0.017	U	0.018	U	0.017	U	NA
Chrysene	0.057	U	0.056	U	0.056	U	0.50		0.056	U	0.071	J	0.060	U	0.057	U	NA
Benzo(b)fluoranthene	0.034	U	0.033	U	0.033	U	0.627		0.033	U	0.078		0.036	U	0.034	U	NA
Benzo(k)fluoranthene	0.026	U	0.026	U	0.026	U	0.689		0.026	U	0.042	J	0.028	U	0.026	U	NA
Benzo(a)pyrene	0.021	U	0.033	J	0.021	U	0.699		0.021	U	0.035	J	0.022	U	0.021	U	0.02
Dibenzo(a,h)pyrene	0.045	U	0.045	U	0.045	U	0.83		0.045	U	0.045	U	0.048	U	0.045	U	NA
Benzo(g,h,l)perylene	0.095	U	0.095	U	0.094	U	0.78		0.095	U	0.095	U	0.10	U	0.095	U	NA
Indeno(1,2,3-cd)pyrene	0.061	U	0.061	U	0.061	U	0.70		0.061	U	0.062	U	0.065	U	0.061	U	NA

VOC - Volatile Organic Compound.

PAH - Polynuclear Aromatic Hydrocarbon.

PAL - Wisconsin Department of Natural Resources Preventative Action Limit.

NA - PAL not available for this parameter.

Table 3 (Cont.)

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

Sample ID:	MW-26S-01	MW-27S-01	MW-28S-01	MW-29S-01	MW-29S-01(D)	TW-05-01	TW-09-01	FB-01	WDNR PAL ug/L								
Sample Matrix:	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater									
Sample Date:	3/24/98	3/25/98	3/25/98	3/25/98	3/25/98	3/25/98	3/25/98	3/24/98									
Units of Measure:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L									
<b>Parameters</b>																	
<b>VOCs</b>																	
Benzene	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	2	J	0.2	U	0.5
Toluene	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	2	J	1.0		68.6
Ethylbenzene	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	8	J	0.2	U	140
Total Xylenes	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	25	J	0.6	U	124
<b>PAHs</b>																	
Naphthalene	1.99	J	0.83	U	0.77	U	0.76	U	0.76	U	3.51	J	3,080		0.76	U	8.0
Acenaphthylene	0.83	U	0.83	U	0.77	U	0.76	U	0.76	U	14.7		98	U	0.76	U	NA
Acenaphthene	0.83	U	0.83	U	0.77	U	0.76	U	0.76	U	111		534	J	0.76	U	NA
Fluorene	0.18	U	0.18	U	0.16	U	0.16	U	0.16	U	3.3	U	21	U	0.16	U	80
Phenanthrene	0.048	U	0.048	U	0.044	U	0.044	U	0.044	U	3.77		779		0.044	U	NA
Anthracene	0.032	U	0.032	U	0.030	U	0.030	U	0.030	U	8.3		82		0.030	U	NA
Fluoranthene	0.021	U	0.021	J	0.019	U	0.056	J	0.052	J	29.3		314		0.019	U	NA
Pyrene	0.19	U	0.19	U	0.17	U	0.17	U	0.17	U	26.8		324		0.17	U	NA
Benzo(a)anthracene	0.019	U	0.019	U	0.017	U	0.017	U	0.017	U	4.4		49.4		0.017	U	NA
Chrysene	0.061	U	0.061	U	0.057	U	0.068	J	0.056	U	7.35		79.9		0.056	U	NA
Benzo(b)fluoranthene	0.036	U	0.036	J	0.034	U	0.033	U	0.045	J	1.57		16.3		0.033	U	NA
Benzo(k)fluoranthene	0.028	U	0.028	U	0.026	U	0.026	U	0.026	U	0.854		8.88		0.026	U	NA
Benzo(a)pyrene	0.023	U	0.023	U	0.021	U	0.021	U	0.021	U	2.04		20.3		0.021	U	0.02
Dibenzo(a,h)pyrene	0.049	U	0.049	U	0.045	U	0.045	U	0.045	U	0.046	U	0.29	U	0.045	U	NA
Benzo(g,h,l)perylene	0.10	U	0.10	U	0.095	U	0.094	U	0.094	U	0.096	U	4.1		0.095	U	NA
Indeno(1,2,3-cd)pyrene	0.066	U	0.066	U	0.061	U	0.061	U	0.095	J	0.58		5.4		0.061	U	NA

VOC - Volatile Organic Compound.

PAH - Polynuclear Aromatic Hydrocarbon.

PAL - Wisconsin Department of Natural Resources Preventative Action Limit.

NA - PAL not available for this parameter.



Table 3 (Cont.)

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

Sample ID:	FB-02		FB-03		WDNR PAL ug/L
Sample Matrix:	Groundwater		Groundwater		
Sample Date:	3/25/98		3/26/98		
Units of Measure:	ug/L		ug/L		
<b>Parameters</b>					
<b>VOCs</b>					
Benzene	0.2	U	0.2	U	0.5
Toluene	2.0		1.0		68.6
Ethylbenzene	0.2	U	0.2	U	140
Total Xylenes	0.6	U	0.6	U	124
<b>PAHs</b>					
Naphthalene	0.77	U	0.77	U	8.0
Acenaphthylene	0.77	U	0.77	U	NA
Acenaphthene	0.77	U	0.77	U	NA
Fluorene	0.16	U	0.16	U	80
Phenanthrene	0.044	U	0.044	U	NA
Anthracene	0.030	U	0.030	U	NA
Fluoranthene	0.019	U	0.019	U	NA
Pyrene	0.17	U	0.17	U	NA
Benzo(a)anthracene	0.017	U	0.017	U	NA
Chrysene	0.057	U	0.057	U	NA
Benzo(b)fluoranthene	0.034	U	0.034	U	NA
Benzo(k)fluoranthene	0.026	U	0.026	U	NA
Benzo(a)pyrene	0.021	U	0.021	U	0.02
Dibenzo(a,h)pyrene	0.045	U	0.045	U	NA
Benzo(g,h,i)perylene	0.095	U	0.096	U	NA
Indeno(1,2,3-cd)pyrene	0.061	U	0.062	U	NA

VOC - Volatile Organic Compound.

PAH - Polynuclear Aromatic Hydrocarbon.

PAL - Wisconsin Department of Natural Resources Preventative Action Limit.

NA - PAL not established for this parameter.





**Attachment A**  
**Laboratory Reports**



Roy F. Weston, Inc.  
Suite 270  
2125 University Park Drive  
Okemos, Michigan 48864-3975  
517-349-8255 • Fax 517-349-0798

10 June 1998

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

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

Dear Dr. Graan:

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

**Polynuclear Aromatic Hydrocarbons (PAHs by HPLC)**

**SDG # MOS01**

1. Samples

<u>Weston Code</u>	<u>Lab Sample No.</u>	<u>Date Collected</u>	<u>Date Extracted</u>	<u>Date Analyzed</u>
MW-5S-01	2898923	3/24/98	3/31/98	4/1/98
MW-3S-01	2898924	3/24/98	3/31/98	4/1/98
MW-26A-01	2898925	3/24/98	3/31/98	4/1/98
MW-25S-01	2898926	3/24/98	3/31/98	4/1/98
MW-25S-01 DUP	2898927	3/24/98	3/31/98	4/1/98
MW-13S-01	2898928	3/24/98	3/31/98	4/1/98
MW-4S-01	2898929	3/24/98	3/31/98	4/1/98
FB-01-01	2898930	3/24/98	3/31/98	4/1/98
MW-4I-01	2898931	3/24/98	3/31/98	4/1/98
MW-3I-01	2899590	3/25/98	3/31/98	4/1/98
MW-7S-01	2899591	3/25/98	3/31/98	4/1/98
MW-7S-01MS	2899592	3/25/98	3/31/98	4/1/98
MW-7S-01MSD	2899593	3/25/98	3/31/98	4/1/98
TW-05-01	2899594	3/25/98	3/31/98	4/1/98
TW-09-01	2899595	3/25/98	3/31/98	4/1/98





Dr. Thomas Graan  
Roy. F. Weston, Inc.

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10 June 1998

**Moss American  
SDG # MOS01**

1. Samples (Continued)

<u>Weston Code</u>	<u>Lab Sample No.</u>	<u>Date Collected</u>	<u>Date Extracted</u>	<u>Date Analyzed</u>
MW-6S-01	2899596	3/25/98	3/31/98	4/1/98
MW-27S-01	2899597	3/25/98	3/31/98	4/1/98
MW-28S-01	2899598	3/25/98	3/31/98	4/1/98
MW-29S-01	2899599	3/25/98	3/31/98	4/1/98
MW-9S-01	2899600	3/25/98	3/31/98	4/2/98
MW-9I-01	2899601	3/25/98	3/31/98	4/2/98
FB-02-01	2899602	3/25/98	3/31/98	4/2/98

2. Holding Times

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

3. Method Blanks

The method blank associated with this laboratory batch (Batch # 980900007A) was free of contamination.

4. Field Blanks

Two field blanks (Samples FB-01-01 and FB-02-01) were associated with these samples. Both field blanks were free of contamination.

5. Matrix Spike/Matrix Spike Duplicate

Sample MW-7S-01 was used at the matrix spike/matrix spike duplicate. The matrix spike recoveries for acenaphthylene (216%), fluorene (239%) and benzo (a) pyrene (126%) were outside the Moss American QAPP (1996 Revision) quality control limits. The matrix spike duplicate recoveries for acenaphthylene (211%), fluorene (238%) and benzo (a) pyrene (124%) were outside the Moss American QAPP (1996 Revision) quality control limits. The laboratory did not re-extract, re-prepare and reanalyze the matrix spike/matrix spike duplicate samples because the recoveries were not outside the laboratory generated statistical acceptance limits. Since the associated laboratory control sample results were acceptable for these compounds, no



Dr. Thomas Graan  
Roy. F. Weston, Inc.

10 June 1998

action was taken based on the assumption that the out of control recoveries were due to matrix interferences.

6. Surrogate Compound Recoveries

The nitrobenzene surrogate spike recovery for sample MW-4S-01 (56%) was outside the Moss American QAPP (Revision 1996) quality control limits. This recovery was not outside the Lancaster Laboratory acceptance limit, so the sample was not re-extracted and reanalyzed. Qualify the PAH results for sample MW-4S-01 as estimated (J). The terphenylene surrogate spike recoveries for samples MW-4S-01 and TW-09-01 were not reported due to matrix interferences. Also, the terphenylene surrogate spike recovery for sample TW-05-01 (248%) was outside the quality control limits. The Moss American QAPP specifies nitrobenzene as the surrogate for PAHs by 8310. The Lancaster Laboratory method specifies terphenylene and nitrobenzene as surrogates for PAHs. The Lancaster Laboratory method states that as long as one of the surrogates is in control than no action is taken.

7. Laboratory Control Sample

The laboratory control sample recovery results were acceptable.

8. Overall Assessment

The laboratory did not re-extract, re-prepare and re-analyze the matrix spike/matrix spike duplicate samples after analyses determined that the acenaphthylene, fluorene and benzo(a) pyrene recoveries were out of control. Also, the laboratory did not re-extract and re-analyze sample MW-4S-01 to confirm that matrix interferences were responsible for the of control surrogate spike recovery. The PAH results for sample MW-4S-01 were qualified as estimated (J) due to surrogate recoveries outside the quality control limits.

Volatiles by GC (BTEX)

SDG # MOS01

1. Samples

<u>Weston Code</u>	<u>Lab Sample No.</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
MW-5S-01	2898923	3/24/98	3/28/98
MW-3S-01	2898924	3/24/98	3/29/98
MW-26A-01	2898925	3/24/98	3/28/98
MW-25S-01	2898926	3/24/98	3/29/98
MW-25S-01 DUP	2898927	3/24/98	3/29/98





Dr. Thomas Graan  
Roy. F. Weston, Inc.

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10 June 1998

Volatiles by GC (BTEX)

SDG # MOS01

1. Samples (Continued)

<u>Weston Code</u>	<u>Lab Sample No.</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
MW-13S-01	2898928	3/24/98	3/29/98
MW-4S-01	2898929	3/24/98	3/30/98
FB-01-01	2898930	3/24/98	4/1/98
MW-4I-01	2898931	3/24/98	4/1/98
MW-3I-01	2899590	3/25/98	3/28/98
MW-7S-01	2899591	3/25/98	3/30/98
MW-7S-01MS	2899592	3/25/98	3/30/98
MW-7S-01MSD	2899593	3/25/98	3/30/98
TW-05-01	2899594	3/25/98	3/30/98
TW-09-01	2899595	3/25/98	3/28/98
MW-6S-01	2899596	3/25/98	3/30/98
MW-27S-01	2899597	3/25/98	3/30/98
MW-28S-01	2899598	3/25/98	3/30/98
MW-29S-01	2899599	3/25/98	3/30/98
MW-9S-01	2899600	3/25/98	3/30/98
MW-9I-01	2899601	3/25/98	3/31/98
FB-02-01	2899602	3/25/98	3/31/98

2. Holding Times

All samples were analyzed within the required the holding time.

3. Method Blanks

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

4. Field Blanks

Two field blanks were associated with these samples (FB-01-01 and FB-02-01). Toluene at 1 ug/L was detected in field blank FB-01-01. Toluene at 2 ug/L was detected in field blank FB-02-01.



Dr. Thomas Graan  
Roy. F. Weston, Inc.

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10 June 1998

5. Matrix Spike/Matrix Spike Duplicate

All matrix spike/matrix spike duplicate results were acceptable.

6. Surrogates

The trifluorotoluene (TFT) surrogate spike recoveries for samples MW-25S-01 and MW-25S-01 DUP were outside the Moss American QAPP (Revision 1996) quality control limits due to matrix interferences. The samples were not re-extracted and re-analyzed to confirm the matrix interferences because the recoveries were not outside the Lancaster Laboratory generated acceptance limits. Qualify the BTEX results for samples MW-25S-01 and MW-25S-01DUP as estimated (J).

**Moss American  
SDG # MOS01**

7. Laboratory Control Sample

Laboratory control sample results were not presented for samples MW-5S-01, MW-3S-01, MW-26S-01, MW-25S-01, MW-25S-01 DUP, MW-13S-01, MW-4S-01, MW-3I-01 and TW-09-01. All other samples had a laboratory control sample audit associated with them and the results were acceptable.

8. Overall Assessment

The TFT surrogate spike recoveries for samples MW-25S-01 and MW-25S-01 DUP were outside the acceptance limits due to matrix interferences. These samples were not re-extracted and re-analyzed to confirm the interferences. Therefore, the BTEX results for samples MW-25S-01 and MW-25S-01 DUP were qualified as estimated (J).

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

Very truly yours,

A handwritten signature in cursive script that reads "Linda J. Korobka/slr".

Linda J. Korobka  
Senior Project Scientist

LJK/slr



Roy F. Weston, Inc.  
Suite 270  
2125 University Park Drive  
Okemos, Michigan 48864-3975  
517-349-8255 • Fax 517-349-0798

10 June 1998

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

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

Dear Dr. Graan:

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

**Polynuclear Aromatic Hydrocarbons (PAHs by HPLC)**

**SDG # MOS02**

1. Samples

<u>Weston Code</u>	<u>Lab Sample No.</u>	<u>Date Collected</u>	<u>Date Extracted</u>	<u>Date Analyzed</u>
MW-20I-01	2900474	3/26/98	4/1/98	4/3/98
MW-20I-01 DUP	2900475	3/26/98	4/1/98	4/3/98
MW-8I-01	2900476	3/26/98	4/1/98	4/3/98
MW-8I-01 MS	2900477	3/26/98	4/1/98	4/3/98
MW-8I-01 MSD	2900478	3/26/98	4/1/98	4/4/98
FB-03-01	2900479	3/26/98	4/1/98	4/4/98
MW-29S-01 DUP	2899603	3/25/98	4/1/98	4/7/98
MW-10S-01	2899604	3/25/98	4/1/98	4/3/98

2. Holding Times

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





Dr. Thomas Graan  
Roy F. Weston, Inc.

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10 June 1998

**Moss American  
SDG # MOS02**

3. Method Blanks

The method blank associated with these samples was free of contamination.

4. Field Blanks

The field blank (Sample FB-03-01) associated with these samples was free of contamination.

5. Matrix Spike/Matrix Spike Duplicate

All matrix spike/matrix spike duplicate results were acceptable.

6. Surrogates

The nitrobenzene surrogate spike recovery for sample MW-29S-01 DUP was outside the quality control limits established in the Moss American QAPP. The laboratory did not re-extract and re-analyze sample MW-29S-01 DUP for confirmation of matrix interferences because the recovery was within the laboratory generated statistical control limits. Therefore, qualify as estimated (J) all PAH results in sample MW-29S-01 DUP.

7. Laboratory Control Sample

All laboratory control sample results were acceptable.

8. Overall Assessment

The field blank (FB-03-01) contained toluene at 1 ug/L. The nitrobenzene surrogate spike recovery for sample MW-29S-01 DUP was outside the acceptance limits. The PAH results for sample MW-29S-01 DUP were qualified as estimated (J) due to an out of control surrogate spike recovery.



Dr. Thomas Graan  
Roy F. Weston, Inc.

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10 June 1998

Volatiles by GC (BTEX)

SDG # MOS02

1. Samples

<u>Weston Code</u>	<u>Lab Sample No.</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
MW-20I-01	2900474	3/26/98	4/1/98
MW-20I-01 DUP	2900475	3/26/98	4/1/98
MW-8I-01	2900476	3/26/98	4/1/98
MW-8I-01 MS	2900477	3/26/98	4/1/98
MW-8I-01 MSD	2900478	3/26/98	4/1/98
FB-03-01	2900479	3/26/98	4/2/98
MW-29S-01 DUP	2899603	3/25/98	3/30/98
MW-10S-01	2899604	3/25/98	3/30/98

2. Holding Times

All samples were analyzed within the required holding time.

3. Method Blanks

The method blank associated with these samples was free of contamination.

4. Field Blanks

The field blank (Sample FB-03-01) associated with these samples contained toluene at 1 ug/L.

5. Matrix Spike/Matrix Spike Duplicate

All matrix spike/matrix spike duplicate results were acceptable.

6. Surrogates

The surrogate associated with these samples had acceptable recoveries.

7. Laboratory Control Samples

The laboratory control sample results were acceptable.



Dr. Thomas Graan  
Roy F. Weston, Inc.

-4-

10 June 1998

**Moss American**  
**SDG # MOS02**

8. Overall Assessment

The field blank contained toluene at 1 ug/L. All other quality control audits were in control.

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

Very truly yours,

Linda J. Korobka  
Senior Project Scientist

LJK/slr





**LLI Sample No. WW 2898923**

Collected: 3/24/98 at 10:55 by JA

Submitted: 3/25/98 Reported: 4/ 8/98  
Discard: 5/ 9/98

MW-5S-01 Grab Water Sample

Moss-American Site - IL  
MW5S1 SDG#: MOS01-01

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

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

The sample number 2898923 31A was found broken in the ASR area on 4-03-98

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. Greg Kinsall

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
20:04:58 D 0003 9 608159  
232 0.00 00027500 ASR000

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



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





**LLI Sample No. WW 2898923**

Collected: 3/24/98 at 10:55 by JA

Submitted: 3/25/98 Reported: 4/ 8/98

Discard: 5/ 9/98

MW-5S-01 Grab Water Sample

Moss-American Site - IL  
MW5S1 SDG#: MOS01-01

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

P.O. MOSS-AMERICAN  
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	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	0.041 J	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	0.061 J	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  
2425 New Hollano Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax 717-656-2681





LLI Sample No. WW 2898923

Collected: 3/24/98 at 10:55 by JA

Submitted: 3/25/98 Reported: 4/ 8/98

Discard: 5/ 9/98

MW-5S-01 Grab Water Sample

Moss-American Site - IL  
MW5S1 SDG#: MOS01-01

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.2	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 McClarin, B.A.  
Manager, Volatiles



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

See reverse side for explanation of symbols and abbreviations

2214 Rev. 8/1/97





**LLI Sample No. WW 2898923**

Collected: 03/24/98 at 10:55 by JA

Submitted: 03/25/98

MW-5S-01 Grab Water Sample

Moss-American Site - IL  
MW5S1 SDG#: MOS01-01

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	04/01/98 1627	Michele D. Mack
3337	PAH Water Extraction	SW-846 3510C	1	03/31/98 2330	Sherry Lynn Devlin
8213	BTEX (8021)	SW-846 8021B	1	03/28/98 1746	Steven J. Stabinger



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





LLI Sample No. **2898923**

MW-5S-01 Grab Water Sample

Moss-American Site - IL

Group No. 608159  
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH	
-----		Batch: 980900007A										
1861 PAH's in Water												
3280	Naphthalene											
	0.77 ug/l	N.D.		54	-51 (2)	3	73			37	120	
3281	Acenaphthylene											
	0.77 ug/l	N.D.		216	211	3	81			41	135	
3282	Acenaphthene											
	0.77 ug/l	N.D.		88	88	0	76			38	135	
3283	Fluorene											
	0.16 ug/l	N.D.		239	238	1	81			41	140	
3284	Phenanthrene											
	0.044 ug/l	N.D.		101	99	3	96			48	152	
3285	Anthracene											
	0.030 ug/l	N.D.		90	84	7	79			42	143	
3286	Fluoranthene											
	0.019 ug/l	N.D.		105	103	2	100			48	155	
3287	Pyrene											
	0.17 ug/l	N.D.		102	99	3	94			51	146	
3288	Benzo(a)anthracene											
	0.017 ug/l	N.D.		108	106	2	100			52	146	
3289	Chrysene											
	0.057 ug/l	N.D.		108	107	1	102			56	145	
3290	Benzo(b)fluoranthene											
	0.034 ug/l	N.D.		108	107	1	100			59	141	
3291	Benzo(k)fluoranthene											
	0.026 ug/l	N.D.		109	107	2	101			60	137	
3292	Benzo(a)pyrene											
	0.021 ug/l	N.D.		126	123	3	114			42	158	
3293	Dibenzo(a,h)anthracene											
	0.045 ug/l	N.D.		110	108	2	102			49	142	
3294	Benzo(g,h,i)perylene											
	0.095 ug/l	N.D.		116	114	2	107			46	148	
3295	Indeno(1,2,3-cd)pyrene											
	0.061 ug/l	N.D.		111	108	3	104			64	134	
-----		Batch: 98087A53										
8213 BTEX (8021)												
0776	Benzene											
	0.2 ug/l	N.D.		98	98	1						
0777	Toluene											
	0.2 ug/l	N.D.		102	100	2						
0778	Ethylbenzene											
	0.2 ug/l	N.D.		102	101	1						
0779	Total Xylenes											
	0.6 ug/l	N.D.		101	100	1						

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



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

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/3/97





**LLI Sample No. 2898923**  
MW-5S-01 Grab Water Sample

Moss-American Site - IL

Group No. 608159  
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS	
	TRIAL ID	SURROGATE	RECOVERY %	LOW HIGH
1861 PAH's in Water		Nitrobenz	90	60 120
		Triphenyle	93	60 120
8213 BTEX (8021)		TFT	98	70 130



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

See reverse side for explanation of symbols and abbreviations.

2214 Rev. 8/14/93







LLI Sample No. WW 2898924

Collected: 3/24/98 at 12:00 by JA

Submitted: 3/25/98 Reported: 4/ 8/98

Discard: 5/ 9/98

MW-3S-01 Grab Water Sample

Moss-American Site - IL  
MW3S1 SDG#: MOS01-02

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

P.O. MOSS-AMERICAN  
Rel.

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

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. Greg Kinsall

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
20:05:35 D 0003 9 608159  
232 0.00 00027500 ASR000

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax: 717-656-2581





LLI Sample No. WW 2898924

Collected: 3/24/98 at 12:00 by JA

Submitted: 3/25/98 Reported: 4/ 8/98

Discard: 5/ 9/98

MW-3S-01 Grab Water Sample

Moss-American Site - IL

MW3S1 SDG#: MOS01-02

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	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	0.060 J	0.057	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.034	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.095	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.061	ug/l

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

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



Lancaster Laboratories  
 2425 New Holland Pike  
 PO Box 12425  
 Lancaster, PA 17605-2425  
 717-656-2300 Fax 717-656-2661

See reference page for explanation of symbols and abbreviations

0210 Rev. 9/14/97





LLI Sample No. **WW 2898925**

Collected: 3/24/98 at 13:50 by JA

Submitted: 3/25/98 Reported: 4/10/98

Discard: 5/11/98

MW-26S-01 Grab Water Sample

Moss-American Site - IL

MW26S SDG#: MOS01-03

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	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. Greg Kinsall

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
19:33:16 D 0003 9 REP 608159  
386 0.00 00027500 ASR000

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax 717-656-2887





LLI Sample No. WW **2898925**

Collected: 3/24/98 at 13:50 by JA

Submitted: 3/25/98 Reported: 4/10/98

Discard: 5/11/98

MW-26S-01 Grab Water Sample

Moss-American Site - IL  
MW26S SDG#: MOS01-03

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD		
			DETECTION	LIMIT	UNITS
PAH's in Water					
3280	Naphthalene	1.99 J	0.83		ug/l
3281	Acenaphthylene	N.D.	0.83		ug/l
3282	Acenaphthene	N.D.	0.83		ug/l
3283	Fluorene	N.D.	0.18		ug/l
3284	Phenanthrene	N.D.	0.048		ug/l
3285	Anthracene	N.D.	0.032		ug/l
3286	Fluoranthene	N.D.	0.021		ug/l
3287	Pyrene	N.D.	0.19		ug/l
3288	Benzo(a)anthracene	N.D.	0.019		ug/l
3289	Chrysene	N.D.	0.061		ug/l
3290	Benzo(b)fluoranthene	N.D.	0.036		ug/l
3291	Benzo(k)fluoranthene	N.D.	0.028		ug/l
3292	Benzo(a)pyrene	N.D.	0.023		ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.049		ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.10		ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.066		ug/l

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

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

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



Lancaster Laboratories  
2425 New Holland Pkwy  
PO Box 12425  
Lancaster, PA 17605-2425  
TEL: (717) 656-2300 FAX: (717) 656-2301





LLI Sample No. **WW 2898925**

Collected: 3/24/98 at 13:50 by JA

Submitted: 3/25/98 Reported: 4/10/98

Discard: 5/11/98

MW-26S-01 Grab Water Sample

Moss-American Site - IL  
MW26S SDG#: MOS01-03

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

P.O. MOSS-AMERICAN  
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION	LIMIT UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.2	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 McClarin, B.A.  
Manager, Volatiles



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





**LLI Sample No. WW 2898925**

Collected: 03/24/98 at 13:50 by JA

Submitted: 03/25/98

MW-26S-01 Grab Water Sample

Moss-American Site - IL  
MW26S SDG#: MOS01-03

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	04/01/98 1704	Michele D. Mack
3337	PAH Water Extraction	SW-846 3510C	1	03/31/98 2330	Sherry Lynn Devlin
8213	BTEX (8021)	SW-846 8021B	1	03/28/98 1825	Steven J. Stabinger



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-555-2300 Fax 717-555-2581





**LLI Sample No. 2898925**

MW-26S-01 Grab Water Sample

Moss-American Site - IL

Group No. 608159  
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: 980900007A									
-----											
3280	Naphthalene										
	0.83 ug/l	N.D.		54	-51 (2)	3	73			37	120
3281	Acenaphthylene										
	0.83 ug/l	N.D.		216	211	3	81			41	135
3282	Acenaphthene										
	0.83 ug/l	N.D.		88	88	0	76			38	135
3283	Fluorene										
	0.18 ug/l	N.D.		239	238	1	81			41	140
3284	Phenanthrene										
	0.048 ug/l	N.D.		101	99	3	96			48	152
3285	Anthracene										
	0.032 ug/l	N.D.		90	84	7	79			42	143
3286	Fluoranthene										
	0.021 ug/l	N.D.		109	106	3	100			48	155
3287	Pyrene										
	0.19 ug/l	N.D.		102	99	3	94			51	146
3288	Benzo(a)anthracene										
	0.019 ug/l	N.D.		108	106	2	100			52	146
3289	Chrysene										
	0.061 ug/l	N.D.		108	109	0	102			56	145
3290	Benzo(b)fluoranthene										
	0.036 ug/l	N.D.		108	107	1	100			59	141
3291	Benzo(k)fluoranthene										
	0.028 ug/l	N.D.		109	107	2	101			60	137
3292	Benzo(a)pyrene										
	0.023 ug/l	N.D.		126	124	2	114			42	158
3293	Dibenzo(a,h)anthracene										
	0.049 ug/l	N.D.		110	108	2	102			49	142
3294	Benzo(g,h,i)perylene										
	0.10 ug/l	N.D.		116	114	2	107			46	148
3295	Indeno(1,2,3-cd)pyrene										
	0.066 ug/l	N.D.		111	109	2	104			64	134
-----											
8213 BTEX (8021)		Batch: 98087A53									
-----											
0776	Benzene										
	0.2 ug/l	N.D.		98	98	1					
0777	Toluene										
	0.2 ug/l	N.D.		102	100	2					
0778	Ethylbenzene										
	0.2 ug/l	N.D.		102	101	1					
0779	Total Xylenes										
	0.6 ug/l	N.D.		101	100	1					

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-550-2300 Fax 717-550-2551

See reverse side for explanation of symbols and abbreviations

2216 Rev 8/14/97



**LLI Sample No. 2898925**  
MW-26S-01 Grab Water Sample

Moss-American Site - IL

Group No. 608159  
Kerr-McGee Corporation

### SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	86	60	120
	Triphenyle	91	60	120
8213 BTEX (8021)	TFT	98	70	130



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-3201 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/16/97







LLI Sample No. WW 2898926

Collected: 3/24/98 at 14:40 by JA

Submitted: 3/25/98 Reported: 4/10/98

Discard: 5/11/98

MW-25S-01 Grab Water Sample

Moss-American Site - IL  
MW25S SDG#: MOS01-04

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

P.O. MOSS-AMERICAN  
Rel.

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

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
19:33:58 D 0003 9 REP 608159  
386 0.00 00027500 ASR000

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



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





**LLI Sample No. WW 2898926**

Collected: 3/24/98 at 14:40 by JA

Submitted: 3/25/98 Reported: 4/10/98

Discard: 5/11/98

MW-25S-01 Grab Water Sample

Moss-American Site - IL  
MW25S SDG#: MOS01-04

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	N.D.	0.82	ug/l
3281	Acenaphthylene	N.D.	0.82	ug/l
3282	Acenaphthene	N.D.	0.82	ug/l
3283	Fluorene	N.D.	0.17	ug/l
3284	Phenanthrene	N.D.	0.047	ug/l
3285	Anthracene	N.D.	0.032	ug/l
3286	Fluoranthene	N.D.	0.020	ug/l
3287	Pyrene	N.D.	0.18	ug/l
3288	Benzo(a)anthracene	N.D.	0.018	ug/l
3289	Chrysene	N.D.	0.060	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.036	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.028	ug/l
3292	Benzo(a)pyrene	N.D.	0.022	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.048	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.10	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.065	ug/l

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

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

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



Lancaster Laboratories  
2435 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
(717) 656-2300 Fax: (717) 656-2661





LLI Sample No. WW 2898926

Collected: 3/24/98 at 14:40 by JA

Submitted: 3/25/98 Reported: 4/10/98

Discard: 5/11/98

MW-25S-01 Grab Water Sample

Moss-American Site - IL  
MW25S SDG#: MOS01-04

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS

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

Due to the nature of the sample matrix, the surrogate standard recovery is above the range of specifications.

*Z. Knowl*  
*at 5/11/98*

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

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



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

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/14/97





**LLI Sample No. WW 2898926**  
Collected: 03/24/98 at 14:40 by JA

Submitted: 03/25/98

MW-25S-01 Grab Water Sample

Moss-American Site - IL  
MW25S SDG#: MOS01-04

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	04/01/98 1722	Michele D. Mack
3337	PAH Water Extraction	SW-846 3510C	1	03/31/98 2330	Sherry Lynn Devlin
8213	BTEX (8021)	SW-846 8021B	1	03/29/98 2056	Patrick N. Evans



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax: 717-656-2691





LLI Sample No. **2898926**  
MW-25S-01 Grab Water Sample

Moss-American Site - IL

Group No. 608159  
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LIMITS LOW	LCS LIMITS HIGH
-----											
1861 PAH's in Water		Batch: 980900007A									
-----											
3280	Naphthalene										
	0.82 ug/l	N.D.		54	-51 (2)	3	73			37	120
3281	Acenaphthylene										
	0.82 ug/l	N.D.		216	211	3	81			41	135
3282	Acenaphthene										
	0.82 ug/l	N.D.		88	88	0	76			38	135
3283	Fluorene										
	0.17 ug/l	N.D.		239	238	1	81			41	140
3284	Phenanthrene										
	0.047 ug/l	N.D.		101	99	3	96			48	152
3285	Anthracene										
	0.032 ug/l	N.D.		90	84	7	79			42	143
3286	Fluoranthene										
	0.020 ug/l	N.D.		109	106	3	100			48	155
3287	Pyrene										
	0.18 ug/l	N.D.		102	99	3	94			51	146
3288	Benzo(a)anthracene										
	0.018 ug/l	N.D.		108	106	2	100			52	146
3289	Chrysene										
	0.060 ug/l	N.D.		108	109	0	102			56	145
3290	Benzo(b)fluoranthene										
	0.036 ug/l	N.D.		108	107	1	100			59	141
3291	Benzo(k)fluoranthene										
	0.028 ug/l	N.D.		109	107	2	101			60	137
3292	Benzo(a)pyrene										
	0.022 ug/l	N.D.		126	124	2	114			42	158
3293	Dibenzo(a,h)anthracene										
	0.048 ug/l	N.D.		110	108	2	102			49	142
3294	Benzo(g,h,i)perylene										
	0.10 ug/l	N.D.		116	114	2	107			46	148
3295	Indeno(1,2,3-cd)pyrene										
	0.065 ug/l	N.D.		111	109	2	104			64	134
-----											
8213 BTEX (8021)		Batch: 98087A53									
-----											
0776	Benzene										
	0.2 ug/l	N.D.		98	98	1					
0777	Toluene										
	0.2 ug/l	N.D.		102	100	2					
0778	Ethylbenzene										
	0.2 ug/l	N.D.		102	101	1					
0779	Total Xylenes										
	0.6 ug/l	N.D.		101	100	1					

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax: 717-656-2661

See reverse side for full definition of symbols and abbreviations

2216 Rev. 8/4/97





LLI Sample No. **2898926**  
MW-25S-01 Grab Water Sample

Moss-American Site - IL

Group No. 608159  
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS	
	TRIAL ID	SURROGATE	RECOVERY %	LOW HIGH
1861 PAH's in Water		Nitrobenz	77	60 120
		Triphenyle	79	60 120
8213 BTEX (8021)		TFT	223	70 130



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-650-2300 Fax: 717-650-2651

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/1997





LLI Sample No. WW 2898927

Collected: 3/24/98 at 14:40 by JA

Submitted: 3/25/98 Reported: 4/ 8/98

Discard: 5/ 9/98

MW-25S-01-DUP Grab Water Sample

Moss-American Site - IL  
251DU SDG#: MOS01-05

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

P.O. MOSS-AMERICAN  
Rel.

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

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

ATTN: Garet Van de Steeg, PhD  
ATTN: Mr. Greg Kinsall

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
20:07:33 D 0003 9 608159  
232 0.00 00027500 ASR000

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



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





**LLI Sample No. WW 2898927**

Collected: 3/24/98 at 14:40 by JA

Submitted: 3/25/98 Reported: 4/ 8/98

Discard: 5/ 9/98

MW-25S-01-DUP Grab Water Sample

Moss-American Site - IL  
251DU SDG#: MOS01-05

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

P.O. MOSS-AMERICAN  
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.77	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.	0.061	ug/l

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

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax: 717-656-2661

See reverse side for explanation of symbols and abbreviations

2216 Rev: 8/4/97







LLI Sample No. **WW 2898927**

Collected: 3/24/98 at 14:40 by JA

Submitted: 3/25/98 Reported: 4/ 8/98

Discard: 5/ 9/98

MW-25S-01-DUP Grab Water Sample

Moss-American Site - IL  
251DU SDG#: MOS01-05

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION	LIMIT UNITS

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

Due to the nature of the sample matrix, the surrogate standard recovery is above the range of specifications.

5/1/98  
*[Signature]*

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

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



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

See reverse side for explanation of symbols and abbreviations.

2214 Rev. 9/1997





**LLI Sample No. WW 2898927**

Collected: 03/24/98 at 14:40 by JA

Submitted: 03/25/98

MW-25S-01-DUP Grab Water Sample

Moss-American Site - IL  
251DU SDG#: MOS01-05

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	04/01/98 1741	Michele D. Mack
3337	PAH Water Extraction	SW-846 3510C	1	03/31/98 2330	Sherry Lynn Devlin
8213	BTEX (8021)	SW-846 8021B	1	03/29/98 2331	Patrick N. Evans



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





LLI Sample No. **2898927**

MW-25S-01-DUP, Grab Water Sample

Moss-American Site - IL

Group No. 608159  
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: 980900007A									
-----											
3280	Naphthalene										
	0.77 ug/l	N.D.		54	-51 (2)	3	73			37	120
3281	Acenaphthylene										
	0.77 ug/l	N.D.		216	211	3	81			41	135
3282	Acenaphthene										
	0.77 ug/l	N.D.		88	88	0	76			38	135
3283	Fluorene										
	0.16 ug/l	N.D.		239	238	1	81			41	140
3284	Phenanthrene										
	0.044 ug/l	N.D.		101	99	3	96			48	152
3285	Anthracene										
	0.030 ug/l	N.D.		90	84	7	79			42	143
3286	Fluoranthene										
	0.019 ug/l	N.D.		105	103	2	100			48	155
3287	Pyrene										
	0.17 ug/l	N.D.		102	99	3	94			51	146
3288	Benzo(a)anthracene										
	0.017 ug/l	N.D.		108	106	2	100			52	146
3289	Chrysene										
	0.057 ug/l	N.D.		108	107	1	102			56	145
3290	Benzo(b)fluoranthene										
	0.034 ug/l	N.D.		108	107	1	100			59	141
3291	Benzo(k)fluoranthene										
	0.026 ug/l	N.D.		109	107	2	101			60	137
3292	Benzo(a)pyrene										
	0.021 ug/l	N.D.		126	123	3	114			42	158
3293	Dibenzo(a,h)anthracene										
	0.045 ug/l	N.D.		110	108	2	102			49	142
3294	Benzo(g,h,i)perylene										
	0.095 ug/l	N.D.		116	114	2	107			46	148
3295	Indeno(1,2,3-cd)pyrene										
	0.061 ug/l	N.D.		111	108	3	104			64	134
-----											
8213 BTEX (8021)		Batch: 98087A53									
-----											
0776	Benzene										
	0.2 ug/l	N.D.		98	98	1					
0777	Toluene										
	0.2 ug/l	N.D.		102	100	2					
0778	Ethylbenzene										
	0.2 ug/l	N.D.		102	101	1					
0779	Total Xylenes										
	0.6 ug/l	N.D.		101	100	1					

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



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

See reverse side for explanation of symbols and abbreviations.

2016 Rev. 8/14/97





**LLI Sample No. 2898927**

MW-25S-01-DUP Grab Water Sample

Moss-American Site - IL

Group No. 608159  
Kerr-McGee Corporation

### SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	91	60	120
	Triphenyle	97	60	120
8213 BTEX (8021)	TFT	222	70	130



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

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/1/97





LLI Sample No. WW 2898928

Collected: 3/24/98 at 16:00 by JA

Submitted: 3/25/98 Reported: 4/ 8/98

Discard: 5/ 9/98

MW-13S-01 Grab Water Sample

Moss-American Site - IL  
13S01 SDG#: MOS01-06

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

P.O. MOSS-AMERICAN  
Rel.

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

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

ATTN: Garet Van de Steeg, PhD  
ATTN: Mr. Greg Kinsall

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
20:08:07 D 0003 9 608159  
232 0.00 00027500 ASR000

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
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717-656-2300 Fax 717-656-2631





**LLI Sample No. WW 2898928**

Collected: 3/24/98 at 16:00 by JA

Submitted: 3/25/98 Reported: 4/ 8/98

Discard: 5/ 9/98

MW-13S-01 Grab Water Sample

Moss-American Site - IL  
13S01 SDG#: MOS01-06

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

P.O. MOSS-AMERICAN  
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.76	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	0.034 J	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	0.295	0.017	ug/l
3289	Chrysene	0.50	0.056	ug/l
3290	Benzo(b)fluoranthene	0.627	0.033	ug/l
3291	Benzo(k)fluoranthene	0.689	0.026	ug/l
3292	Benzo(a)pyrene	0.699	0.021	ug/l
3293	Dibenzo(a,h)anthracene	0.83	0.045	ug/l
3294	Benzo(g,h,i)perylene	0.78	0.095	ug/l
3295	Indeno(1,2,3-cd)pyrene	0.70	0.061	ug/l

The % difference for the calibration verification standard fell outside the +/- 15% criteria for Benzo(a)pyrene. Since the average of the % difference difference values met the criteria, the results were reported.

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  
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717-656-2300 Fax 717-656-2681





**LLI Sample No. WW 2898928**

Collected: 3/24/98 at 16:00 by JA

Submitted: 3/25/98 Reported: 4/ 8/98

Discard: 5/ 9/98

MW-13S-01 Grab Water Sample

Moss-American Site - IL  
13S01 SDG#: MOS01-06

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

P.O. MOSS-AMERICAN  
Ref.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
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 McClarin, B.A.  
Manager, Volatiles



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax 717-656-2601

See reverse side for explanation of symbols and abbreviations.

2276 Rev. 8/1/97





**LLI Sample No. WW 2898928**

Collected: 03/24/98 at 16:00 by JA

Submitted: 03/25/98

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

MW-13S-01 Grab Water Sample

Moss-American Site - IL  
13S01 SDG#: MOS01-06

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	04/01/98 1759	Michele D. Mack
3337	PAH Water Extraction	SW-846 3510C	1	03/31/98 2330	Sherry Lynn Devlin
8213	BTEX (8021)	SW-846 8021B	1	03/29/98 2251	Patrick N. Evans



Lancaster Laboratories  
 2425 New Holland Pike  
 PO Box 12425  
 Lancaster, PA 17605-2425  
 717-656-2300 Fax: 717-656-2651







**LLI Sample No. 2898928**

MW-13S-01 Grab Water Sample

Moss-American Site - IL

Group No. 608159  
Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH
-----		Batch: 980900007A									
1861 PAH's in Water											
3280	Naphthalene										
	0.76 ug/l	N.D.		54	-51 (2)	3	73			37	120
3281	Acenaphthylene										
	0.76 ug/l	N.D.		216	211	3	81			41	135
3282	Acenaphthene										
	0.76 ug/l	N.D.		88	88	0	76			38	135
3283	Fluorene										
	0.16 ug/l	N.D.		239	238	1	81			41	140
3284	Phenanthrene										
	0.044 ug/l	N.D.		101	99	3	96			48	152
3285	Anthracene										
	0.030 ug/l	N.D.		90	84	7	79			42	143
3286	Fluoranthene										
	0.019 ug/l	N.D.		105	103	2	100			48	155
3287	Pyrene										
	0.17 ug/l	N.D.		102	99	3	94			51	146
3288	Benzo(a)anthracene										
	0.017 ug/l	N.D.		108	106	2	100			52	146
3289	Chrysene										
	0.056 ug/l	N.D.		108	107	1	102			56	145
3290	Benzo(b)fluoranthene										
	0.033 ug/l	N.D.		108	107	1	100			59	141
3291	Benzo(k)fluoranthene										
	0.026 ug/l	N.D.		109	107	2	101			60	137
3292	Benzo(a)pyrene										
	0.021 ug/l	N.D.		126	123	3	114			42	158
3293	Dibenzo(a,h)anthracene										
	0.045 ug/l	N.D.		110	108	2	102			49	142
3294	Benzo(g,h,i)perylene										
	0.095 ug/l	N.D.		116	114	2	107			46	148
3295	Indeno(1,2,3-cd)pyrene										
	0.061 ug/l	N.D.		111	108	3	104			64	134
-----		Batch: 98087A53									
8213 BTEX (8021)											
0776	Benzene										
	0.2 ug/l	N.D.		98	98	1					
0777	Toluene										
	0.2 ug/l	N.D.		102	100	2					
0778	Ethylbenzene										
	0.2 ug/l	N.D.		102	101	1					
0779	Total Xylenes										
	0.6 ug/l	N.D.		101	100	1					

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax 717-656-2661





LLI Sample No. **2898928**  
MW-13S-01 Grab Water Sample

Moss-American Site - IL

Group No. 608159  
Kerr-McGee Corporation

### SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	78	60	120
	Triphenyle	92	60	120
8213 BTEX (8021)	TFT	98	70	130



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

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/4/97





LLI Sample No. WW 2898929

Collected: 3/24/98 at 16:40 by JA

Submitted: 3/25/98 Reported: 4/ 8/98

Discard: 5/ 9/98

MW-4S-01 Grab Water Sample

Moss-American Site - IL  
4S-01 SDG#: MOS01-07

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. Greg Kinsall

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
20:08:45 D 0003 9 608159  
232 0.00 00027500 ASR000

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



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





LLI Sample No. WW 2898929

Collected: 3/24/98 at 16:40 by JA

Submitted: 3/25/98 Reported: 4/ 8/98  
Discard: 5/ 9/98

MW-4S-01 Grab Water Sample

Moss-American Site - IL  
4S-01 SDG#: MOS01-07

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

P.O. MOSS-AMERICAN  
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD	DETECTION LIMIT UNITS
PAH's in Water				
3280	Naphthalene	2,080.	J	79. ug/l
3281	Acenaphthylene	114.	↓	3.9 ug/l
3282	Acenaphthene	672.		3.9 ug/l
3283	Fluorene	368.		17. ug/l
3284	Phenanthrene	148.		4.5 ug/l
3285	Anthracene	74.		3.1 ug/l
3286	Fluoranthene	374.		2.0 ug/l
3287	Pyrene	393.		18. ug/l
3288	Benzo(a)anthracene	64.9		1.8 ug/l
3289	Chrysene	81.		5.8 ug/l
3290	Benzo(b)fluoranthene	21.3		3.4 ug/l
3291	Benzo(k)fluoranthene	11.5		2.7 ug/l
3292	Benzo(a)pyrene	25.3		2.2 ug/l
3293	Dibenzo(a,h)anthracene	N.D.		0.23 ug/l
3294	Benzo(g,h,i)perylene	6.8		0.49 ug/l
3295	Indeno(1,2,3-cd)pyrene	8.3		0.31 ug/l

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

*5/1/98 J. Hess*

Questions? Contact your Client Services Representative  
at (717) 656-2300

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



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

See reverse side for explanation of symbols and abbreviations

2216 Rev 8/4/97





**LLI Sample No. WW 2898929**

Collected: 3/24/98 at 16:40 by JA

Submitted: 3/25/98 Reported: 4/ 8/98

Discard: 5/ 9/98

MW-4S-01 Grab Water Sample

Moss-American Site - IL  
4S-01 SDG#: MOS01-07

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

P.O. MOSS-AMERICAN  
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	METHOD DETECTION	LIMIT	UNITS
BTEX (8021)					
0776	Benzene	10.	2.		ug/l
0777	Toluene	30.	2.		ug/l
0778	Ethylbenzene	30.	2.		ug/l
0779	Total Xylenes	70.	6.		ug/l

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

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



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





**LLI Sample No. WW 2898929**

Collected: 03/24/98 at 16:40 by JA

Submitted: 03/25/98

MW-4S-01 Grab Water Sample

Moss-American Site - IL  
4S-01 SDG#: MOS01-07

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	04/01/98 1917	Michele D. Mack
3337	PAH Water Extraction	SW-846 3510C	1	03/31/98 2330	Sherry Lynn Devlin
8213	BTEX (8021)	SW-846 8021B	1	03/30/98 0010	Steven J. Stabinger



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





**LLI Sample No. 2898929**

MW-4S-01 Grab Water Sample

Moss-American Site - IL

Group No. 608159  
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: 980900007A									
3280 Naphthalene	79. ug/l	N.D.		54	-51 (2)	3	73			37	120
3281 Acenaphthylene	3.9 ug/l	N.D.		216	211	3	81			41	135
3282 Acenaphthene	3.9 ug/l	N.D.		88	88	0	76			38	135
3283 Fluorene	17. ug/l	N.D.		239	238	1	81			41	140
3284 Phenanthrene	4.5 ug/l	N.D.		101	99	3	96			48	152
3285 Anthracene	3.1 ug/l	N.D.		90	84	7	79			42	143
3286 Fluoranthene	2.0 ug/l	N.D.		105	103	2	100			48	155
3287 Pyrene	18. ug/l	N.D.		102	99	3	94			51	146
3288 Benzo(a)anthracene	1.8 ug/l	N.D.		108	106	2	100			52	146
3289 Chrysene	5.8 ug/l	N.D.		108	107	1	102			56	145
3290 Benzo(b)fluoranthene	3.4 ug/l	N.D.		108	107	1	100			59	141
3291 Benzo(k)fluoranthene	2.7 ug/l	N.D.		109	107	2	101			60	137
3292 Benzo(a)pyrene	2.2 ug/l	N.D.		126	123	3	114			42	158
3293 Dibenzo(a,h)anthracene	0.23 ug/l	N.D.		110	108	2	102			49	142
3294 Benzo(g,h,i)perylene	0.49 ug/l	N.D.		116	114	2	107			46	148
3295 Indeno(1,2,3-cd)pyrene	0.31 ug/l	N.D.		111	108	3	104			64	134
-----											
8213 BTEX (8021)		Batch: 98087A53									
0776 Benzene	2. ug/l	N.D.		98	98	1					
0777 Toluene	2. ug/l	N.D.		102	100	2					
0778 Ethylbenzene	2. ug/l	N.D.		102	101	1					
0779 Total Xylenes	6. ug/l	N.D.		101	100	1					

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
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See reverse side for explanation of symbols and abbreviations.

2214 Rev. 8/1/97





**LLI Sample No. 2898929**

MW-4S-01 Grab Water Sample

Moss-American Site - IL

Group No. 608159  
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz Triphenyle	56 (5)	60 60	120 120
8213 BTEX (8021)		TFT	99	70	130

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



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2216 Rev. 8/14/97







LLI Sample No. WW 2898930

Collected: 3/24/98 at 15:05 by JA

Submitted: 3/25/98 Reported: 4/ 8/98

Discard: 5/ 9/98

FB-01-01 Grab Water Sample

Moss-American Site - IL

FB-01 SDG#: MOS01-08

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. Greg Kinsall

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
20:09:25 D 0003 9 608159  
232 0.00 00027500 ASR000

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



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





**LLI Sample No. WW 2898930**

Collected: 3/24/98 at 15:05 by JA

Submitted: 3/25/98 Reported: 4/ 8/98

Discard: 5/ 9/98

FB-01-01 Grab Water Sample

Moss-American Site - IL

FB-01 SDG#: MOS01-08

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

P.O. MOSS-AMERICAN  
 Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	
			DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.76	ug/l
3281	Acenaphthylene	N.D.	0.76	ug/l
3282	Acenaphthene	N.D.	0.76	ug/l
3283	Fluorene	N.D.	0.16	ug/l
3284	Phenanthrene	N.D.	0.044	ug/l
3285	Anthracene	N.D.	0.030	ug/l
3286	Fluoranthene	N.D.	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	N.D.	0.056	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.033	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.095	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  
 2425 New Holland Pike  
 PO Box 12425  
 Lancaster, PA 17605-2425  
 717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations

2216 Rev. 6/14/97





LLI Sample No. **ww 2898930**

Collected: 3/24/98 at 15:05 by JA

Submitted: 3/25/98 Reported: 4/ 8/98

Discard: 5/ 9/98

FB-01-01 Grab Water Sample

Moss-American Site - IL

FB-01 SDG#: MOS01-08

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

P.O. MOSS-AMERICAN  
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION	LIMIT UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.2	ug/l
0777	Toluene	1.	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 McClarin, B.A.  
Manager, Volatiles



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

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





LLI Sample No. WW 2898930

Collected: 03/24/98 at 15:05 by JA

Submitted: 03/25/98

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

FB-01-01 Grab Water Sample

Moss-American Site - IL  
FB-01 SDG#: MOS01-08

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL	ID DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	04/01/98 1936	Michele D. Mack
3337	PAH Water Extraction	SW-846 3510C	1	03/31/98 2330	Sherry Lynn Devlin
8213	BTEX (8021)	SW-846 8021B	1	04/01/98 2159	Barry R. Shoemaker



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster PA 17605-2425  
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**LLI Sample No. 2898930**

FB-01-01 Grab Water Sample

Moss-American Site - IL

Group No. 608159  
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: 980900007A									
3280	Naphthalene	N.D.		54	-51 (2)	3	73			37	120
	0.76 ug/l										
3281	Acenaphthylene	N.D.		216	211	3	81			41	135
	0.76 ug/l										
3282	Acenaphthene	N.D.		88	88	0	76			38	135
	0.76 ug/l										
3283	Fluorene	N.D.		239	238	1	81			41	140
	0.16 ug/l										
3284	Phenanthrene	N.D.		101	99	3	96			48	152
	0.044 ug/l										
3285	Anthracene	N.D.		90	84	7	79			42	143
	0.030 ug/l										
3286	Fluoranthene	N.D.		105	103	2	100			48	155
	0.019 ug/l										
3287	Pyrene	N.D.		102	99	3	94			51	146
	0.17 ug/l										
3288	Benzo(a)anthracene	N.D.		108	106	2	100			52	146
	0.017 ug/l										
3289	Chrysene	N.D.		108	107	1	102			56	145
	0.056 ug/l										
3290	Benzo(b)fluoranthene	N.D.		108	107	1	100			59	141
	0.033 ug/l										
3291	Benzo(k)fluoranthene	N.D.		109	107	2	101			60	137
	0.026 ug/l										
3292	Benzo(a)pyrene	N.D.		126	123	3	114			42	158
	0.021 ug/l										
3293	Dibenzo(a,h)anthracene	N.D.		110	108	2	102			49	142
	0.045 ug/l										
3294	Benzo(g,h,i)perylene	N.D.		116	114	2	107			46	148
	0.095 ug/l										
3295	Indeno(1,2,3-cd)pyrene	N.D.		111	108	3	104			64	134
	0.061 ug/l										
-----											
8213	BTEX (8021)	Batch: 98091A66									
0776	Benzene	N.D.		101	102	1	100			78	138
	0.2 ug/l										
0777	Toluene	N.D.		99	101	1	99			78	118
	0.2 ug/l										
0778	Ethylbenzene	N.D.		99	100	1	98			77	119
	0.2 ug/l										
0779	Total Xylenes	N.D.		104	105	1	101			76	116
	0.6 ug/l										

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
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2014 Rev. 8/14/97





LLI Sample No. **2898930**  
FB-01-01 Grab Water Sample

Moss-American Site - IL

Group No. 608159  
Kerr-McGee Corporation

### SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	88	60	120
	Triphenyle	94	60	120
8213 BTEX (8021)	TFT	107	70	130



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2216 Rev. 8/4/97





**LLI Sample No. WW 2898931**

Collected: 3/24/98 at 18:00 by JA

Submitted: 3/25/98 Reported: 4/ 8/98  
Discard: 5/ 9/98

MW-4I-01 Grab Water Sample

Moss-American Site - IL  
4I-01 SDG#: MOS01-09

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

P.O. MOSS-AMERICAN  
Rel.

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

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

ATTN: Garet Van de Steeg, PhD  
ATTN: Mr. Greg Kinsall

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
20:10:02 D 0003 9 608159  
232 0.00 00027500 ASR000

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



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





LLI Sample No. WW **2898931**

Collected: 3/24/98 at 18:00 by JA

Submitted: 3/25/98 Reported: 4/ 8/98

Discard: 5/ 9/98

MW-4I-01 Grab Water Sample

Moss-American Site - IL  
4I-01 SDG#: MOS01-09

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	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	0.150 J	0.044	ug/l
3285	Anthracene	N.D.	0.030	ug/l
3286	Fluoranthene	0.190 J	0.019	ug/l
3287	Pyrene	0.22 J	0.17	ug/l
3288	Benzo(a)anthracene	0.039 J	0.017	ug/l
3289	Chrysene	0.086 J	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	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

The % difference for the calibration verification standard fell outside the +/- 15% criteria for Benzo(a)pyrene. Since the average of the % difference difference values met the criteria, the results were reported.

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

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



Lancaster Laboratories  
2425 New Holland Pike  
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See reverse side for explanation of symbols and abbreviations

2216 Rev: 8/11/97







LLI Sample No. WW 2898931

Collected: 3/24/98 at 18:00 by JA

Submitted: 3/25/98 Reported: 4/ 8/98

Discard: 5/ 9/98

MW-4I-01 Grab Water Sample

Moss-American Site - IL  
4I-01 SDG#: MOS01-09

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

P.O. MOSS-AMERICAN  
Rel.

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

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

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



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Lancaster, PA 17605-2425  
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2214 Rev. 8/1/97





**LLI Sample No. WW 2898931**

Collected: 03/24/98 at 18:00 by JA

Submitted: 03/25/98

MW-4I-01 Grab Water Sample

Moss-American Site - IL

4I-01 SDG#: MOS01-09

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	04/01/98 1954	Michele D. Mack
3337	PAH Water Extraction	SW-846 3510C	1	03/31/98 2330	Sherry Lynn Devlin
8213	BTEX (8021)	SW-846 8021B	1	04/01/98 2233	Barry R. Shoemaker



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 2425 New Holland Pike  
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 Lancaster, PA 17605-2425  
 717-656-2300 Fax 717-656-2681





**LLI Sample No. 2898931**

MW-4I-01 Grab Water Sample

Moss-American Site - IL

Group No. 608159  
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: 980900007A									
3280	Naphthalene 0.77 ug/l	N.D.		54	-51 (2)	3	73			37	120
3281	Acenaphthylene 0.77 ug/l	N.D.		216	211	3	81			41	135
3282	Acenaphthene 0.77 ug/l	N.D.		88	88	0	76			38	135
3283	Fluorene 0.16 ug/l	N.D.		239	238	1	81			41	140
3284	Phenanthrene 0.044 ug/l	N.D.		101	99	3	96			48	152
3285	Anthracene 0.030 ug/l	N.D.		90	84	7	79			42	143
3286	Fluoranthene 0.019 ug/l	N.D.		105	103	2	100			48	155
3287	Pyrene 0.17 ug/l	N.D.		102	99	3	94			51	146
3288	Benzo(a)anthracene 0.017 ug/l	N.D.		108	106	2	100			52	146
3289	Chrysene 0.057 ug/l	N.D.		108	107	1	102			56	145
3290	Benzo(b)fluoranthene 0.034 ug/l	N.D.		108	107	1	100			59	141
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.		109	107	2	101			60	137
3292	Benzo(a)pyrene 0.021 ug/l	N.D.		126	123	3	114			42	158
3293	Dibenzo(a,h)anthracene 0.045 ug/l	N.D.		110	108	2	102			49	142
3294	Benzo(g,h,i)perylene 0.095 ug/l	N.D.		116	114	2	107			46	148
3295	Indeno(1,2,3-cd)pyrene 0.061 ug/l	N.D.		111	108	3	104			64	134
-----											
8213 BTEX (8021)		Batch: 98091A66									
0776	Benzene 0.2 ug/l	N.D.		101	102	1	100			78	138
0777	Toluene 0.2 ug/l	N.D.		99	101	1	99			78	118
0778	Ethylbenzene 0.2 ug/l	N.D.		99	100	1	98			77	119
0779	Total Xylenes 0.6 ug/l	N.D.		104	105	1	101			76	116

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



Lancaster Laboratories  
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2214 Rev. 11/197





**LLI Sample No. 2898931**

MW-4I-01 Grab Water Sample

Moss-American Site - IL

Group No. 608159  
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	88	60	120
		Triphenyle	93	60	120
8213 BTEX (8021)		TFT	108	70	130



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

See reverse side for explanation of symbols and abbreviations.

221A Rev. 8/2197





LLI Sample No. WW 2899590

Collected: 3/25/98 at 09:00 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-3I-01 Grab Water Sample

Moss-American Site - IL  
3I01- SDG#: MOS01-10

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

P.O. MOSS-AMERICAN  
Rel.

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

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

ATTN: Mr. Greg Kinsall  
ATTN: Garet Van de Steeg, PhD

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
13:52:20 D 0003 13 608317  
232 0.00 00027500 ASR000



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

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





**LLI Sample No. WW 2899590**

Collected: 3/25/98 at 09:00 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-3I-01 Grab Water Sample

Moss-American Site - IL  
3I01- SDG#: MOS01-10

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

P.O. MOSS-AMERICAN  
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		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	0.052 J	0.044	ug/l
3285	Anthracene	N.D.	0.030	ug/l
3286	Fluoranthene	0.045 J	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	N.D.	0.056	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



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

See reverse side for explanation of symbols and abbreviations

2014-08-11 9:43:07





**LLI Sample No. WW 2899590**

Collected: 3/25/98 at 09:00 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-3I-01 Grab Water Sample

Moss-American Site - IL  
3I01- SDG#: MOS01-10

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

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

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 McClarin, B.A.  
Manager, Volatiles



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





**LLI Sample No. WW 2899590**

Collected: 03/25/98 at 09:00 by JA

Submitted: 03/26/98

MW-3I-01 Grab Water Sample

Moss-American Site - IL  
3I01- SDG#: MOS01-10

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	04/01/98 2013	Michele D. Mack
3337	PAH Water Extraction	SW-846 3510C	1	03/31/98 2330	Sherry Lynn Devlin
8213	BTEX (8021)	SW-846 8021B	1	03/28/98 1905	Steven J. Stabinger



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax 717-656-2691







**LLI Sample No. 2899590**

MW-3I-01 Grab Water Sample

Moss-American Site - IL

Group No. 608317  
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: 980900007A									
-----											
3280	Naphthalene										
	0.77 ug/l	N.D.		54	-51 (2)	3	73			37	120
3281	Acenaphthylene										
	0.77 ug/l	N.D.		216	211	3	81			41	135
3282	Acenaphthene										
	0.77 ug/l	N.D.		88	88	0	76			38	135
3283	Fluorene										
	0.16 ug/l	N.D.		239	238	1	81			41	140
3284	Phenanthrene										
	0.044 ug/l	N.D.		101	99	3	96			48	152
3285	Anthracene										
	0.030 ug/l	N.D.		90	84	7	79			42	143
3286	Fluoranthene										
	0.019 ug/l	N.D.		109	106	3	100			48	155
3287	Pyrene										
	0.17 ug/l	N.D.		102	99	3	94			51	146
3288	Benzo(a)anthracene										
	0.017 ug/l	N.D.		108	106	2	100			52	146
3289	Chrysene										
	0.056 ug/l	N.D.		108	109	0	102			56	145
3290	Benzo(b)fluoranthene										
	0.033 ug/l	N.D.		108	107	1	100			59	141
3291	Benzo(k)fluoranthene										
	0.026 ug/l	N.D.		109	107	2	101			60	137
3292	Benzo(a)pyrene										
	0.021 ug/l	N.D.		126	124	2	114			42	158
3293	Dibenzo(a,h)anthracene										
	0.045 ug/l	N.D.		110	108	2	102			49	142
3294	Benzo(g,h,i)perylene										
	0.095 ug/l	N.D.		116	114	2	107			46	148
3295	Indeno(1,2,3-cd)pyrene										
	0.061 ug/l	N.D.		111	109	2	104			64	134
-----											
8213 BTEX (8021)		Batch: 98087A53									
-----											
0776	Benzene										
	0.2 ug/l	N.D.		98	98	1					
0777	Toluene										
	0.2 ug/l	N.D.		102	100	2					
0778	Ethylbenzene										
	0.2 ug/l	N.D.		102	101	1					
0779	Total Xylenes										
	0.6 ug/l	N.D.		101	100	1					

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



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

2216 Rev 8/1/97





**LLI Sample No. 2899590**  
MW-3I-01 Grab Water Sample

Moss-American Site - IL

Group No. 608317  
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	85	60	120
		Triphenyle	90	60	120
8213 BTEX (8021)		TFT	99	70	130



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2425 New Holland Pike  
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Lancaster Laboratories  
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LLI Sample No. WW 2899591

Collected: 3/25/98 at 11:00 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-7S-01 Unspiked Grab Water Sample

Moss-American Site - IL  
7S01- SDG#: MOS01-11BKG

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

P.O. MOSS-AMERICAN  
Rel.

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

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

ATTN: Mr. Greg Kinsall  
ATTN: Garet Van de Steeg, PhD

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
13:53:39 D 0003 13 608317  
232 0.00 00027500 ASR000



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

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





**LLI Sample No. WW 2899591**

Collected: 3/25/98 at 11:00 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-7S-01 Unspiked Grab Water Sample

Moss-American Site - IL  
7S01- SDG#: MOS01-11BKG

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	6,470.	15.	ug/l
3281	Acenaphthylene	N.D.	15.	ug/l
3282	Acenaphthene	200.	15.	ug/l
3283	Fluorene	N.D.	3.3	ug/l
3284	Phenanthrene	N.D.	0.88	ug/l
3285	Anthracene	N.D.	0.030	ug/l
3286	Fluoranthene	N.D.	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	N.D.	0.056	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.033	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.095	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  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
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See reverse side for explanation of symbols and abbreviations

2014 Rev. 2/10/00





LLI Sample No. WW 2899591

Collected: 3/25/98 at 11:00 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-7S-01 Unspiked Grab Water Sample

Moss-American Site - IL  
7S01- SDG#: MOS01-11BKG

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

P.O. MOSS-AMERICAN  
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	5.	0.2	ug/l
0777	Toluene	2.	0.2	ug/l
0778	Ethylbenzene	29.	0.2	ug/l
0779	Total Xylenes	85.	0.6	ug/l

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

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



Lancaster Laboratories  
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See reverse side for explanation of symbols and abbreviations.

2214 Rev 8/4/97





**LLI Sample No. WW 2899591**

Collected: 03/25/98 at 11:00 by JA

Submitted: 03/26/98

MW-7S-01 Unspiked Grab Water Sample

Moss-American Site - IL  
7S01- SDG#: MOS01-11BKG

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	04/01/98 2031	Michele D. Mack
3337	PAH Water Extraction	SW-846 3510C	1	03/31/98 2330	Sherry Lynn Devlin
8213	BTEX (8021)	SW-846 8021B	1	03/30/98 1753	Steven J. Stabinger



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax 717-656-2081





**LLI Sample No. 2899591**  
 MW-7S-01 Unspiked Grab Water Sample

Moss-American Site - IL

Group No. 608317  
 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: 980900007A									
3280 Naphthalene											
15.	ug/l	N.D.		54	-51 (2)	3	73			37	120
3281 Acenaphthylene											
15.	ug/l	N.D.		216	211	3	81			41	135
3282 Acenaphthene											
15.	ug/l	N.D.		88	88	0	76			38	135
3283 Fluorene											
3.3	ug/l	N.D.		239	238	1	81			41	140
3284 Phenanthrene											
0.88	ug/l	N.D.		101	99	3	96			48	152
3285 Anthracene											
0.030	ug/l	N.D.		90	84	7	79			42	143
3286 Fluoranthene											
0.019	ug/l	N.D.		109	106	3	100			48	155
3287 Pyrene											
0.17	ug/l	N.D.		102	99	3	94			51	146
3288 Benzo(a)anthracene											
0.017	ug/l	N.D.		108	106	2	100			52	146
3289 Chrysene											
0.056	ug/l	N.D.		108	109	0	102			56	145
3290 Benzo(b)fluoranthene											
0.033	ug/l	N.D.		108	107	1	100			59	141
3291 Benzo(k)fluoranthene											
0.026	ug/l	N.D.		109	107	2	101			60	137
3292 Benzo(a)pyrene											
0.021	ug/l	N.D.		126	124	2	114			42	158
3293 Dibenzo(a,h)anthracene											
0.045	ug/l	N.D.		110	108	2	102			49	142
3294 Benzo(g,h,i)perylene											
0.095	ug/l	N.D.		116	114	2	107			46	148
3295 Indeno(1,2,3-cd)pyrene											
0.061	ug/l	N.D.		111	109	2	104			64	134
-----											
8213 BTEX (8021)		Batch: 98089A53									
0776 Benzene											
0.2	ug/l	N.D.		91	92	1	108			78	138
0777 Toluene											
0.2	ug/l	N.D.		101	102	0	109			78	118
0778 Ethylbenzene											
0.2	ug/l	N.D.		100	105	2	109			77	119
0779 Total Xylenes											
0.6	ug/l	N.D.		112	115	1	108			76	116

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



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

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/14/97





**LLI Sample No. 2899591**  
MW-7S-01 Unspiked Grab Water Sample

Moss-American Site - IL

Group No. 608317  
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	87	60	120
		Triphenyle	98	60	120
8213 BTEX (8021)		TFT	99	70	130



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







**Lancaster Laboratories**  
A division of Thermo Analytical Inc.

**LLI Sample No. WW 2899592**

Collected: 3/25/98 at 11:00 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-7S-01 Matrix Spike Grab Water Sample

Moss-American Site - IL  
7S01- SDG#: MOS01-11MS

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

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

ATTN: Mr. Greg Kinsall  
ATTN: Garet Van de Steeg, PhD

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
13:55:13 D 0003 13 608317  
232 0.00 00027500 ASR000



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

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



**LLI Sample No. WW 2899592**

Collected: 3/25/98 at 11:00 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-7S-01 Matrix Spike Grab Water Sample

Moss-American Site - IL  
7S01- SDG#: MOS01-11MS

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	6,570.	15.	ug/l
3281	Acenaphthylene	410.	15.	ug/l
3282	Acenaphthene	360.	15.	ug/l
3283	Fluorene	46.	3.3	ug/l
3284	Phenanthrene	5.8	0.88	ug/l
3285	Anthracene	2.59	0.030	ug/l
3286	Fluoranthene	3.01	0.019	ug/l
3287	Pyrene	19.5	0.17	ug/l
3288	Benzo(a)anthracene	1.55	0.017	ug/l
3289	Chrysene	6.21	0.056	ug/l
3290	Benzo(b)fluoranthene	1.24	0.033	ug/l
3291	Benzo(k)fluoranthene	1.26	0.026	ug/l
3292	Benzo(a)pyrene	1.81	0.021	ug/l
3293	Dibenzo(a,h)anthracene	3.15	0.045	ug/l
3294	Benzo(g,h,i)perylene	13.4	0.095	ug/l
3295	Indeno(1,2,3-cd)pyrene	6.38	0.061	ug/l

The % difference for the calibration verification standard fell outside the +/- 15% criteria for Benzo(a)pyrene. Since the average of the % difference difference values met the criteria, the results were reported.

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

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



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

See reverse side for explanation of symbols and abbreviations



LLI Sample No. WW 2899592

Collected: 3/25/98 at 11:00 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-7S-01 Matrix Spike Grab Water Sample

Moss-American Site - IL  
7S01- SDG#: MOS01-11MS

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

P.O. MOSS-AMERICAN  
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	23.	0.2	ug/l
0777	Toluene	22.	0.2	ug/l
0778	Ethylbenzene	49.	0.2	ug/l
0779	Total Xylenes	150.	0.6	ug/l

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

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



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





**LLI Sample No. WW 2899592**

Collected: 03/25/98 at 11:00 by JA

Submitted: 03/26/98

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

MW-7S-01 Matrix Spike Grab Water Sample

Moss-American Site - IL  
7S01- SDG#: MOS01-11MS

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	04/01/98 2050	Michele D. Mack
3337	PAH Water Extraction	SW-846 3510C	1	03/31/98 2330	Sherry Lynn Devlin
8213	BTEX (8021)	SW-846 8021B	1	03/30/98 1834	Steven J. Stabinger



Lancaster Laboratories  
2425 New Holland Pike  
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**LLI Sample No. 2899592**  
 MW-7S-01 Matrix Spike Grab Water Sample  
 Moss-American Site - IL

Group No. 608317  
 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: 980900007A									
-----											
3280	Naphthalene										
	15. ug/l	N.D.		54	-51 (2)	3	73			37	120
3281	Acenaphthylene										
	15. ug/l	N.D.		216	211	3	81			41	135
3282	Acenaphthene										
	15. ug/l	N.D.		88	88	0	76			38	135
3283	Fluorene										
	3.3 ug/l	N.D.		239	238	1	81			41	140
3284	Phenanthrene										
	0.88 ug/l	N.D.		101	99	3	96			48	152
3285	Anthracene										
	0.030 ug/l	N.D.		90	84	7	79			42	143
3286	Fluoranthene										
	0.019 ug/l	N.D.		109	106	3	100			48	155
3287	Pyrene										
	0.17 ug/l	N.D.		102	99	3	94			51	146
3288	Benzo(a)anthracene										
	0.017 ug/l	N.D.		108	106	2	100			52	146
3289	Chrysene										
	0.056 ug/l	N.D.		108	109	0	102			56	145
3290	Benzo(b)fluoranthene										
	0.033 ug/l	N.D.		108	107	1	100			59	141
3291	Benzo(k)fluoranthene										
	0.026 ug/l	N.D.		109	107	2	101			60	137
3292	Benzo(a)pyrene										
	0.021 ug/l	N.D.		126	124	2	114			42	158
3293	Dibenzo(a,h)anthracene										
	0.045 ug/l	N.D.		110	108	2	102			49	142
3294	Benzo(g,h,i)perylene										
	0.095 ug/l	N.D.		116	114	2	107			46	148
3295	Indeno(1,2,3-cd)pyrene										
	0.061 ug/l	N.D.		111	109	2	104			64	134
-----											
8213 BTEX (8021)		Batch: 98089A53									
-----											
0776	Benzene										
	0.2 ug/l	N.D.		91	92	1	108			78	138
0777	Toluene										
	0.2 ug/l	N.D.		101	102	0	109			78	118
0778	Ethylbenzene										
	0.2 ug/l	N.D.		100	105	2	109			77	119
0779	Total Xylenes										
	0.6 ug/l	N.D.		112	115	1	108			76	116

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



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

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/11/97





LLI Sample No. **2899592**  
 MW-7S-01 Matrix Spike Grab Water Sample

Moss-American Site - IL

Group No. 608317  
 Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	95	60	120
		Triphenyle	100	60	120
8213 BTEX (8021)		TFT	94	70	130



Lancaster Laboratories  
 2425 New Holland Pike  
 PO Box 12425  
 Lancaster, PA 17605-2425  
 717-656-2300 Fax 717-656-2691

See reverse side for explanation of symbols and abbreviations

2016 04 14/197





**Lancaster Laboratories**  
A division of Thermo Analytical Inc.

**LLI Sample No. WW 2899593**

Collected: 3/25/98 at 11:00 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-7S-01 Matrix Spike Duplicate Grab Water Sample

Moss-American Site - IL  
7S01- SDG#: MOS01-11MSD

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

ATTN: Mr. Greg Kinsall  
ATTN: Garet Van de Steeg, PhD

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
13:57:19 D 0003 13 608317  
232 0.00 00027500 ASR000



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

See reverse side for explanation of symbols and abbreviations

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





LLI Sample No. **WW 2899593**

Collected: 3/25/98 at 11:00 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

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

P.O. MOSS-AMERICAN  
Rel.

MW-7S-01 Matrix Spike Duplicate Grab Water Sample

Moss-American Site - IL  
7S01- SDG#: MOS01-11MSD

AS-RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	6,370.	15.	ug/l
3281	Acenaphthylene	400.	15.	ug/l
3282	Acenaphthene	360.	15.	ug/l
3283	Fluorene	46.	3.2	ug/l
3284	Phenanthrene	5.66	0.88	ug/l
3285	Anthracene	2.51	0.030	ug/l
3286	Fluoranthene	3.03	0.019	ug/l
3287	Pyrene	19.0	0.17	ug/l
3288	Benzo(a)anthracene	1.51	0.017	ug/l
3289	Chrysene	6.22	0.056	ug/l
3290	Benzo(b)fluoranthene	1.22	0.033	ug/l
3291	Benzo(k)fluoranthene	1.23	0.026	ug/l
3292	Benzo(a)pyrene	1.77	0.021	ug/l
3293	Dibenzo(a,h)anthracene	3.09	0.045	ug/l
3294	Benzo(g,h,i)perylene	13.0	0.094	ug/l
3295	Indeno(1,2,3-cd)pyrene	6.24	0.061	ug/l

The % difference for the calibration verification standard fell outside the +/- 15% criteria for Benzo(a)pyrene. Since the average of the % difference difference values met the criteria, the results were reported.

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

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax: 717-656-2631







**Lancaster Laboratories**  
A division of Thermo Analytical Inc.

LLI Sample No. WW 2899593

Collected: 3/25/98 at 11:00 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-7S-01 Matrix Spike Duplicate Grab Water Sample

Moss-American Site - IL  
7S01- SDG#: MOS01-11MSD

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

P.O. MOSS-AMERICAN  
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	23.	0.2	ug/l
0777	Toluene	22.	0.2	ug/l
0778	Ethylbenzene	50.	0.2	ug/l
0779	Total Xylenes	150.	0.6	ug/l

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

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



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

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





**LLI Sample No. WW 2899593**

Collected: 03/25/98 at 11:00 by JA

Submitted: 03/26/98

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

MW-7S-01 Matrix Spike Duplicate Grab Water Sample

Moss-American Site - IL  
7S01- SDG#: MOS01-11MSD

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	04/01/98 2108	Michele D. Mack
3337	PAH Water Extraction	SW-846 3510C	1	03/31/98 2330	Sherry Lynn Devlin
8213	BTEX (8021)	SW-846 8021B	1	03/30/98 1914	Steven J. Stabinger



Lancaster Laboratories  
 2425 New Holland Pk  
 PO Box 12425  
 Lancaster, PA 17605-2425  
 717-656-7300 Fax: 717-656-2631





**LLI Sample No. 2899593**  
 MW-7S-01 Matrix Spike Duplicate Grab Water Sample  
 Moss-American Site - IL

Group No. 608317  
 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: 980900007A									
-----											
3280	Naphthalene										
	15. ug/l	N.D.		54	-51 (2)	3	73			37	120
3281	Acenaphthylene										
	15. ug/l	N.D.		216	211	3	81			41	135
3282	Acenaphthene										
	15. ug/l	N.D.		88	88	0	76			38	135
3283	Fluorene										
	3.2 ug/l	N.D.		239	238	1	81			41	140
3284	Phenanthrene										
	0.88 ug/l	N.D.		101	99	3	96			48	152
3285	Anthracene										
	0.030 ug/l	N.D.		90	84	7	79			42	143
3286	Fluoranthene										
	0.019 ug/l	N.D.		109	106	3	100			48	155
3287	Pyrene										
	0.17 ug/l	N.D.		102	99	3	94			51	146
3288	Benzo(a)anthracene										
	0.017 ug/l	N.D.		108	106	2	100			52	146
3289	Chrysene										
	0.056 ug/l	N.D.		108	109	0	102			56	145
3290	Benzo(b)fluoranthene										
	0.033 ug/l	N.D.		108	107	1	100			59	141
3291	Benzo(k)fluoranthene										
	0.026 ug/l	N.D.		109	107	2	101			60	137
3292	Benzo(a)pyrene										
	0.021 ug/l	N.D.		126	124	2	114			42	158
3293	Dibenzo(a,h)anthracene										
	0.045 ug/l	N.D.		110	108	2	102			49	142
3294	Benzo(g,h,i)perylene										
	0.094 ug/l	N.D.		116	114	2	107			46	148
3295	Indeno(1,2,3-cd)pyrene										
	0.061 ug/l	N.D.		111	109	2	104			64	134
-----											
8213 BTEX (8021)		Batch: 98089A53									
-----											
0776	Benzene										
	0.2 ug/l	N.D.		91	92	1	108			78	138
0777	Toluene										
	0.2 ug/l	N.D.		101	102	0	109			78	118
0778	Ethylbenzene										
	0.2 ug/l	N.D.		100	105	2	109			77	119
0779	Total Xylenes										
	0.6 ug/l	N.D.		112	115	1	108			76	116

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



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

See reverse side for explanation of symbols and abbreviations

2216 Rev 8/11/97





**LLI Sample No. 2899593**  
MW-7S-01 Matrix Spike Duplicate Grab Water Sample  
Moss-American Site - IL

Group No. 608317  
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	90	60	120
		Triphenyle	99	60	120
8213 BTEX (8021)		TFT	94	70	130



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax 717-656-2881





LLI Sample No. WW 2899594

Collected: 3/25/98 at 11:35 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

TW-05-01 Grab Water Sample

Moss-American Site - IL  
0501- SDG#: MOS01-12

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

P.O. MOSS-AMERICAN  
Rel.

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

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

ATTN: Mr. Greg Kinsall  
ATTN: Gareth Van de Steeg, PhD

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
13:58:50 D 0003 13 608317  
232 0.00 00027500 ASR000



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

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





**LLI Sample No. WW 2899594**

Collected: 3/25/98 at 11:35 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

TW-05-01 Grab Water Sample

Moss-American Site - IL  
0501- SDG#: MOS01-12

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

P.O. MOSS-AMERICAN  
Ref.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	3.51	J 0.78	ug/l
3281	Acenaphthylene	14.7	0.78	ug/l
3282	Acenaphthene	111.	0.78	ug/l
3283	Fluorene	N.D.	3.3	ug/l
3284	Phenanthrene	3.77	0.045	ug/l
3285	Anthracene	8.3	0.60	ug/l
3286	Fluoranthene	29.3	0.39	ug/l
3287	Pyrene	26.8	0.18	ug/l
3288	Benzo(a)anthracene	4.4	0.35	ug/l
3289	Chrysene	7.35	0.058	ug/l
3290	Benzo(b)fluoranthene	1.57	0.034	ug/l
3291	Benzo(k)fluoranthene	0.854	0.026	ug/l
3292	Benzo(a)pyrene	2.04	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.046	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.096	ug/l
3295	Indeno(1,2,3-cd)pyrene	0.58	0.062	ug/l

The % difference for the calibration verification standard fell outside the +/- 15% criteria for Benzo(a)pyrene. Since the average of the % difference difference values met the criteria, the results were reported.

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

0214 Rev. 1/1997





**Lancaster Laboratories**  
A division of Thermo Analytical Inc.

**LLI Sample No. WW 2899594**

Collected: 3/25/98 at 11:35 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

TW-05-01 Grab Water Sample

Moss-American Site - IL  
0501- SDG#: MOS01-12

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

P.O. MOSS-AMERICAN  
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
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 McClarin, B.A.  
Manager, Volatiles



Lancaster Laboratories  
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See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/4/97





LLI Sample No. WW 2899594

Collected: 03/25/98 at 11:35 by JA

Submitted: 03/26/98

TW-05-01 Grab Water Sample

Moss-American Site - IL  
0501- SDG#: MOS01-12

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

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS		ANALYST
				ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1		04/01/98 2127	Michele D. Mack
3337	PAH Water Extraction	SW-846 3510C	1		03/31/98 2330	Sherry Lynn Devlin
8213	BTEX (8021)	SW-846 8021B	1		03/30/98 2114	Steven J. Stabinger



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







LLI Sample No. 2899594

TW-05-01 Grab Water Sample

Moss-American Site - IL

Group No. 608317  
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: 980900007A									
3280	Naphthalene 0.78 ug/l	N.D.		54	-51 (2)	3	73			37	120
3281	Acenaphthylene 0.78 ug/l	N.D.		216	211	3	81			41	135
3282	Acenaphthene 0.78 ug/l	N.D.		88	88	0	76			38	135
3283	Fluorene 3.3 ug/l	N.D.		239	238	1	81			41	140
3284	Phenanthrene 0.045 ug/l	N.D.		101	99	3	96			48	152
3285	Anthracene 0.60 ug/l	N.D.		90	84	7	79			42	143
3286	Fluoranthene 0.39 ug/l	N.D.		109	106	3	100			48	155
3287	Pyrene 0.18 ug/l	N.D.		102	99	3	94			51	146
3288	Benzo(a)anthracene 0.35 ug/l	N.D.		108	106	2	100			52	146
3289	Chrysene 0.058 ug/l	N.D.		108	109	0	102			56	145
3290	Benzo(b)fluoranthene 0.034 ug/l	N.D.		108	107	1	100			59	141
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.		109	107	2	101			60	137
3292	Benzo(a)pyrene 0.021 ug/l	N.D.		126	124	2	114			42	158
3293	Dibenzo(a,h)anthracene 0.046 ug/l	N.D.		110	108	2	102			49	142
3294	Benzo(g,h,i)perylene 0.096 ug/l	N.D.		116	114	2	107			46	148
3295	Indeno(1,2,3-cd)pyrene 0.062 ug/l	N.D.		111	109	2	104			64	134
8213 BTEX (8021)		Batch: 98089A53									
0776	Benzene 0.2 ug/l	N.D.		91	92	1	108			78	138
0777	Toluene 0.2 ug/l	N.D.		101	102	0	109			78	118
0778	Ethylbenzene 0.2 ug/l	N.D.		100	105	2	109			77	119
0779	Total Xylenes 0.6 ug/l	N.D.		112	115	1	108			76	116

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



Lancaster Laboratories  
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717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/1/97





LLI Sample No. **2899594**  
 TW-05-01 Grab Water Sample

Moss-American Site - IL

Group No. 608317  
 Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	86	60	120
		Triphenyle	248	60	120
8213 BTEX (8021)		TFT	91	70	130



Lancaster Laboratories  
 2425 New Holland Pike  
 PO Box 12425  
 Lancaster, PA 17505-2425  
 717-656-2300 Fax: 717-656-2681





LLI Sample No. WW 2899595

Collected: 3/25/98 at 11:45 by JA

Submitted: 3/26/98 Reported: 4/10/98  
Discard: 5/11/98

TW-09-01 Grab Water Sample

Moss-American Site - IL  
0901- SDG#: MOS01-13

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

ATTN: Mr. Greg Kinsall  
ATTN: Garet Van de Steeg, PhD

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
19:34:43 D 0003 13 REP 608317  
386 0.00 00027500 ASR000

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 FAX 717-656-2381

See reverse side for explanation of symbols and abbreviations

2216 Rev 8/11/97





LLI Sample No. WW **2899595**

Collected: 3/25/98 at 11:45 by JA

Submitted: 3/26/98 Reported: 4/10/98

Discard: 5/11/98

TW-09-01 Grab Water Sample

Moss-American Site - IL  
0901- SDG#: MOS01-13

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	3,080.	98.	ug/l
3281	Acenaphthylene	N.D.	98.	ug/l
3282	Acenaphthene	534. J	98.	ug/l
3283	Fluorene	N.D.	21.	ug/l
3284	Phenanthrene	779.	5.7	ug/l
3285	Anthracene	82.	3.8	ug/l
3286	Fluoranthene	314.	2.5	ug/l
3287	Pyrene	324.	22.	ug/l
3288	Benzo(a)anthracene	49.4	2.2	ug/l
3289	Chrysene	79.9	0.36	ug/l
3290	Benzo(b)fluoranthene	16.3	0.22	ug/l
3291	Benzo(k)fluoranthene	8.88	0.17	ug/l
3292	Benzo(a)pyrene	20.3	0.14	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.29	ug/l
3294	Benzo(g,h,i)perylene	4.1	0.61	ug/l
3295	Indeno(1,2,3-cd)pyrene	5.4	0.39	ug/l

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

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

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



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

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 3/4/97





**LLI Sample No. WW 2899595**

Collected: 3/25/98 at 11:45 by JA

Submitted: 3/26/98 Reported: 4/10/98  
Discard: 5/11/98

TW-09-01 Grab Water Sample

Moss-American Site - IL  
0901- SDG#: MOS01-13

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

P.O. MOSS-AMERICAN  
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		METHOD	DETECTION LIMIT UNITS
		RESULTS			
BTEX (8021)					
0776	Benzene	2.	J	2.	ug/l
0777	Toluene	2.	J	2.	ug/l
0778	Ethylbenzene	8.	J	2.	ug/l
0779	Total Xylenes	25.	J	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.

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

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

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
117-656-2300 Fax 717-656-2581

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





**LLI Sample No. WW 2899595**

Collected: 03/25/98 at 11:45 by JA

Submitted: 03/26/98

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

TW-09-01 Grab Water Sample

Moss-American Site - IL  
0901- SDG#: MOS01-13

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS		ANALYST
				ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1		04/01/98 2149	Michele D. Mack
3337	PAH Water Extraction	SW-846 3510C	1		03/31/98 2330	Sherry Lynn Devlin
8213	BTEX (8021)	SW-846 8021B	1		03/28/98 1945	Steven J. Stabinger



Lancaster Laboratories  
 2425 New Holland Pike  
 PO Box 12425  
 Lancaster, PA 17605-2425  
 TEL: 717-399-1141 FAX: 717-656-0681





**LLI Sample No. 2899595**

TW-09-01 Grab Water Sample

Moss-American Site - IL

Group No. 608317  
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: 980900007A									
-----											
3280	Naphthalene										
	98. ug/l	N.D.		54	-51 (2)	3	73			37	120
3281	Acenaphthylene										
	98. ug/l	N.D.		216	211	3	81			41	135
3282	Acenaphthene										
	98. ug/l	N.D.		88	88	0	76			38	135
3283	Fluorene										
	21. ug/l	N.D.		239	238	1	81			41	140
3284	Phenanthrene										
	5.7 ug/l	N.D.		101	99	3	96			48	152
3285	Anthracene										
	3.8 ug/l	N.D.		90	84	7	79			42	143
3286	Fluoranthene										
	2.5 ug/l	N.D.		109	106	3	100			48	155
3287	Pyrene										
	22. ug/l	N.D.		102	99	3	94			51	146
3288	Benzo(a)anthracene										
	2.2 ug/l	N.D.		108	106	2	100			52	146
3289	Chrysene										
	0.36 ug/l	N.D.		108	109	0	102			56	145
3290	Benzo(b)fluoranthene										
	0.22 ug/l	N.D.		108	107	1	100			59	141
3291	Benzo(k)fluoranthene										
	0.17 ug/l	N.D.		109	107	2	101			60	137
3292	Benzo(a)pyrene										
	0.14 ug/l	N.D.		126	124	2	114			42	158
3293	Dibenzo(a,h)anthracene										
	0.29 ug/l	N.D.		110	108	2	102			49	142
3294	Benzo(g,h,i)perylene										
	0.61 ug/l	N.D.		116	114	2	107			46	148
3295	Indeno(1,2,3-cd)pyrene										
	0.39 ug/l	N.D.		111	109	2	104			64	134
-----											
8213 BTEX (8021)		Batch: 98087A53									
-----											
0776	Benzene										
	2. ug/l	N.D.		98	98	1					
0777	Toluene										
	2. ug/l	N.D.		102	100	2					
0778	Ethylbenzene										
	2. ug/l	N.D.		102	101	1					
0779	Total Xylenes										
	6. ug/l	N.D.		101	100	1					

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-556-2200 Fax 717-556-2681

See reverse side for explanation of symbols and abbreviations

2214 PA 7/04/97





LLI Sample No. **2899595**  
TW-09-01 Grab Water Sample

Moss-American Site - IL

Group No. 608317  
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz Triphenyle	68 (5)	60 60	120 120
8213 BTEX (8021)		TFT	99	70	130

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-651-2300 FAX 717-651-2581

See reverse side for explanation of symbols and abbreviations.

2216 Rev 8/4/97







LLI Sample No. WW 2899596

Collected: 3/25/98 at 13:30 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-6S-01 Grab Water Sample

Moss-American Site - IL

6S01- SDG#: MOS01-14

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

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

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

ATTN: Mr. Greg Kinsall  
ATTN: Garet Van de Steeg, PhD

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
14:01:53 D 0003 13 608317  
232 0.00 00027500 ASR000

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



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





LLI Sample No. WW 2899596

Collected: 3/25/98 at 13:30 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-6S-01 Grab Water Sample

Moss-American Site - IL  
6S01- SDG#: MOS01-14

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
PAH's in Water					
3280	Naphthalene	N.D.		0.76	ug/l
3281	Acenaphthylene	N.D.		0.76	ug/l
3282	Acenaphthene	N.D.		0.76	ug/l
3283	Fluorene	N.D.		0.16	ug/l
3284	Phenanthrene	N.D.		0.044	ug/l
3285	Anthracene	N.D.		0.030	ug/l
3286	Fluoranthene	N.D.		0.019	ug/l
3287	Pyrene	N.D.		0.17	ug/l
3288	Benzo(a)anthracene	N.D.		0.017	ug/l
3289	Chrysene	0.129	J	0.056	ug/l
3290	Benzo(b)fluoranthene	N.D.		0.033	ug/l
3291	Benzo(k)fluoranthene	N.D.		0.026	ug/l
3292	Benzo(a)pyrene	N.D.		0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.		0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.		0.094	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.		0.061	ug/l

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

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



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





LLI Sample No. WW 2899596

Collected: 3/25/98 at 13:30 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-6S-01 Grab Water Sample

Moss-American Site - IL  
6S01- SDG#: MOS01-14

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

P.O. MOSS-AMERICAN  
Rel.

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

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

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



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

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/1/97





**LLI Sample No. WW 2899596**

Collected: 03/25/98 at 13:30 by JA

Submitted: 03/26/98

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

MW-6S-01 Grab Water Sample

Moss-American Site - IL  
6S01- SDG#: MOS01-14

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	04/01/98 2303	Michele D. Mack
3337	PAH Water Extraction	SW-846 3510C	1	03/31/98 2330	Sherry Lynn Devlin
8213	BTEX (8021)	SW-846 8021B	1	03/30/98 2154	Steven J. Stabinger



Lancaster Laboratories  
 2425 New Holland Pike  
 PO Box 12425  
 Lancaster, PA 17605-2425  
 717-686-2330 Fax: 717-686-2081





**LLI Sample No. 2899596**

MW-6S-01 Grab Water Sample

Moss-American Site - IL

Group No. 608317  
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: 980900007A									
-----											
3280	Naphthalene										
	0.76 ug/l	N.D.		54	-51 (2)	3	73			37	120
3281	Acenaphthylene										
	0.76 ug/l	N.D.		216	211	3	81			41	135
3282	Acenaphthene										
	0.76 ug/l	N.D.		88	88	0	76			38	135
3283	Fluorene										
	0.16 ug/l	N.D.		239	238	1	81			41	140
3284	Phenanthrene										
	0.044 ug/l	N.D.		101	99	3	96			48	152
3285	Anthracene										
	0.030 ug/l	N.D.		90	84	7	79			42	143
3286	Fluoranthene										
	0.019 ug/l	N.D.		109	106	3	100			48	155
3287	Pyrene										
	0.17 ug/l	N.D.		102	99	3	94			51	146
3288	Benzo(a)anthracene										
	0.017 ug/l	N.D.		108	106	2	100			52	146
3289	Chrysene										
	0.056 ug/l	N.D.		108	109	0	102			56	145
3290	Benzo(b)fluoranthene										
	0.033 ug/l	N.D.		108	107	1	100			59	141
3291	Benzo(k)fluoranthene										
	0.026 ug/l	N.D.		109	107	2	101			60	137
3292	Benzo(a)pyrene										
	0.021 ug/l	N.D.		126	124	2	114			42	158
3293	Dibenzo(a,h)anthracene										
	0.045 ug/l	N.D.		110	108	2	102			49	142
3294	Benzo(g,h,i)perylene										
	0.094 ug/l	N.D.		116	114	2	107			46	148
3295	Indeno(1,2,3-cd)pyrene										
	0.061 ug/l	N.D.		111	109	2	104			64	134
-----											
8213 BTEX (8021)		Batch: 98089A53									
-----											
0776	Benzene										
	0.2 ug/l	N.D.		91	92	1	108			78	138
0777	Toluene										
	0.2 ug/l	N.D.		101	102	0	109			78	118
0778	Ethylbenzene										
	0.2 ug/l	N.D.		100	105	2	109			77	119
0779	Total Xylenes										
	0.6 ug/l	N.D.		112	115	1	108			76	116

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



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

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/14/97





LLI Sample No. **2899596**

MW-6S-01 Grab Water Sample

Moss-American Site - IL

Group No. 608317  
Kerr-McGee Corporation

### SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	89	60	120
	Triphenyle	92	60	120
8213 BTEX (8021)	TFT	97	70	130



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2800 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations

2017 01 04 11:00





LLI Sample No. **WW 2899597**

Collected: 3/25/98 at 14:30 by JA

Submitted: 3/26/98 Reported: 4/10/98

Discard: 5/11/98

MW-27S-01 Grab Water Sample

Moss-American Site - IL  
27S01 SDG#: MOS01-15

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

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

ATTN: Mr. Greg Kinsall  
ATTN: Garet Van de Steeg, PhD

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
19:35:35 D 0003 13 REP 608317  
386 0.00 00027500 ASR000

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax 717-656-2531





**LLI Sample No. WW 2899597**

Collected: 3/25/98 at 14:30 by JA

Submitted: 3/26/98 Reported: 4/10/98

Discard: 5/11/98

MW-27S-01 Grab Water Sample

Moss-American Site - IL  
27S01 SDG#: MOS01-15

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
PAH's in Water				
3280	Naphthalene	N.D.	0.83	ug/l
3281	Acenaphthylene	N.D.	0.83	ug/l
3282	Acenaphthene	N.D.	0.83	ug/l
3283	Fluorene	N.D.	0.18	ug/l
3284	Phenanthrene	N.D.	0.048	ug/l
3285	Anthracene	N.D.	0.032	ug/l
3286	Fluoranthene	N.D.	0.021	ug/l
3287	Pyrene	N.D.	0.19	ug/l
3288	Benzo(a)anthracene	N.D.	0.019	ug/l
3289	Chrysene	N.D.	0.061	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.036	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.028	ug/l
3292	Benzo(a)pyrene	N.D.	0.023	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.049	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.10	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.066	ug/l

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

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

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
TEL: (717) 656-2300 FAX: (717) 656-2301







LLI Sample No. **WW 2899597**

Collected: 3/25/98 at 14:30 by JA

Submitted: 3/26/98 Reported: 4/10/98

Discard: 5/11/98

MW-27S-01 Grab Water Sample

Moss-American Site - IL  
27S01 SDG#: MOS01-15

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

P.O. MOSS-AMERICAN  
Rel.

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

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

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



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





**LLI Sample No. WW 2899597**

Collected: 03/25/98 at 14:30 by JA

Submitted: 03/26/98

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

MW-27S-01 Grab Water Sample

Moss-American Site - IL  
27S01 SDG#: MOS01-15

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	04/01/98 2321	Michele D. Mack
3337	PAH Water Extraction	SW-846 3510C	1	03/31/98 2330	Sherry Lynn Devlin
8213	BTEX (8021)	SW-846 8021B	1	03/30/98 2235	Steven J. Stabinger



Lancaster Laboratories  
 2425 New Holland Pike  
 PO Box 12425  
 Lancaster, PA 17605-2425  
 TEL: 717-212-1000 Fax: 717-212-2801





LLI Sample No. **2899597**

MW-27S-01 Grab Water Sample

Moss-American Site - IL

Group No. 608317  
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: 98090007A									
-----											
3280	Naphthalene	N.D.		54	-51 (2)	3	73			37	120
	0.83 ug/l										
3281	Acenaphthylene	N.D.		216	211	3	81			41	135
	0.83 ug/l										
3282	Acenaphthene	N.D.		88	88	0	76			38	135
	0.83 ug/l										
3283	Fluorene	N.D.		239	238	1	81			41	140
	0.18 ug/l										
3284	Phenanthrene	N.D.		101	99	3	96			48	152
	0.048 ug/l										
3285	Anthracene	N.D.		90	84	7	79			42	143
	0.032 ug/l										
3286	Fluoranthene	N.D.		109	106	3	100			48	155
	0.021 ug/l										
3287	Pyrene	N.D.		102	99	3	94			51	146
	0.19 ug/l										
3288	Benzo(a)anthracene	N.D.		108	106	2	100			52	146
	0.019 ug/l										
3289	Chrysene	N.D.		108	109	0	102			56	145
	0.061 ug/l										
3290	Benzo(b)fluoranthene	N.D.		108	107	1	100			59	141
	0.036 ug/l										
3291	Benzo(k)fluoranthene	N.D.		109	107	2	101			60	137
	0.028 ug/l										
3292	Benzo(a)pyrene	N.D.		126	124	2	114			42	158
	0.023 ug/l										
3293	Dibenzo(a,h)anthracene	N.D.		110	108	2	102			49	142
	0.049 ug/l										
3294	Benzo(g,h,i)perylene	N.D.		116	114	2	107			46	148
	0.10 ug/l										
3295	Indeno(1,2,3-cd)pyrene	N.D.		111	109	2	104			64	134
	0.066 ug/l										
-----											
8213 BTEX (8021)		Batch: 98089A53									
-----											
0776	Benzene	N.D.		91	92	1	108			78	138
	0.2 ug/l										
0777	Toluene	N.D.		101	102	0	109			78	118
	0.2 ug/l										
0778	Ethylbenzene	N.D.		100	105	2	109			77	119
	0.2 ug/l										
0779	Total Xylenes	N.D.		112	115	1	108			76	116
	0.6 ug/l										

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-554-3300 Fax: 717-556-2691

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/11/97





LLI Sample No. **2899597**

MW-27S-01 Grab Water Sample

Moss-American Site - IL

Group No. 608317  
Kerr-McGee Corporation

### SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	87	60	120
	Triphenyle	92	60	120
8213 BTEX (8021)	TFT	96	70	130



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
TEL: 717-397-0421





Lancaster Laboratories  
A division of Thermo Analytical Inc.

LLI Sample No. WW 2899598

Collected: 3/25/98 at 15:30 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-28S-01 Grab Water Sample

Moss-American Site - IL  
28S01 SDG#: MOS01-16

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

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

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

ATTN: Mr. Greg Kinsall  
ATTN: Garet Van de Steeg, PhD

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
14:05:49 D 0003 13 608317  
232 0.00 00027500 ASR000



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-556-2300 Fax: 717-656-2681

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





LLI Sample No. WW 2899598

Collected: 3/25/98 at 15:30 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-28S-01 Grab Water Sample

Moss-American Site - IL  
28S01 SDG#: MOS01-16

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	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.	0.061	ug/l

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

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax: 717-656-2651





**LLI Sample No. WW 2899598**

Collected: 3/25/98 at 15:30 by JA

Submitted: 3/26/98 Reported: 4/ 9/98  
Discard: 5/10/98

MW-28S-01 Grab Water Sample

Moss-American Site - IL  
28S01 SDG#: MOS01-16

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
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 McClarin, B.A.  
Manager, Volatiles



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

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/1/97





**LLI Sample No. WW 2899598**

Collected: 03/25/98 at 15:30 by JA

Submitted: 03/26/98

MW-28S-01 Grab Water Sample

Moss-American Site - IL  
28S01 SDG#: MOS01-16

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

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS		ANALYST
				ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1		04/01/98 2340	Michele D. Mack
3337	PAH Water Extraction	SW-846 3510C	1		03/31/98 2330	Sherry Lynn Devlin
8213	BTEX (8021)	SW-846 8021B	1		03/30/98 2315	Steven J. Stabinger



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







**LLI Sample No. 2899598**

MW-28S-01 Grab Water Sample

Moss-American Site - IL

Group No. 608317  
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: 980900007A									
-----											
3280 Naphthalene	0.77 ug/l	N.D.		54	-51 (2)	3	73			37	120
3281 Acenaphthylene	0.77 ug/l	N.D.		216	211	3	81			41	135
3282 Acenaphthene	0.77 ug/l	N.D.		88	88	0	76			38	135
3283 Fluorene	0.16 ug/l	N.D.		239	238	1	81			41	140
3284 Phenanthrene	0.044 ug/l	N.D.		101	99	3	96			48	152
3285 Anthracene	0.030 ug/l	N.D.		90	84	7	79			42	143
3286 Fluoranthene	0.019 ug/l	N.D.		109	106	3	100			48	155
3287 Pyrene	0.17 ug/l	N.D.		102	99	3	94			51	146
3288 Benzo(a)anthracene	0.017 ug/l	N.D.		108	106	2	100			52	146
3289 Chrysene	0.057 ug/l	N.D.		108	109	0	102			56	145
3290 Benzo(b)fluoranthene	0.034 ug/l	N.D.		108	107	1	100			59	141
3291 Benzo(k)fluoranthene	0.026 ug/l	N.D.		109	107	2	101			60	137
3292 Benzo(a)pyrene	0.021 ug/l	N.D.		126	124	2	114			42	158
3293 Dibenzo(a,h)anthracene	0.045 ug/l	N.D.		110	108	2	102			49	142
3294 Benzo(g,h,i)perylene	0.095 ug/l	N.D.		116	114	2	107			46	148
3295 Indeno(1,2,3-cd)pyrene	0.061 ug/l	N.D.		111	109	2	104			64	134
-----											
8213 BTEX (8021)		Batch: 98089A53									
-----											
0776 Benzene	0.2 ug/l	N.D.		91	92	1	108			78	138
0777 Toluene	0.2 ug/l	N.D.		101	102	0	109			78	118
0778 Ethylbenzene	0.2 ug/l	N.D.		100	105	2	109			77	119
0779 Total Xylenes	0.6 ug/l	N.D.		112	115	1	108			76	116

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2700 Fax: 717-656-2581

See reverse side for explanation of symbols and abbreviations

2016 Rev. 2/14/97





LLI Sample No. **2899598**  
MW-28S-01 Grab Water Sample

Moss-American Site - IL

Group No. 608317  
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS	
	TRIAL ID	SURROGATE	RECOVERY %	LOW HIGH
1861 PAH's in Water		Nitrobenz	83	60 120
		Triphenyle	97	60 120
8213 BTEX (8021)		TFT	97	70 130



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2301 Fax 717-656-0661





Lancaster Laboratories  
A division of Thermo Analytical Inc.

LLI Sample No. WW 2899599

Collected: 3/25/98 at 15:40 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-29S-01 Grab Water Sample

Moss-American Site - IL  
29S01 SDG#: MOS01-17

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

P.O. MOSS-AMERICAN  
Rel.

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

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

ATTN: Mr. Greg Kinsall  
ATTN: Garet Van de Steeg, PhD

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
14:07:39 D 0003 13 608317  
232 0.00 00027500 ASR000



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

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





**LLI Sample No. WW 2899599**

Collected: 3/25/98 at 15:40 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-29S-01 Grab Water Sample

Moss-American Site - IL  
29S01 SDG#: MOS01-17

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

P.O. MOSS-AMERICAN  
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
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	0.056 J	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	0.068 J	0.056	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.033	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.094	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.061	ug/l

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

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax 717-656-2601





LLI Sample No. WW 2899599

Collected: 3/25/98 at 15:40 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-29S-01 Grab Water Sample

Moss-American Site - IL  
29S01 SDG#: MOS01-17

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
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 McClarin, B.A.  
Manager, Volatiles



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

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/1/97





**LLI Sample No. WW 2899599**

Collected: 03/25/98 at 15:40 by JA

Submitted: 03/26/98

MW-29S-01 Grab Water Sample

Moss-American Site - IL  
29S01 SDG#: MOS01-17

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	04/01/98 2358	Michele D. Mack
3337	PAH Water Extraction	SW-846 3510C	1	03/31/98 2330	Sherry Lynn Devlin
8213	BTEX (8021)	SW-846 8021B	1	03/30/98 2355	Steven J. Stabinger



Lancaster Laboratories  
 2425 New Holland Pike  
 PO Box 12425  
 Lancaster, PA 17605-2425  
 717-656-2200 Fax 717-656-2051





**LLI Sample No. 2899599**

MW-29S-01 Grab Water Sample

Moss-American Site - IL

Group No. 608317  
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: 980900007A									
-----											
3280	Naphthalene	N.D.		54	-51 (2)	3	73			37	120
	0.76 ug/l										
3281	Acenaphthylene	N.D.		216	211	3	81			41	135
	0.76 ug/l										
3282	Acenaphthene	N.D.		88	88	0	76			38	135
	0.76 ug/l										
3283	Fluorene	N.D.		239	238	1	81			41	140
	0.16 ug/l										
3284	Phenanthrene	N.D.		101	99	3	96			48	152
	0.044 ug/l										
3285	Anthracene	N.D.		90	84	7	79			42	143
	0.030 ug/l										
3286	Fluoranthene	N.D.		109	106	3	100			48	155
	0.019 ug/l										
3287	Pyrene	N.D.		102	99	3	94			51	146
	0.17 ug/l										
3288	Benzo(a)anthracene	N.D.		108	106	2	100			52	146
	0.017 ug/l										
3289	Chrysene	N.D.		108	109	0	102			56	145
	0.056 ug/l										
3290	Benzo(b)fluoranthene	N.D.		108	107	1	100			59	141
	0.033 ug/l										
3291	Benzo(k)fluoranthene	N.D.		109	107	2	101			60	137
	0.026 ug/l										
3292	Benzo(a)pyrene	N.D.		126	124	2	114			42	158
	0.021 ug/l										
3293	Dibenzo(a,h)anthracene	N.D.		110	108	2	102			49	142
	0.045 ug/l										
3294	Benzo(g,h,i)perylene	N.D.		116	114	2	107			46	148
	0.094 ug/l										
3295	Indeno(1,2,3-cd)pyrene	N.D.		111	109	2	104			64	134
	0.061 ug/l										
-----											
8213 BTEX (8021)		Batch: 98089A53									
-----											
0776	Benzene	N.D.		91	92	1	108			78	138
	0.2 ug/l										
0777	Toluene	N.D.		101	102	0	109			78	118
	0.2 ug/l										
0778	Ethylbenzene	N.D.		100	105	2	109			77	119
	0.2 ug/l										
0779	Total Xylenes	N.D.		112	115	1	108			76	116
	0.6 ug/l										

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



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

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/11/97





LLI Sample No. **2899599**  
MW-29S-01 Grab Water Sample

Moss-American Site - IL

Group No. 608317  
Kerr-McGee Corporation

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	88	60	120
	Triphenyle	92	60	120
8213 BTEX (8021)	TFT	98	70	130



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2200 Fax 717-676-2681







**LLI Sample No. WW 2899600**

Collected: 3/25/98 at 17:00 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-9S-01 Grab Water Sample

Moss-American Site - IL  
9S01- SDG#: MOS01-18

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

P.O. MOSS-AMERICAN  
Rel.

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

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

ATTN: Mr. Greg Kinsall  
ATTN: Garet Van de Steeg, PhD

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
14:09:56 D 0003 13 608317  
232 0.00 00027500 ASR000

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



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





**LLI Sample No. WW 2899600**

Collected: 3/25/98 at 17:00 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-9S-01 Grab Water Sample

Moss-American Site - IL  
9S01- SDG#: MOS01-18

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

P.O. MOSS-AMERICAN  
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION	LIMIT UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.77	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.	0.061	ug/l

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

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



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





LLI Sample No. WW 2899600

Collected: 3/25/98 at 17:00 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-9S-01 Grab Water Sample

Moss-American Site - IL  
9S01- SDG#: MOS01-18

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

P.O. MOSS-AMERICAN  
Ref.

AS RECEIVED

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

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 McClarin, B.A.  
Manager, Volatiles



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax 717-656-2581

See reverse side for explanation of symbols and abbreviations.

2010 Rev. 8/14/97





**LLI Sample No. WW 2899600**

Collected: 03/25/98 at 17:00 by JA

Submitted: 03/26/98

MW-9S-01 Grab Water Sample

Moss-American Site - IL  
9S01- SDG#: MOS01-18

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

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS		ANALYST
				ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1		04/02/98 0017	Michele D. Mack
3337	PAH Water Extraction	SW-846 3510C	1		03/31/98 2330	Sherry Lynn Devlin
8213	BTEX (8021)	SW-846 8021B	1		03/31/98 0035	Steven J. Stabinger



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax: 717-657-2641





**LLI Sample No. 2899600**

MW-9S-01 Grab Water Sample

Moss-American Site - IL

Group No. 608317  
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: 980900007A									
-----											
3280	Naphthalene 0.77 ug/l	N.D.		54	-51 (2)	3	73			37	120
3281	Acenaphthylene 0.77 ug/l	N.D.		216	211	3	81			41	135
3282	Acenaphthene 0.77 ug/l	N.D.		88	88	0	76			38	135
3283	Fluorene 0.16 ug/l	N.D.		239	238	1	81			41	140
3284	Phenanthrene 0.044 ug/l	N.D.		101	99	3	96			48	152
3285	Anthracene 0.030 ug/l	N.D.		90	84	7	79			42	143
3286	Fluoranthene 0.019 ug/l	N.D.		109	106	3	100			48	155
3287	Pyrene 0.17 ug/l	N.D.		102	99	3	94			51	146
3288	Benzo(a)anthracene 0.017 ug/l	N.D.		108	106	2	100			52	146
3289	Chrysene 0.057 ug/l	N.D.		108	109	0	102			56	145
3290	Benzo(b)fluoranthene 0.034 ug/l	N.D.		108	107	1	100			59	141
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.		109	107	2	101			60	137
3292	Benzo(a)pyrene 0.021 ug/l	N.D.		126	124	2	114			42	158
3293	Dibenzo(a,h)anthracene 0.045 ug/l	N.D.		110	108	2	102			49	142
3294	Benzo(g,h,i)perylene 0.095 ug/l	N.D.		116	114	2	107			46	148
3295	Indeno(1,2,3-cd)pyrene 0.061 ug/l	N.D.		111	109	2	104			64	134
-----											
8213 BTEX (8021)		Batch: 98089A53									
-----											
0776	Benzene 0.2 ug/l	N.D.		91	92	1	108			78	138
0777	Toluene 0.2 ug/l	N.D.		101	102	0	109			78	118
0778	Ethylbenzene 0.2 ug/l	N.D.		100	105	2	109			77	119
0779	Total Xylenes 0.6 ug/l	N.D.		112	115	1	108			76	116

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax 717-656-2601

See reverse side for explanation of symbols and abbreviations

2016 Rev. 8/1/17





**LLI Sample No. 2899600**

MW-9S-01 Grab Water Sample

Moss-American Site - IL

Group No. 608317  
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	80	60	120
		Triphenyle	84	60	120
8213 BTEX (8021)		TFT	97	70	130



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-655-2300 Fax 717-655-2621





**Lancaster Laboratories**  
A division of Thermo Analytical Inc.

**LLI Sample No. WW 2899601**

Collected: 3/25/98 at 17:15 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-9I-01 Grab Water Sample

Moss-American Site - IL  
9I01- SDG#: MOS01-19

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

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

ATTN: Mr. Greg Kinsall  
ATTN: Garet Van de Steeg, PhD

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
14:12:00 D 0003 13 608317  
232 0.00 00027500 ASR000

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



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





**LLI Sample No. WW 2899601**

Collected: 3/25/98 at 17:15 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-9I-01 Grab Water Sample

Moss-American Site - IL  
9I01- SDG#: MOS01-19

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	0.032 J	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	N.D.	0.056	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.033	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	0.033 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

The % difference for the calibration verification standard fell outside the +/- 15% criteria for Benzo(a)pyrene. Since the average of the % difference difference values met the criteria, the results were reported.

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

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax: 717-656-2008







**LLI Sample No. WW 2899601**

Collected: 3/25/98 at 17:15 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-9I-01 Grab Water Sample

Moss-American Site - IL  
9I01- SDG#: MOS01-19

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

P.O. MOSS-AMERICAN  
Rel.

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

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

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



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

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/1/97





**LLI Sample No. WW 2899601**

Collected: 03/25/98 at 17:15 by JA

Submitted: 03/26/98

MW-9I-01 Grab Water Sample

Moss-American Site - IL  
9I01- SDG#: MOS01-19

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

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS		ANALYST
				ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1		04/02/98 0036	Michele D. Mack
3337	PAH Water Extraction	SW-846 3510C	1		03/31/98 2330	Sherry Lynn Devlin
8213	BTEX (8021)	SW-846 8021B	1		03/31/98 0115	Steven J. Stabinger



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-856-2300 F: 717-856-2691





**LLI Sample No. 2899601**

MW-9I-01 Grab Water Sample

Moss-American Site - IL

Group No. 608317  
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: 980900007A									
3280 Naphthalene	0.76 ug/l	N.D.		54	-51 (2)	3	73			37	120
3281 Acenaphthylene	0.76 ug/l	N.D.		216	211	3	81			41	135
3282 Acenaphthene	0.76 ug/l	N.D.		88	88	0	76			38	135
3283 Fluorene	0.16 ug/l	N.D.		239	238	1	81			41	140
3284 Phenanthrene	0.044 ug/l	N.D.		101	99	3	96			48	152
3285 Anthracene	0.030 ug/l	N.D.		90	84	7	79			42	143
3286 Fluoranthene	0.019 ug/l	N.D.		109	106	3	100			48	155
3287 Pyrene	0.17 ug/l	N.D.		102	99	3	94			51	146
3288 Benzo(a)anthracene	0.017 ug/l	N.D.		108	106	2	100			52	146
3289 Chrysene	0.056 ug/l	N.D.		108	109	0	102			56	145
3290 Benzo(b)fluoranthene	0.033 ug/l	N.D.		108	107	1	100			59	141
3291 Benzo(k)fluoranthene	0.026 ug/l	N.D.		109	107	2	101			60	137
3292 Benzo(a)pyrene	0.021 ug/l	N.D.		126	124	2	114			42	158
3293 Dibenzo(a,h)anthracene	0.045 ug/l	N.D.		110	108	2	102			49	142
3294 Benzo(g,h,i)perylene	0.095 ug/l	N.D.		116	114	2	107			46	148
3295 Indeno(1,2,3-cd)pyrene	0.061 ug/l	N.D.		111	109	2	104			64	134
-----											
8213 BTEX (8021)		Batch: 98089A53									
0776 Benzene	0.2 ug/l	N.D.		91	92	1	108			78	138
0777 Toluene	0.2 ug/l	N.D.		101	102	0	109			78	118
0778 Ethylbenzene	0.2 ug/l	N.D.		100	105	2	109			77	119
0779 Total Xylenes	0.6 ug/l	N.D.		112	115	1	108			76	116

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



Lancaster Laboratories  
2425 New Holland Pike  
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Lancaster, PA 17605-2425  
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See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/1/97





**LLI Sample No. 2899601**

MW-9I-01 Grab Water Sample

Moss-American Site - IL

Group No. 608317  
Kerr-McGee Corporation

### SURROGATE SUMMARY

	TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
				LOW	HIGH
1861 PAH's in Water		Nitrobenz	85	60	120
		Triphenyle	90	60	120
8213 BTEX (8021)		TFT	99	70	130



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2900 Fax 717-656-2901





**Lancaster Laboratories**  
A division of Thermo Analytical Inc.

**LLI Sample No. WW 2899602**

Collected: 3/25/98 at 17:30 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

FB-02-01 Grab Water Sample

Moss-American Site - IL  
0201- SDG#: MOS01-20FB\*

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

P.O: MOSS-AMERICAN  
Rel.

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

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

ATTN: Mr. Greg Kinsall  
ATTN: Garet Van de Steeg, PhD

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
14:13:35 D 0003 13 608317  
232 0.00 00027500 ASR000



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

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





**LLI Sample No. WW 2899602**

Collected: 3/25/98 at 17:30 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

FB-02-01 Grab Water Sample

Moss-American Site - IL  
0201- SDG#: MOS01-20FB\*

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

P.O. MOSS-AMERICAN  
ReI.

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.	0.061	ug/l

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

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax 717-656-2691





**LLI Sample No. WW 2899602**

Collected: 3/25/98 at 17:30 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

FB-02-01 Grab Water Sample

Moss-American Site - IL  
0201- SDG#: MOS01-20FB\*

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	
			DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.2	ug/l
0777	Toluene	2.	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 McClarin, B.A.  
Manager, Volatiles



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





**LLI Sample No. WW 2899602**

Collected: 03/25/98 at 17:30 by JA

Submitted: 03/26/98

FB-02-01 Grab Water Sample

Moss-American Site - IL  
0201- SDG#: MOS01-20FB\*

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	04/02/98 0054	Michele D. Mack
3337	PAH Water Extraction	SW-846 3510C	1	03/31/98 2330	Sherry Lynn Devlin
8213	BTEX (8021)	SW-846 8021B	1	03/31/98 0155	Steven J. Stabinger



Lancaster Laboratories  
 2425 New Holland Pike  
 PO Box 12425  
 Lancaster, PA 17605-2425  
 717-856-2300 Fax: 717-856-2997







**LLI Sample No. 2899602**

FB-02-01 Grab Water Sample

Moss-American Site - IL

Group No. 608317  
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: 980900007A									
3280 Naphthalene	0.77 ug/l	N.D.		54	-51 (2)	3	73			37	120
3281 Acenaphthylene	0.77 ug/l	N.D.		216	211	3	81			41	135
3282 Acenaphthene	0.77 ug/l	N.D.		88	88	0	76			38	135
3283 Fluorene	0.16 ug/l	N.D.		239	238	1	81			41	140
3284 Phenanthrene	0.044 ug/l	N.D.		101	99	3	96			48	152
3285 Anthracene	0.030 ug/l	N.D.		90	84	7	79			42	143
3286 Fluoranthene	0.019 ug/l	N.D.		109	106	3	100			48	155
3287 Pyrene	0.17 ug/l	N.D.		102	99	3	94			51	146
3288 Benzo(a)anthracene	0.017 ug/l	N.D.		108	106	2	100			52	146
3289 Chrysene	0.057 ug/l	N.D.		108	109	0	102			56	145
3290 Benzo(b)fluoranthene	0.034 ug/l	N.D.		108	107	1	100			59	141
3291 Benzo(k)fluoranthene	0.026 ug/l	N.D.		109	107	2	101			60	137
3292 Benzo(a)pyrene	0.021 ug/l	N.D.		126	124	2	114			42	158
3293 Dibenzo(a,h)anthracene	0.045 ug/l	N.D.		110	108	2	102			49	142
3294 Benzo(g,h,i)perylene	0.095 ug/l	N.D.		116	114	2	107			46	148
3295 Indeno(1,2,3-cd)pyrene	0.061 ug/l	N.D.		111	109	2	104			64	134
-----											
8213 BTEX (8021)		Batch: 98089A53									
0776 Benzene	0.2 ug/l	N.D.		91	92	1	108			78	138
0777 Toluene	0.2 ug/l	N.D.		101	102	0	109			78	118
0778 Ethylbenzene	0.2 ug/l	N.D.		100	105	2	109			77	119
0779 Total Xylenes	0.6 ug/l	N.D.		112	115	1	108			76	116

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax 717-656-2661

See reverse side for explanation of symbols and abbreviations.

2016 Rev. 8/14/97





LLI Sample No. 2899602  
FB-02-01 Grab Water Sample

Moss-American Site - IL

Group No. 608317  
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS	
	TRIAL ID	SURROGATE	RECOVERY %	LOW HIGH
1861 PAH's in Water		Nitrobenz	85	60 120
		Triphenyle	91	60 120
8213 BTEX (8021)		TFT	104	70 130



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-356-0300 FAX 717-356-2671





LLI Sample No. WW 2899603

Collected: 3/25/98 at 15:40 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-29S-01-DUP Grab Water Sample

Moss-American Site - IL  
29S0D SDG#: MOS02-01

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

P.O. MOSS-AMERICAN  
Rel.

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

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

ATTN: Mr. Greg Kinsall  
ATTN: Garet Van de Steeg, PhD

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
21:04:15 D 0003 2 608318  
232 0.00 00027500 ASR000

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax 717-656-2691





**LLI Sample No. WW 2899603**

Collected: 3/25/98 at 15:40 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-29S-01-DUP Grab Water Sample

Moss-American Site - IL  
29S0D SDG#: MOS02-01

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

P.O. MOSS-AMERICAN  
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	METHOD DETECTION	LIMIT	UNITS
PAH's in Water					
3280	Naphthalene	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	0.052	J	0.019	ug/l
3287	Pyrene	N.D.		0.17	ug/l
3288	Benzo(a)anthracene	N.D.		0.017	ug/l
3289	Chrysene	N.D.		0.056	ug/l
3290	Benzo(b)fluoranthene	0.045	J	0.033	ug/l
3291	Benzo(k)fluoranthene	N.D.		0.026	ug/l
3292	Benzo(a)pyrene	N.D.		0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.		0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.		0.094	ug/l
3295	Indeno(1,2,3-cd)pyrene	0.095	J	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  
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PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax 717-656-2681

See Appendix for explanation of symbols and abbreviations

2216 Rev 8/1997





LLI Sample No. **WW 2899603**

Collected: 3/25/98 at 15:40 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-29S-01-DUP Grab Water Sample

Moss-American Site - IL  
29S0D SDG#: MOS02-01

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

P.O. MOSS-AMERICAN  
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
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 McClarin, B.A.  
Manager, Volatiles



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

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/14/97





**LLI Sample No. WW 2899603**  
Collected: 03/25/98 at 15:40 by JA

Submitted: 03/26/98

MW-29S-01-DUP Grab Water Sample

Moss-American Site - IL  
29S0D SDG#: MOS02-01

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	04/07/98 1613	Michele D. Mack
3337	PAH Water Extraction	SW-846 3510C	1	04/01/98 2330	Sherry Lynn Devlin
8213	BTEX (8021)	SW-846 8021B	1	03/30/98 1427	Karen L. Baney



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2500 Fax 717-656-2671





**LLI Sample No. 2899603**

MW-29S-01-DUP Grab Water Sample

Moss-American Site - IL

Group No. 608318  
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: 980900002A									
3280	Naphthalene										
	0.76 ug/l	N.D.		86	87	1	86			37	120
3281	Acenaphthylene										
	0.76 ug/l	N.D.		96	94	1	93			41	135
3282	Acenaphthene										
	0.76 ug/l	N.D.		96	94	2	90			38	135
3283	Fluorene										
	0.16 ug/l	N.D.		99	96	3	96			41	140
3284	Phenanthrene										
	0.044 ug/l	N.D.		100	97	3	97			48	152
3285	Anthracene										
	0.030 ug/l	N.D.		94	90	4	95			42	143
3286	Fluoranthene										
	0.019 ug/l	N.D.		104	102	3	104			48	155
3287	Pyrene										
	0.17 ug/l	N.D.		111	107	4	111			51	146
3288	Benzo(a)anthracene										
	0.017 ug/l	N.D.		109	103	5	105			52	146
3289	Chrysene										
	0.056 ug/l	N.D.		106	100	6	103			56	145
3290	Benzo(b)fluoranthene										
	0.033 ug/l	N.D.		110	103	6	106			59	141
3291	Benzo(k)fluoranthene										
	0.026 ug/l	N.D.		107	101	6	103			60	137
3292	Benzo(a)pyrene										
	0.021 ug/l	N.D.		102	96	6	99			42	158
3293	Dibenzo(a,h)anthracene										
	0.045 ug/l	N.D.		107	102	5	104			49	142
3294	Benzo(g,h,i)perylene										
	0.094 ug/l	N.D.		112	106	5	108			46	148
3295	Indeno(1,2,3-cd)pyrene										
	0.061 ug/l	N.D.		104	98	6	100			64	134
----- 8213 BTEX (8021) -----		Batch: 98088A65									
0776	Benzene										
	0.2 ug/l	N.D.		115	118	2	110			78	138
0777	Toluene										
	0.2 ug/l	N.D.		115	113	2	106			78	118
0778	Ethylbenzene										
	0.2 ug/l	N.D.		111	108	3	103			77	119
0779	Total Xylenes										
	0.6 ug/l	N.D.		107	104	2	111			76	116



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2200 Fax: 717-656-2001

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/14/97





LLI Sample No. **2899603**  
MW-29S-01-DUP Grab Water Sample

Moss-American Site - IL

Group No. 608318  
Kerr-McGee Corporation

### SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	54	60	120
	Triphenyle	61	60	120
8213 BTEX (8021)	TFT	102	70	130



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Lancaster, PA 17605-2425  
717-556-2300 Fax 717-556-2697







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LLI Sample No. WW 2899604

Collected: 3/25/98 at 18:00 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-10S-01 Grab Water Sample

Moss-American Site - IL  
10S01 SDG#: MOS02-02

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

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

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

ATTN: Mr. Greg Kinsall  
ATTN: Garet Van de Steeg, PhD

Questions? Contact your Client Services Representative

Kay G. Hower at (717) 656-2300  
21:04:52 D 0003 2 608318  
232 0.00 00027500 ASR000

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
Tel: 717-656-2300 Fax: 717-656-2581





LLI Sample No. WW 2899604

Collected: 3/25/98 at 18:00 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-10S-01 Grab Water Sample

Moss-American Site - IL  
10S01 SDG#: MOS02-02

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	
			DETECTION	LIMIT UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.76	ug/l
3281	Acenaphthylene	N.D.	0.76	ug/l
3282	Acenaphthene	N.D.	0.76	ug/l
3283	Fluorene	N.D.	0.16	ug/l
3284	Phenanthrene	N.D.	0.044	ug/l
3285	Anthracene	N.D.	0.030	ug/l
3286	Fluoranthene	N.D.	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	N.D.	0.056	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.033	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.094	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.061	ug/l

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

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



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





LLI Sample No. WW 2899604

Collected: 3/25/98 at 18:00 by JA

Submitted: 3/26/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-10S-01 Grab Water Sample

Moss-American Site - IL  
10S01 SDG#: MOS02-02

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

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

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

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
(717) 656-2300 Fax: (717) 656-2301





**LLI Sample No. WW 2899604**

Collected: 03/25/98 at 18:00 by JA

Submitted: 03/26/98

MW-10S-01 Grab Water Sample

Moss-American Site - IL  
10S01 SDG#: MOS02-02

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	04/03/98 2138	Michele D. Mack
3337	PAH Water Extraction	SW-846 3510C	1	04/01/98 2330	Sherry Lynn Devlin
8213	BTEX (8021)	SW-846 8021B	1	03/30/98 1721	Karen L. Baney



Lancaster Laboratories  
 2425 New Holland Pike  
 PO Box 12425  
 Lancaster, PA 17605-2425  
 717-656-2300 Fax: 717-657-3621





**LLI Sample No. 2899604**

MW-10S-01 Grab Water Sample

Moss-American Site - IL

Group No. 608318  
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: 980900002A									
3280	Naphthalene										
	0.76 ug/l	N.D.		86	87	1	86			37	120
3281	Acenaphthylene										
	0.76 ug/l	N.D.		96	94	1	93			41	135
3282	Acenaphthene										
	0.76 ug/l	N.D.		96	94	2	90			38	135
3283	Fluorene										
	0.16 ug/l	N.D.		99	96	3	96			41	140
3284	Phenanthrene										
	0.044 ug/l	N.D.		100	97	3	97			48	152
3285	Anthracene										
	0.030 ug/l	N.D.		94	90	4	95			42	143
3286	Fluoranthene										
	0.019 ug/l	N.D.		104	102	3	104			48	155
3287	Pyrene										
	0.17 ug/l	N.D.		111	107	4	111			51	146
3288	Benzo(a)anthracene										
	0.017 ug/l	N.D.		109	103	5	105			52	146
3289	Chrysene										
	0.056 ug/l	N.D.		106	100	6	103			56	145
3290	Benzo(b)fluoranthene										
	0.033 ug/l	N.D.		110	103	6	106			59	141
3291	Benzo(k)fluoranthene										
	0.026 ug/l	N.D.		107	101	6	103			60	137
3292	Benzo(a)pyrene										
	0.021 ug/l	N.D.		102	96	6	99			42	158
3293	Dibenzo(a,h)anthracene										
	0.045 ug/l	N.D.		107	102	5	104			49	142
3294	Benzo(g,h,i)perylene										
	0.094 ug/l	N.D.		112	106	5	108			46	148
3295	Indeno(1,2,3-cd)pyrene										
	0.061 ug/l	N.D.		104	98	6	100			64	134
-----											
8213 BTEX (8021)		Batch: 98088A65									
0776	Benzene										
	0.2 ug/l	N.D.		115	118	2	110			78	138
0777	Toluene										
	0.2 ug/l	N.D.		115	113	2	106			78	118
0778	Ethylbenzene										
	0.2 ug/l	N.D.		111	108	3	103			77	119
0779	Total Xylenes										
	0.6 ug/l	N.D.		107	104	2	111			76	116



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-391-0000 Fax: 717-391-4288

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 5/14/97





LLI Sample No. **2899604**  
MW-10S-01 Grab Water Sample

Moss-American Site - IL

Group No. 608318  
Kerr-McGee Corporation

### SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	86	60	120
	Triphenyle	89	60	120
8213 BTEX (8021)	TFT	101	70	130



Lancaster Laboratories  
2425 New Holland Pike  
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See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/4/97





LLI Sample No. WW 2900474

Collected: 3/26/98 at 09:00 by JA

Submitted: 3/27/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-20I-01 Grab Water Sample

Moss-American - IL  
20I01 SDG#: MOS02-03

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

METHOD

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

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

ATTN: Garet Van de Steeg, PhD  
ATTN: Mr. Greg Kinsall

Questions? Contact your Client Services Representative

Kay G. Hower at (717) 656-2300  
21:33:38 D 0003 6 608532  
232 0.00 00027500 ASR000

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax: 717-656-2601





**LLI Sample No. WW 2900474**  
 Collected: 3/26/98 at 09:00 by JA

Submitted: 3/27/98 Reported: 4/ 9/98  
 Discard: 5/10/98

MW-20I-01 Grab Water Sample

Moss-American - IL  
 20I01 SDG#: MOS02-03

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	N.D.	0.76	ug/l
3281	Acenaphthylene	N.D.	0.76	ug/l
3282	Acenaphthene	N.D.	0.76	ug/l
3283	Fluorene	N.D.	0.16	ug/l
3284	Phenanthrene	0.061 J	0.044	ug/l
3285	Anthracene	N.D.	0.030	ug/l
3286	Fluoranthene	N.D.	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	N.D.	0.056	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.033	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.021	ug/l
3293	Dibenzo(a, h)anthracene	N.D.	0.045	ug/l
3294	Benzo(g, h, i)perylene	N.D.	0.095	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  
 2425 New Holland Pike  
 PO Box 12425  
 Lancaster, PA 17609-2425  
 717-656-2300 Fax 717-656-2581







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LLI Sample No. WW 2900474

Collected: 3/26/98 at 09:00 by JA

Submitted: 3/27/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-20I-01 Grab Water Sample

Moss-American - IL  
20I01 SDG#: MOS02-03

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	
			DETECTION LIMIT	UNITS
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 McClarin, B.A.  
Manager, Volatiles



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





**LLI Sample No. WW 2900474**

Collected: 03/26/98 at 09:00 by JA

Submitted: 03/27/98

MW-20I-01 Grab Water Sample

Moss-American - IL  
20I01 SDG#: MOS02-03

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		
			TRIAL ID	DATE AND TIME	ANALYST
1861	PAH's in Water	SW-846 8310	1	04/03/98 2157	Michele D. Mack
3337	PAH Water Extraction	SW-846 3510C	1	04/01/98 2330	Sherry Lynn Devlin
8213	BTEX (8021)	SW-846 8021A	1	04/01/98 2112	Barry R. Shoemaker



Lancaster Laboratories  
 2425 New Holland Pike  
 PO Box 12425  
 Lancaster PA 17605-2425  
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LLI Sample No. **2900474**  
MW-201-01 Grab Water Sample

Moss-American - IL

Group No. 608532  
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: 980900002A									
-----											
3280	Naphthalene										
	0.76 ug/l	N.D.		86	87	1	86			37	120
3281	Acenaphthylene										
	0.76 ug/l	N.D.		96	94	1	93			41	135
3282	Acenaphthene										
	0.76 ug/l	N.D.		96	94	2	90			38	135
3283	Fluorene										
	0.16 ug/l	N.D.		99	96	3	96			41	140
3284	Phenanthrene										
	0.044 ug/l	N.D.		100	97	3	97			48	152
3285	Anthracene										
	0.030 ug/l	N.D.		94	90	4	95			42	143
3286	Fluoranthene										
	0.019 ug/l	N.D.		104	102	3	104			48	155
3287	Pyrene										
	0.17 ug/l	N.D.		111	107	4	111			51	146
3288	Benzo(a)anthracene										
	0.017 ug/l	N.D.		109	103	5	105			52	146
3289	Chrysene										
	0.056 ug/l	N.D.		106	100	6	103			56	145
3290	Benzo(b)fluoranthene										
	0.033 ug/l	N.D.		110	103	6	106			59	141
3291	Benzo(k)fluoranthene										
	0.026 ug/l	N.D.		107	101	6	103			60	137
3292	Benzo(a)pyrene										
	0.021 ug/l	N.D.		102	96	6	99			42	158
3293	Dibenzo(a,h)anthracene										
	0.045 ug/l	N.D.		107	102	5	104			49	142
3294	Benzo(g,h,i)perylene										
	0.095 ug/l	N.D.		112	106	5	108			46	148
3295	Indeno(1,2,3-cd)pyrene										
	0.061 ug/l	N.D.		104	98	6	100			64	134
-----											
8213 BTEX (8021)		Batch: 98091A64									
-----											
0776	Benzene										
	0.2 ug/l	N.D.		106	119	12	117			78	138
0777	Toluene										
	0.2 ug/l	N.D.		101	115	12	114			78	118
0778	Ethylbenzene										
	0.2 ug/l	N.D.		101	116	14	114			77	119
0779	Total Xylenes										
	0.6 ug/l	N.D.		95	108	13	108			76	116



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

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/4/97





LLI Sample No. **2900474**  
MW-20I-01 Grab Water Sample

Moss-American - IL

Group No. 608532  
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS	
	TRIAL ID	SURROGATE	RECOVERY %	LOW HIGH
1861 PAH's in Water		Nitrobenz	90	60 120
		Triphenyle	93	60 120
8213 BTEX (8021)		TFT	101	70 130



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-655-2300 Fax 717-655-2581

See reverse side for explanation of symbols and abbreviations.

2216 Rev 2/1/97





LLI Sample No. WW 2900475

Collected: 3/26/98 at 09:00 by JA

Submitted: 3/27/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-20I-01 DUP Grab Water Sample

Moss-American - IL  
2101D SDG#: MOS02-04

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

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

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

ATTN: Garet Van de Steeg, PhD  
ATTN: Mr. Greg Kinsall

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
21:34:28 D 0003 6 608532  
232 0.00 00027500 ASR000

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax 717-656-2601





**LLI Sample No. WW 2900475**

Collected: 3/26/98 at 09:00 by JA

Submitted: 3/27/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-20I-01 DUP Grab Water Sample

Moss-American - IL  
2I01D SDG#: MOS02-04

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	
			DETECTION	LIMIT UNITS
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	0.062 J	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	0.071 J	0.057	ug/l
3290	Benzo(b)fluoranthene	0.078	0.034	ug/l
3291	Benzo(k)fluoranthene	0.042 J	0.026	ug/l
3292	Benzo(a)pyrene	0.035 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.	0.062	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 17605-2425  
TEL: 656-2300 FAX: 717-656-2531





**LLI Sample No. WW 2900475**

Collected: 3/26/98 at 09:00 by JA

Submitted: 3/27/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-20I-01 DUP Grab Water Sample

Moss-American - IL  
2101D SDG#: MOS02-04

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

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

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 McClarin, B.A.  
Manager, Volatiles



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

See reverse side for explanation of symbols and abbreviations.

2216 Rev 8/4/97





**LLI Sample No. WW 2900475**

Collected: 03/26/98 at 09:00 by JA

Submitted: 03/27/98

MW-20I-01 DUP Grab Water Sample

Moss-American - IL  
2I01D SDG#: MOS02-04

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	04/03/98 2215	Michele D. Mack
3337	PAH Water Extraction	SW-846 3510C	1	04/01/98 2330	Sherry Lynn Devlin
8213	BTEX (8021)	SW-846 8021A	1	04/01/98 2038	Barry R. Shoemaker



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-556-2300 Fax: 717-556-2681







**LLI Sample No. 2900475**

MW-201-01 DUP Grab Water Sample

Moss-American - IL

Group No. 608532  
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: 980900002A									
3280	Naphthalene										
	0.77 ug/l	N.D.		86	87	1	86			37	120
3281	Acenaphthylene										
	0.77 ug/l	N.D.		96	94	1	93			41	135
3282	Acenaphthene										
	0.77 ug/l	N.D.		96	94	2	90			38	135
3283	Fluorene										
	0.16 ug/l	N.D.		99	96	3	96			41	140
3284	Phenanthrene										
	0.044 ug/l	N.D.		100	97	3	97			48	152
3285	Anthracene										
	0.030 ug/l	N.D.		94	90	4	95			42	143
3286	Fluoranthene										
	0.019 ug/l	N.D.		104	102	3	104			48	155
3287	Pyrene										
	0.17 ug/l	N.D.		111	107	4	111			51	146
3288	Benzo(a)anthracene										
	0.017 ug/l	N.D.		109	103	5	105			52	146
3289	Chrysene										
	0.057 ug/l	N.D.		106	100	6	103			56	145
3290	Benzo(b)fluoranthene										
	0.034 ug/l	N.D.		110	103	6	106			59	141
3291	Benzo(k)fluoranthene										
	0.026 ug/l	N.D.		107	101	6	103			60	137
3292	Benzo(a)pyrene										
	0.021 ug/l	N.D.		102	96	6	99			42	158
3293	Dibenzo(a,h)anthracene										
	0.045 ug/l	N.D.		107	102	5	104			49	142
3294	Benzo(g,h,i)perylene										
	0.095 ug/l	N.D.		112	106	5	108			46	148
3295	Indeno(1,2,3-cd)pyrene										
	0.062 ug/l	N.D.		104	98	6	100			64	134
-----											
8213 BTEX (8021)		Batch: 98091A64									
0776	Benzene										
	0.2 ug/l	N.D.		106	119	12	117			78	138
0777	Toluene										
	0.2 ug/l	N.D.		101	115	12	114			78	118
0778	Ethylbenzene										
	0.2 ug/l	N.D.		101	116	14	114			77	119
0779	Total Xylenes										
	0.6 ug/l	N.D.		95	108	13	108			76	116



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster PA 17605-2425  
717-656-2300 Fax: 717-656-2661

See reverse side for explanation of symbols and abbreviations

2216 Rev 8/11/97





**LLI Sample No. 2900475**  
MW-20I-01 DUP Grab Water Sample

Moss-American - IL

Group No. 608532  
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS	
	TRIAL ID	SURROGATE	RECOVERY %	LOW HIGH
1861 PAH's in Water		Nitrobenz	92	60 120
		Triphenyle	94	60 120
8213 BTEX (8021)		TFT	100	70 130



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-650-2201 Fax: 717-650-2681





**LLI Sample No. WW 2900476**

Collected: 3/26/98 at 10:50 by JA

Submitted: 3/27/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-8I-01 Unspiked Grab Water Sample

Moss-American - IL

8I-01 SDG#: MOS02-05BKG

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

P.O. MOSS-AMERICAN  
Rel.

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

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

ATTN: Garet Van de Steeg, PhD  
ATTN: Mr. Greg Kinsall

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
21:35:18 D 0003 6 608532  
232 0.00 00027500 ASR000



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax: 717-656-2501

See reverse side for explanation of symbols and abbreviations

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





**LLI Sample No. WW 2900476**

Collected: 3/26/98 at 10:50 by JA

Submitted: 3/27/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-8I-01 Unspiked Grab Water Sample

Moss-American - IL  
8I-01 SDG#: MOS02-05BKG

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	0.131	J	0.029	ug/l
3286	Fluoranthene	0.044	J	0.019	ug/l
3287	Pyrene	N.D.		0.17	ug/l
3288	Benzo(a)anthracene	N.D.		0.017	ug/l
3289	Chrysene	N.D.		0.056	ug/l
3290	Benzo(b)fluoranthene	N.D.		0.033	ug/l
3291	Benzo(k)fluoranthene	N.D.		0.026	ug/l
3292	Benzo(a)pyrene	N.D.		0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.		0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.		0.094	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.		0.061	ug/l

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

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



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

See reverse side for explanation of symbols and abbreviations

2216 Rev 8/4/97





LLI Sample No. WW 2900476

Collected: 3/26/98 at 10:50 by JA

Submitted: 3/27/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-8I-01 Unspiked Grab Water Sample

Moss-American - IL

8I-01 SDG#: MOS02-05BKG

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

P.O. MOSS-AMERICAN  
Rel.

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

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

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



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

See reverse side for explanation of symbols and abbreviations

2216 Rev. 9/14/97





**LLI Sample No. WW 2900476**

Collected: 03/26/98 at 10:50 by JA

Submitted: 03/27/98

MW-8I-01 Unspiked Grab Water Sample

Moss-American - IL  
8I-01 SDG#: MOS02-05BKG

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	04/03/98 2234	Michele D. Mack
3337	PAH Water Extraction	SW-846 3510C	1	04/01/98 2330	Sherry Lynn Devlin
8213	BTEX (8021)	SW-846 8021A	1	04/01/98 1725	Barry R. Shoemaker



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





**LLI Sample No. 2900476**

MW-8I-01 Unspiked Grab Water Sample

Moss-American - IL

Group No. 608532  
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: 980900002A									
-----											
3280	Naphthalene 0.76 ug/l	N.D.		86	87	1	86			37	120
3281	Acenaphthylene 0.76 ug/l	N.D.		96	94	1	93			41	135
3282	Acenaphthene 0.76 ug/l	N.D.		96	94	2	90			38	135
3283	Fluorene 0.16 ug/l	N.D.		99	96	3	96			41	140
3284	Phenanthrene 0.044 ug/l	N.D.		100	97	3	97			48	152
3285	Anthracene 0.029 ug/l	N.D.		94	90	4	95			42	143
3286	Fluoranthene 0.019 ug/l	N.D.		104	102	3	104			48	155
3287	Pyrene 0.17 ug/l	N.D.		111	107	4	111			51	146
3288	Benzo(a)anthracene 0.017 ug/l	N.D.		109	103	5	105			52	146
3289	Chrysene 0.056 ug/l	N.D.		106	100	6	103			56	145
3290	Benzo(b)fluoranthene 0.033 ug/l	N.D.		110	103	6	106			59	141
3291	Benzo(k)fluoranthene 0.026 ug/l	N.D.		107	101	6	103			60	137
3292	Benzo(a)pyrene 0.021 ug/l	N.D.		102	96	6	99			42	158
3293	Dibenzo(a,h)anthracene 0.045 ug/l	N.D.		107	102	5	104			49	142
3294	Benzo(g,h,i)perylene 0.094 ug/l	N.D.		112	106	5	108			46	148
3295	Indeno(1,2,3-cd)pyrene 0.061 ug/l	N.D.		104	98	6	100			64	134
-----											
8213 BTEX (8021)		Batch: 98091A64									
-----											
0776	Benzene 0.2 ug/l	N.D.		106	119	12	117			78	138
0777	Toluene 0.2 ug/l	N.D.		101	115	12	114			78	118
0778	Ethylbenzene 0.2 ug/l	N.D.		101	116	14	114			77	119
0779	Total Xylenes 0.6 ug/l	N.D.		95	108	13	108			76	116



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

See reverse side for explanation of symbols and abbreviations

2216 Rev 8/1/97





LLI Sample No. **2900476**  
MW-8I-01 Unspiked Grab Water Sample

Moss-American - IL

Group No. 608532  
Kerr-McGee Corporation

### SURROGATE SUMMARY

TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
			LOW	HIGH
1861 PAH's in Water	Nitrobenz	91	60	120
	Triphenyle	90	60	120
8213 BTEX (8021)	TFT	101	70	130



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 17425  
Lancaster PA 17605-2425  
TEL: 610-220-1100 FAX: 717-656-2681







LLI Sample No. WW 2900477

Collected: 3/26/98 at 10:50 by JA

Submitted: 3/27/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-8I-01 Matrix Spike Grab Water Sample

Moss-American - IL  
8I-01 SDG#: MOS02-05MS

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

P.O. MOSS-AMERICAN  
Rel.

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

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

ATTN: Garet Van de Steeg, PhD  
ATTN: Mr. Greg Kinsall

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
21:36:07 D 0003 6 608532  
232 0.00 00027500 ASR000

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



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





LLI Sample No. WW 2900477

Collected: 3/26/98 at 10:50 by JA

Submitted: 3/27/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-8I-01 Matrix Spike Grab Water Sample

Moss-American - IL  
8I-01 SDG#: MOS02-05MS

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	164.	0.76	ug/l
3281	Acenaphthylene	183.	0.76	ug/l
3282	Acenaphthene	183.	0.76	ug/l
3283	Fluorene	18.9	0.16	ug/l
3284	Phenanthrene	5.72	0.044	ug/l
3285	Anthracene	2.81	0.030	ug/l
3286	Fluoranthene	3.03	0.019	ug/l
3287	Pyrene	21.3	0.17	ug/l
3288	Benzo(a)anthracene	1.55	0.017	ug/l
3289	Chrysene	6.06	0.056	ug/l
3290	Benzo(b)fluoranthene	1.25	0.033	ug/l
3291	Benzo(k)fluoranthene	1.23	0.026	ug/l
3292	Benzo(a)pyrene	1.45	0.021	ug/l
3293	Dibenzo(a,h)anthracene	3.07	0.045	ug/l
3294	Benzo(g,h,i)perylene	12.8	0.094	ug/l
3295	Indeno(1,2,3-cd)pyrene	5.95	0.061	ug/l

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

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
Tel: 717-656-2300 Fax: 717-656-2581

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/4/97





LLI Sample No. WW 2900477

Collected: 3/26/98 at 10:50 by JA

Submitted: 3/27/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-8I-01 Matrix Spike Grab Water Sample

Moss-American - IL  
8I-01 SDG#: MOS02-05MS

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	21.	0.2	ug/l
0777	Toluene	20.	0.2	ug/l
0778	Ethylbenzene	20.	0.2	ug/l
0779	Total Xylenes	57.	0.6	ug/l

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

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



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

See reverse side for explanation of symbols and abbreviations

2216 Rev 8/4/97





**LLI Sample No. WW 2900477**

Collected: 03/26/98 at 10:50 by JA

Submitted: 03/27/98

MW-8I-01 Matrix Spike Grab Water Sample

Moss-American - IL  
8I-01 SDG#: MOS02-05MS

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		ANALYST
			TRIAL ID	DATE AND TIME	
1861	PAH's in Water	SW-846 8310	1	04/03/98 2348	Michele D. Mack
3337	PAH Water Extraction	SW-846 3510C	1	04/01/98 2330	Sherry Lynn Devlin
8213	BTEX (8021)	SW-846 8021A	1	04/01/98 1822	Barry R. Shoemaker



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2307 Fax 717-656-2551





LLI Sample No. **2900477**  
 MW-8I-01 Matrix Spike Grab Water Sample  
 Moss-American - IL

Group No. 608532  
 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: 980900002A									
-----											
3280	Naphthalene										
	0.76 ug/l	N.D.		86	87	1	86			37	120
3281	Acenaphthylene										
	0.76 ug/l	N.D.		96	94	1	93			41	135
3282	Acenaphthene										
	0.76 ug/l	N.D.		96	94	2	90			38	135
3283	Fluorene										
	0.16 ug/l	N.D.		99	96	3	96			41	140
3284	Phenanthrene										
	0.044 ug/l	N.D.		100	97	3	97			48	152
3285	Anthracene										
	0.030 ug/l	N.D.		94	90	4	95			42	143
3286	Fluoranthene										
	0.019 ug/l	N.D.		104	102	3	104			48	155
3287	Pyrene										
	0.17 ug/l	N.D.		111	107	4	111			51	146
3288	Benzo(a)anthracene										
	0.017 ug/l	N.D.		109	103	5	105			52	146
3289	Chrysene										
	0.056 ug/l	N.D.		106	100	6	103			56	145
3290	Benzo(b)fluoranthene										
	0.033 ug/l	N.D.		110	103	6	106			59	141
3291	Benzo(k)fluoranthene										
	0.026 ug/l	N.D.		107	101	6	103			60	137
3292	Benzo(a)pyrene										
	0.021 ug/l	N.D.		102	96	6	99			42	158
3293	Dibenzo(a,h)anthracene										
	0.045 ug/l	N.D.		107	102	5	104			49	142
3294	Benzo(g,h,i)perylene										
	0.094 ug/l	N.D.		112	106	5	108			46	148
3295	Indeno(1,2,3-cd)pyrene										
	0.061 ug/l	N.D.		104	98	6	100			64	134
-----											
8213 BTEX (8021)		Batch: 98091A64									
-----											
0776	Benzene										
	0.2 ug/l	N.D.		106	119	12	117			78	138
0777	Toluene										
	0.2 ug/l	N.D.		101	115	12	114			78	118
0778	Ethylbenzene										
	0.2 ug/l	N.D.		101	116	14	114			77	119
0779	Total Xylenes										
	0.6 ug/l	N.D.		95	108	13	108			76	116



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

See reverse side for explanation of symbols and abbreviations.

2216 Rev 8/4/97





LLI Sample No. **2900477**  
MW-8I-01 Matrix Spike Grab Water Sample

Moss-American - IL

Group No. 608532  
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	93	60	120
		Triphenyle	99	60	120
8213 BTEX (8021)		TFT	103	70	130



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-657-2530 Fax 717-656-2621

see reverse side for explanation of symbols and abbreviations

2216 Rev. 8/1/97





LLI Sample No. WW 2900478

Collected: 3/26/98 at 10:50 by JA

Submitted: 3/27/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-8I-01 Matrix Spike Duplicate Grab Water Sample

Moss-American - IL  
8I-01 SDG#: MOS02-05MSD

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

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
21:36:56 D 0003 6 608532  
232 0.00 00027500 ASR000

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



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





LLI Sample No. WW 2900478

Collected: 3/26/98 at 10:50 by JA

Submitted: 3/27/98 Reported: 4/ 9/98

Discard: 5/10/98

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

P.O. MOSS-AMERICAN  
 Rel.

MW-8I-01 Matrix Spike Duplicate Grab Water Sample

Moss-American - IL  
 8I-01 SDG#: MOS02-05MSD

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	
			DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	167.	0.76	ug/l
3281	Acenaphthylene	180.	0.76	ug/l
3282	Acenaphthene	179.	0.76	ug/l
3283	Fluorene	18.3	0.16	ug/l
3284	Phenanthrene	5.53	0.044	ug/l
3285	Anthracene	2.71	0.030	ug/l
3286	Fluoranthene	2.95	0.019	ug/l
3287	Pyrene	20.6	0.17	ug/l
3288	Benzo(a)anthracene	1.48	0.017	ug/l
3289	Chrysene	5.70	0.056	ug/l
3290	Benzo(b)fluoranthene	1.18	0.033	ug/l
3291	Benzo(k)fluoranthene	1.15	0.026	ug/l
3292	Benzo(a)pyrene	1.37	0.021	ug/l
3293	Dibenzo(a,h)anthracene	2.91	0.045	ug/l
3294	Benzo(g,h,i)perylene	12.1	0.094	ug/l
3295	Indeno(1,2,3-cd)pyrene	5.63	0.061	ug/l

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

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



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

See reverse side for explanation of symbols and abbreviations

2216 Rev 8/4/97







**LLI Sample No. WW 2900478**

Collected: 3/26/98 at 10:50 by JA

Submitted: 3/27/98 Reported: 4/ 9/98

Discard: 5/10/98

MW-8I-01 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 - IL  
 8I-01 SDG#: MOS02-05MSD

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
BTEX (8021)				
0776	Benzene	24.	0.2	ug/l
0777	Toluene	23.	0.2	ug/l
0778	Ethylbenzene	23.	0.2	ug/l
0779	Total Xylenes	65.	0.6	ug/l

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

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



Lancaster Laboratories  
 2425 New Holland Pike  
 PO Box 12425  
 Lancaster, PA 17605-2425  
 717-656-2300 Fax 717-656-2581

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/4/97





**LLI Sample No. WW 2900478**

Collected: 03/26/98 at 10:50 by JA

Submitted: 03/27/98

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

MW-8I-01 Matrix Spike Duplicate Grab Water Sample

Moss-American - IL  
8I-01 SDG#: MOS02-05MSD

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS			
			TRIAL	ID	DATE AND TIME	ANALYST
1861	PAH's in Water	SW-846 8310	1		04/04/98 0006	Michele D. Mack
3337	PAH Water Extraction	SW-846 3510C	1		04/01/98 2330	Sherry Lynn Devlin
8213	BTEX (8021)	SW-846 8021A	1		04/01/98 1856	Barry R. Shoemaker



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-654-2300 Fax: 717-654-2681





LLI Sample No. **2900478**  
 MW-8I-01 Matrix Spike Duplicate Grab Water Sample  
 Moss-American - IL

Group No. 608532  
 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: 980900002A									
-----											
3280	Naphthalene										
	0.76 ug/l	N.D.		86	87	1	86			37	120
3281	Acenaphthylene										
	0.76 ug/l	N.D.		96	94	1	93			41	135
3282	Acenaphthene										
	0.76 ug/l	N.D.		96	94	2	90			38	135
3283	Fluorene										
	0.16 ug/l	N.D.		99	96	3	96			41	140
3284	Phenanthrene										
	0.044 ug/l	N.D.		100	97	3	97			48	152
3285	Anthracene										
	0.030 ug/l	N.D.		94	90	4	95			42	143
3286	Fluoranthene										
	0.019 ug/l	N.D.		104	102	3	104			48	155
3287	Pyrene										
	0.17 ug/l	N.D.		111	107	4	111			51	146
3288	Benzo(a)anthracene										
	0.017 ug/l	N.D.		109	103	5	105			52	146
3289	Chrysene										
	0.056 ug/l	N.D.		106	100	6	103			56	145
3290	Benzo(b)fluoranthene										
	0.033 ug/l	N.D.		110	103	6	106			59	141
3291	Benzo(k)fluoranthene										
	0.026 ug/l	N.D.		107	101	6	103			60	137
3292	Benzo(a)pyrene										
	0.021 ug/l	N.D.		102	96	6	99			42	158
3293	Dibenzo(a,h)anthracene										
	0.045 ug/l	N.D.		107	102	5	104			49	142
3294	Benzo(g,h,i)perylene										
	0.094 ug/l	N.D.		112	106	5	108			46	148
3295	Indeno(1,2,3-cd)pyrene										
	0.061 ug/l	N.D.		104	98	6	100			64	134
-----											
8213 BTEX (8021)		Batch: 98091A64									
-----											
0776	Benzene										
	0.2 ug/l	N.D.		106	119	12	117			78	138
0777	Toluene										
	0.2 ug/l	N.D.		101	115	12	114			78	118
0778	Ethylbenzene										
	0.2 ug/l	N.D.		101	116	14	114			77	119
0779	Total Xylenes										
	0.6 ug/l	N.D.		95	108	13	108			76	116



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





**LLI Sample No. 2900478**  
MW-8I-01 Matrix Spike Duplicate Grab Water Sample  
Moss-American - IL

Group No. 608532  
Kerr-McGee Corporation

	SURROGATE SUMMARY		SURROGATE LIMITS		
	TRIAL ID	SURROGATE	RECOVERY %	LOW	HIGH
1861 PAH's in Water		Nitrobenz	89	60	120
		Triphenyle	96	60	120
8213 BTEX (8021)		TFT	103	70	130



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

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/1/97





LLI Sample No. WW 2900479

Collected: 3/26/98 at 13:00 by JA

Submitted: 3/27/98 Reported: 4/ 9/98

Discard: 5/10/98

FB-03-01 Grab Water Sample

Moss-American - IL  
FB301 SDG#: MOS02-06FB

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. Greg Kinsall

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
21:37:39 D 0003 6 608532  
232 0.00 00027500 ASR000

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



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





**LLI Sample No. WW 2900479**

Collected: 3/26/98 at 13:00 by JA

Submitted: 3/27/98 Reported: 4/ 9/98

Discard: 5/10/98

FB-03-01 Grab Water Sample

Moss-American - IL  
FB301 SDG#: MOS02-06FB

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	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



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

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 8/1/97





LLI Sample No. **WW 2900479**

Collected: 3/26/98 at 13:00 by JA

Submitted: 3/27/98 Reported: 4/ 9/98

Discard: 5/10/98

FB-03-01 Grab Water Sample

Moss-American - IL  
FB301 SDG#: MOS02-06FB

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

P.O. MOSS-AMERICAN  
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION	LIMIT UNITS
BTEX (8021)				
0776	Benzene	N.D.	0.2	ug/l
0777	Toluene	1.	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 McClarin, B.A.  
Manager, Volatiles



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax: 717-656-2621

See reverse side for explanation of symbols and abbreviations

2216 Rev. 8/4/97





**LLI Sample No. WW 2900479**

Collected: 03/26/98 at 13:00 by JA

Submitted: 03/27/98

FB-03-01 Grab Water Sample

Moss-American - IL  
FB301 SDG#: MOS02-06FB

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

CAT NO	ANALYSIS NAME	METHOD	ANALYSIS		
			TRIAL ID	DATE AND TIME	ANALYST
1861	PAH's in Water	SW-846 8310	1	04/04/98 0025	Michele D. Mack
3337	PAH Water Extraction	SW-846 3510C	1	04/01/98 2330	Sherry Lynn Devlin
8213	BTEX (8021)	SW-846 8021A	1	04/02/98 0433	Barry R. Shoemaker



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-696-2300 Fax 717-656-2691







LLI Sample No. **2900479**  
 FB-03-01 Grab Water Sample  
 Moss-American - IL

Group No. 608532  
 Kerr-McGee Corporation

SAMPLE MDL	SAMPLE UNITS	BLANK	DUP RPD	MS	MSD	MS RPD	LCS	LCS DUP	LCS RPD	LCS LOW	LCS HIGH
-----		Batch: 980900002A									
1861 PAH's in Water											
3280	Napthalene										
	0.77 ug/l	N.D.		86	87	1	86			37	120
3281	Acenaphthylene										
	0.77 ug/l	N.D.		96	94	1	93			41	135
3282	Acenaphthene										
	0.77 ug/l	N.D.		96	94	2	90			38	135
3283	Fluorene										
	0.16 ug/l	N.D.		99	96	3	96			41	140
3284	Phenanthrene										
	0.044 ug/l	N.D.		100	97	3	97			48	152
3285	Anthracene										
	0.030 ug/l	N.D.		94	90	4	95			42	143
3286	Fluoranthene										
	0.019 ug/l	N.D.		104	102	3	104			48	155
3287	Pyrene										
	0.17 ug/l	N.D.		111	107	4	111			51	146
3288	Benzo(a)anthracene										
	0.017 ug/l	N.D.		109	103	5	105			52	146
3289	Chrysene										
	0.057 ug/l	N.D.		106	100	6	103			56	145
3290	Benzo(b)fluoranthene										
	0.034 ug/l	N.D.		110	103	6	106			59	141
3291	Benzo(k)fluoranthene										
	0.026 ug/l	N.D.		107	101	6	103			60	137
3292	Benzo(a)pyrene										
	0.021 ug/l	N.D.		102	96	6	99			42	158
3293	Dibenzo(a,h)anthracene										
	0.045 ug/l	N.D.		107	102	5	104			49	142
3294	Benzo(g,h,i)perylene										
	0.096 ug/l	N.D.		112	106	5	108			46	148
3295	Indeno(1,2,3-cd)pyrene										
	0.062 ug/l	N.D.		104	98	6	100			64	134
-----		Batch: 98091A64									
8213 BTEX (8021)											
0776	Benzene										
	0.2 ug/l	N.D.		106	119	12	117			78	138
0777	Toluene										
	0.2 ug/l	N.D.		101	115	12	114			78	118
0778	Ethylbenzene										
	0.2 ug/l	N.D.		101	116	14	114			77	119
0779	Total Xylenes										
	0.6 ug/l	N.D.		95	108	13	108			76	116



Lancaster Laboratories  
 2425 New Holland Pike  
 PO Box 12425  
 Lancaster, PA 17605-2425  
 717-456-2300 Fax: 717-456-2661

See reverse page for explanation of symbols and abbreviations

2216 Rev 8/4/97





LLI Sample No. **2900479**  
FB-03-01 Grab Water Sample

Moss-American - IL

Group No. 608532  
Kerr-McGee Corporation

### SURROGATE SUMMARY

	TRIAL ID	SURROGATE	RECOVERY %	SURROGATE LIMITS	
				LOW	HIGH
1861 PAH's in Water		Nitrobenz	88	60	120
		Triphenyle	93	60	120
8213 BTEX (8021)		TFT	101	70	130



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax 717-657-2681

See reverse side for explanation of symbols and abbreviations

2216 Rev 8/4/97





Lancaster Laboratories  
A division of Thermo Analytical Inc.

LLI Sample No. WW 2899603

Collected: 3/25/98 at 15:40 by JA

Submitted: 3/26/98 Reported: 4/21/98

Discard: 5/22/98

MW-29S-01-DUP Grab Water Sample

Moss-American Site - Milwaukee, WI  
29S0D SDG#: MOS02-01

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

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

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

ATTN: Mr. Greg Kinsall  
ATTN: Garet Van de Steeg, PhD

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
19:25:49 D 0003 2 REP 608318  
288 40.00 00031500 ASR000

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





LLI Sample No. WW 2899603

Collected: 3/25/98 at 15:40 by JA

Submitted: 3/26/98 Reported: 4/21/98

Discard: 5/22/98

MW-29S-01-DUP Grab Water Sample

Moss-American Site - Milwaukee, WI  
29S0D SDG#: MOS02-01

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

P.O. MOSS-AMERICAN  
Rel.

## AS RECEIVED

## METHOD

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

## 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	0.052 J	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	N.D.	0.056	ug/l
3290	Benzo(b)fluoranthene	0.045 J	0.033	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.094	ug/l
3295	Indeno(1,2,3-cd)pyrene	0.095 J	0.061	ug/l

*J. Koralek*  
5/1/98

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

15

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425





LLI Sample No. WW 2899603

Collected: 3/25/98 at 15:40 by JA

Submitted: 3/26/98 Reported: 4/21/98

Discard: 5/22/98

MW-29S-01-DUP Grab Water Sample

Moss-American Site - Milwaukee, WI  
29S00 SDG#: MOS02-01

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

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

LLI Sample No. **WW 2899604**

Collected: 3/25/98 at 18:00 by JA

Submitted: 3/26/98 Reported: 4/21/98

Discard: 5/22/98

MW-10S-01 Grab Water Sample

Moss-American Site - Milwaukee, WI  
10S01 SDG#: MOS02-02

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

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

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

ATTN: Mr. Greg Kinsall  
ATTN: Garet Van de Steeg, PhD

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
19:26:45 D 0003 2 REP 608318  
288 0.00 00027500 ASR000

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





LLI Sample No. WW 2899604  
Collected: 3/25/98 at 18:00 by JA

Submitted: 3/26/98 Reported: 4/21/98  
Discard: 5/22/98

MW-10S-01 Grab Water Sample

Moss-American Site - Milwaukee, WI  
10S01 SDG#: MOS02-02

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

P.O. MOSS-AMERICAN  
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED		
		RESULTS	METHOD DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	N.D.	0.76	ug/l
3281	Acenaphthylene	N.D.	0.76	ug/l
3282	Acenaphthene	N.D.	0.76	ug/l
3283	Fluorene	N.D.	0.16	ug/l
3284	Phenanthrene	N.D.	0.044	ug/l
3285	Anthracene	N.D.	0.030	ug/l
3286	Fluoranthene	N.D.	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	N.D.	0.056	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.033	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.094	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.061	ug/l

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425

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



# Lancaster Laboratories

A division of Thermo Analytical Inc.

LLI Sample No. WW 2899604

Collected: 3/25/98 at 18:00 by JA

Submitted: 3/26/98 Reported: 4/21/98

Discard: 5/22/98

MW-10S-01 Grab Water Sample

Moss-American Site - Milwaukee, WI  
10S01 SDG#: MOS02-02

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

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

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

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster PA 17605-2425







LLI Sample No. WW 2900474

Collected: 3/26/98 at 09:00 by JA

Submitted: 3/27/98 Reported: 4/28/98  
Discard: 5/29/98

MW-20I-01 Grab Water Sample

Moss-American - Milwaukee, WI  
20101 SDG#: MOS02-03

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

P.O. MOSS-AMERICAN  
ReI.

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

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

ATTN: Garet Van de Steeg, PhD  
ATTN: Mr. Greg Kinsall

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
10:49:24 D 0003 6 REP 608532  
050 40.00 00031500 ASR000

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425





LLI Sample No. WW 2900474

Collected: 3/26/98 at 09:00 by JA

Submitted: 3/27/98 Reported: 4/28/98

Discard: 5/29/98

MW-20I-01 Grab Water Sample

Moss-American - Milwaukee, WI  
20I01 SDG#: MOS02-03

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

P.O. MOSS-AMERICAN  
Re1.

AS RECEIVED

METHOD

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

PAH's in Water

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster PA 17605-2425

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





LLI Sample No. WW 2900474

Collected: 3/26/98 at 09:00 by JA

Submitted: 3/27/98 Reported: 4/28/98

Discard: 5/29/98

MW-201-01 Grab Water Sample

Moss-American - Milwaukee, WI  
20101 SDG#: MOS02-03

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION LIMIT	UNITS
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  
2425 New Holland Pike  
PO Box 12425  
Lancaster PA 17605-2425





LLI Sample No. **WW 2900475**

Collected: 3/26/98 at 09:00 by JA

Submitted: 3/27/98 Reported: 4/28/98  
Discard: 5/29/98

MW-20I-01 DUP Grab Water Sample

Moss-American - Milwaukee, WI  
2I01D SDG#: MOS02-04

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

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

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. Greg Kinsall

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
10:53:42 D 0003 6 REP 608532  
050 0.00 00027500 ASR000



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17606-2425

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





LLI Sample No. WW 2900475  
Collected: 3/26/98 at 09:00 by JA

Submitted: 3/27/98 Reported: 4/28/98  
Discard: 5/29/98

MW-20I-01 DUP Grab Water Sample

Moss-American - Milwaukee, WI  
2I01D SDG#: MOS02-04

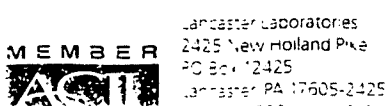
Account No: 07802  
Kerr-McGee Corporation  
P.O. Box 25861  
Oklahoma City OK 73125

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	RESULTS	METHOD	
			DETECTION	LIMIT UNITS
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	0.062 J	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	0.071 J	0.057	ug/l
3290	Benzo(b)fluoranthene	0.078	0.034	ug/l
3291	Benzo(k)fluoranthene	0.042 J	0.026	ug/l
3292	Benzo(a)pyrene	0.035 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.	0.062	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 2900475

Collected: 3/26/98 at 09:00 by JA

Submitted: 3/27/98 Reported: 4/28/98

Discard: 5/29/98

MW-20I-01 DUP Grab Water Sample

Moss-American - Milwaukee, WI  
2I01D SDG#: MOS02-04

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

CAT NO.	ANALYSIS NAME	METHOD		
		RESULTS	DETECTION	LIMIT UNITS
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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 12425  
Lancaster PA 17605-2425





Lancaster Laboratories  
A division of Thermo Analytical Inc.

LLI Sample No. WW 2900476  
Collected: 3/26/98 at 10:50 by JA

Submitted: 3/27/98 Reported: 4/28/98  
Discard: 5/29/98

MW-8I-01 Unspiked Grab Water Sample

Moss-American - Milwaukee, WI  
8I-01 SDG#: MOS02-05BKG

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

Questions? Contact your Client Services Representative  
 Kay G. Hower at (717) 656-2300  
 10:56:16 D 0003 6 REP 608532  
 050 0.00 00027500 ASR000

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



Lancaster Laboratories  
2425 New Howard Pike  
PO Box 12425  
Lancaster, PA 17605-2425





LLI Sample No. WW 2900476

Collected: 3/26/98 at 10:50 by JA

Submitted: 3/27/98 Reported: 4/28/98  
Discard: 5/29/98

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

P.O. MOSS-AMERICAN  
Rel.

MW-8I-01 Unspiked Grab Water Sample

Moss-American - Milwaukee, WI  
8I-01 SDG#: MOS02-05BKG

AS RECEIVED

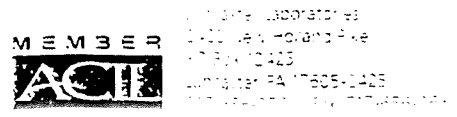
CAT NO.	ANALYSIS NAME	RESULTS	METHOD	
			DETECTION	LIMIT UNITS

PAH's in Water

3280	Naphthalene	N.D.	0.76	ug/l
3281	Acenaphthylene	N.D.	0.76	ug/l
3282	Acenaphthene	N.D.	0.76	ug/l
3283	Fluorene	N.D.	0.16	ug/l
3284	Phenanthrene	N.D.	0.044	ug/l
3285	Anthracene	0.131 J	0.029	ug/l
3286	Fluoranthene	0.044 J	0.019	ug/l
3287	Pyrene	N.D.	0.17	ug/l
3288	Benzo(a)anthracene	N.D.	0.017	ug/l
3289	Chrysene	N.D.	0.056	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.033	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.026	ug/l
3292	Benzo(a)pyrene	N.D.	0.021	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.045	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.094	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.061	ug/l

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

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







Lancaster Laboratories  
A division of Thermo Analytical Inc.

LLI Sample No. WW 2900476

Collected: 3/26/98 at 10:50 by JA

Submitted: 3/27/98 Reported: 4/28/98

Discard: 5/29/98

MW-8I-01 Unspiked Grab Water Sample

Moss-American - Milwaukee, WI  
8I-01 SDG#: MOS02-05BKG

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

P.O. MOSS-AMERICAN  
Rel.

AS RECEIVED

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

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

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



Lancaster Laboratories  
1115 West Howard Ave  
PO Box 10405  
Lancaster PA 17605-1405  
Tel: 717-656-2300 Fax: 717-656-2301





Lancaster Laboratories  
A division of Thermo Analytical Inc.

LLI Sample No. WW 2900477

Collected: 3/26/98 at 10:50 by JA

Submitted: 3/27/98 Reported: 4/28/98  
Discard: 5/29/98

MW-8I-01 Matrix Spike Grab Water Sample

Moss-American - Milwaukee, WI  
8I-01 SDG#: MOS02-05MS

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

Questions? Contact your Client Services Representative  
 Kay G. Hower at (717) 656-2300  
 10:59:41 D 0003 6 REP 608532  
 050 0.00 00027500 ASR000

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



Lancaster Laboratories  
2425 New Holland Pike  
PO Box 13425  
Lancaster, PA 17605-2425  
717-656-2300 Fax 717-656-1127





LLI Sample No. **WW 2900477**

Collected: 3/26/98 at 10:50 by JA

Submitted: 3/27/98 Reported: 4/28/98

Discard: 5/29/98

MW-8I-01 Matrix Spike Grab Water Sample

Moss-American - Milwaukee, WI

8I-01 SDG#: MOS02-05MS

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	164.	0.76	ug/l
3281	Acenaphthylene	183.	0.76	ug/l
3282	Acenaphthene	183.	0.76	ug/l
3283	Fluorene	18.9	0.16	ug/l
3284	Phenanthrene	5.72	0.044	ug/l
3285	Anthracene	2.81	0.030	ug/l
3286	Fluoranthene	3.03	0.019	ug/l
3287	Pyrene	21.3	0.17	ug/l
3288	Benzo(a)anthracene	1.55	0.017	ug/l
3289	Chrysene	6.06	0.056	ug/l
3290	Benzo(b)fluoranthene	1.25	0.033	ug/l
3291	Benzo(k)fluoranthene	1.23	0.026	ug/l
3292	Benzo(a)pyrene	1.45	0.021	ug/l
3293	Dibenzo(a,h)anthracene	3.07	0.045	ug/l
3294	Benzo(g,h,i)perylene	12.8	0.094	ug/l
3295	Indeno(1,2,3-cd)pyrene	5.95	0.061	ug/l

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



MEMBER COMPANY  
 1425 York Road, P.O. Box 12433  
 Lancaster, PA 17602-0433

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



**Lancaster Laboratories**  
 A division of Thermo Analytical Inc.

**LLI Sample No. WW 2900477**

Collected: 3/26/98 at 10:50 by JA

Submitted: 3/27/98 Reported: 4/28/98

Discard: 5/29/98

MW-8I-01 Matrix Spike Grab Water Sample

Moss-American - Milwaukee, WI

8I-01 SDG#: MOS02-05MS

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	21.	0.2	ug/l
0777	Toluene	20.	0.2	ug/l
0778	Ethylbenzene	20.	0.2	ug/l
0779	Total Xylenes	57.	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  
 1100 New Holland Pike  
 P.O. Box 12425  
 Lancaster, PA 17605-2425  
 Tel: (717) 656-2300 Fax: (717) 656-2667





LLI Sample No. WW 2900478

Collected: 3/26/98 at 10:50 by JA

Submitted: 3/27/98 Reported: 4/28/98  
Discard: 5/29/98

MW-8I-01 Matrix Spike Duplicate Grab Water Sample

Moss-American - Milwaukee, WI  
8I-01 SDG#: MOS02-05MSD

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. Greg Kinsall

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
11:02:56 D 0003 6 REP 608532  
050 0.00 00027500 ASR000



Lancaster Laboratories  
3425 New Holland Pike  
PO Box 12425  
Lancaster PA 17605-2425  
717-656-2300 Fax 717-656-2681

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





LLI Sample No. WW 2900478

Collected: 3/26/98 at 10:50 by JA

Submitted: 3/27/98 Reported: 4/28/98  
Discard: 5/29/98

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

P.O. MOSS-AMERICAN  
Rel.

MW-8I-01 Matrix Spike Duplicate Grab Water Sample

Moss-American - Milwaukee, WI  
8I-01 SDG#: MOS02-05MSD

AS RECEIVED

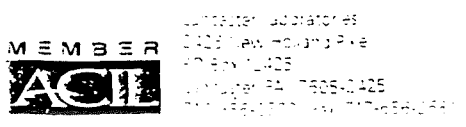
CAT NO.	ANALYSIS NAME	RESULTS	METHOD	DETECTION LIMIT	UNITS
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PAH's in Water

3280	Naphthalene	167.	0.76	ug/l
3281	Acenaphthylene	180.	0.76	ug/l
3282	Acenaphthene	179.	0.76	ug/l
3283	Fluorene	18.3	0.16	ug/l
3284	Phenanthrene	5.53	0.044	ug/l
3285	Anthracene	2.71	0.030	ug/l
3286	Fluoranthene	2.95	0.019	ug/l
3287	Pyrene	20.6	0.17	ug/l
3288	Benzo(a)anthracene	1.48	0.017	ug/l
3289	Chrysene	5.70	0.056	ug/l
3290	Benzo(b)fluoranthene	1.18	0.033	ug/l
3291	Benzo(k)fluoranthene	1.15	0.026	ug/l
3292	Benzo(a)pyrene	1.37	0.021	ug/l
3293	Dibenzo(a,h)anthracene	2.91	0.045	ug/l
3294	Benzo(g,h,i)perylene	12.1	0.094	ug/l
3295	Indeno(1,2,3-cd)pyrene	5.63	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 2900478

Collected: 3/26/98 at 10:50 by JA

Submitted: 3/27/98 Reported: 4/28/98

Discard: 5/29/98

MW-8I-01 Matrix Spike Duplicate Grab Water Sample

Moss-American - Milwaukee, WI

8I-01 SDG#: MOS02-05MSD

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	24.	0.2	ug/l
0777	Toluene	23.	0.2	ug/l
0778	Ethylbenzene	23.	0.2	ug/l
0779	Total Xylenes	65.	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 West Holland Pike  
PO Box 12425  
Lancaster PA 17605-2425  
TEL: 717-656-1300 Fax: 717-656-1631





**Lancaster Laboratories**  
A division of Thermo Analytical Inc.

**LLI Sample No. WW 2900479**

Collected: 3/26/98 at 13:00 by JA

Submitted: 3/27/98 Reported: 4/28/98

Discard: 5/29/98

FB-03-01 Grab Water Sample

Moss-American - Milwaukee, IL

FB301 SDG#: MOS02-06FB

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. Greg Kinsall

Questions? Contact your Client Services Representative  
Kay G. Hower at (717) 656-2300  
11:05:38 D 0003 6 REP 608532  
050 0.00 00027500 ASR000

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



Lancaster Laboratories  
1425 New Howard Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax 717-656-2661







# Lancaster Laboratories

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Page: 2 of 6

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Oklahoma City OK 73125

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Rel.

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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



Lancaster Laboratories  
2425 New Holland Pike  
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Respectfully Submitted  
Jenifer E. Hess, B.S.  
Group Leader Pesticides/PCBs

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Oklahoma City OK 73125

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Rel.

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

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

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



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