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→ Bonnyoti Felix - SER/RR  
Please comment by 1/10/01  
Thanks, Gary E

21 December 2000

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



Work Order No. 02687-007-003

Re: Quarterly Groundwater Treatment Performance Monitoring Report, Third Quarter 2000  
Moss-American Site, Milwaukee, Wisconsin

Dear Mr. Hart:

On behalf of the Kerr-McGee Chemical LLC (KMC), Roy F. Weston, Inc. (WESTON®) is submitting this report summarizing the results of the third quarter 2000 groundwater monitoring event for the above referenced project. In addition, we present the initial monthly groundwater sampling of the treatment-gate performance monitoring wells conducted in June, July, August, and September 2000. A description of the groundwater monitoring program and the results obtained during this monitoring period are presented in the following sections. Also included is a discussion of the laboratory analytical results that have exceeded the Preventive Action Limits (PAL) and Enforcement Standards (ES) promulgated by Wisconsin Department of Natural Resources (WDNR) in NR140.10, Public Health Groundwater Quality Standards.

The groundwater analytical results reported for the third quarter (September 2000) reflects conditions at the site where the funnel and gate groundwater treatment system including the containment-performance wells and treatment-gate performance wells are already in place. This quarterly groundwater monitoring report presents the results of the shallow and intermediate plume monitoring wells, the eight shallow containment performance wells, and baseline conditions for the eighteen treatment-gate performance wells.

## 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,





Mr. Russell D. Hart  
U.S. EPA

-2-

21 December 2000

and TW-09. Additionally, KMC is also required to extend the implementation of the above referenced groundwater monitoring program by sampling the eight newly installed containment performance shallow monitoring wells on a quarterly basis. These wells include MW-30S, MW-31S, MW-32S, MW-33S, MW-34S, MW-35S, MW-36S and MW-37S. These wells together form the new shallow groundwater monitoring well network.

In accordance with the Quality Assurance Project Plan (QAPP) for Installation of Groundwater Remedial System (October 1999), KMC is required to implement a groundwater monitoring program capable of indicating groundwater chemistry before, during, and after treatment. Also, the hydraulic gradient at each treatment gate will be used to evaluate groundwater flow velocity and residence time of groundwater through the treatment gate remediation system. The monitoring network includes six groundwater treatment gates with three monitoring wells located within each groundwater treatment gate. The monitoring well locations are presented in Figure 1. The treatment-gate performance monitoring wells include TG1-1, TG1-2, TG1-3, TG2-1, TG2-2, TG2-3, TG3-1, TG3-2, TG3-3, TG4-1, TG4-2, TG4-3, TG5-1, TG5-2, TG5-3, TG6-1, TG6-2, and TG6-3.

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

In accordance with the QAPP for Installation and Groundwater Remediation Addendum No. 1 (May 2000), the monthly field measurements for the treatment-gate performance monitoring wells include groundwater elevation, pH, temperature, specific conductance, redox potential, and dissolved oxygen. Quarterly laboratory analyses include microbial enumeration, nitrate-nitrogen, nitrite-nitrogen, Kjeldahl nitrogen, ammonia nitrogen, total phosphate-phosphorous, and orthophosphorous on a monthly basis. Additionally, laboratory analyses include biochemical oxygen demand (BOD), chemical oxygen demand (COD), total organic carbon (TOC), BTEX compounds, and PAH compounds.



Mr. Russell D. Hart  
U.S. EPA

-3-

21 December 2000

## **2.0 GROUNDWATER MONITORING RESULTS**

The third quarter 2000 groundwater monitoring event at the Moss-American site was completed between 25 September and 29 September 2000. The third quarter 2000 groundwater treatment-gate performance monitoring sampling event includes data obtained in June, July, August, and September 2000. Tasks completed during the field effort for this event included the collection of groundwater elevation data from all the shallow and treatment-gate performance monitoring wells referenced above. Following groundwater elevation data measurements, groundwater samples were collected from all the shallow and intermediate monitoring wells with the exception of monitoring wells TW-09, MW-8S, and MW-8I since these wells were removed during the installation of the funnel and gate groundwater treatment system. The results of the groundwater samples that were collected and analyzed from the shallow wells are described in the following subsections.

### **2.1 GROUNDWATER ELEVATION MEASUREMENTS**

The depth to water was measured in each of the monitoring wells mentioned in Section 1.0 of this report. The measurements were conducted on 25 September 2000, prior to the beginning of groundwater sampling. These measurements were used to determine the elevation of the potentiometric surface of the shallow groundwater-bearing zone underlying the site. The water level measurements for the shallow monitoring wells and resulting elevations are presented in Table 1 and Table 2. 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 0.027 feet per foot (ft/ft) from south to north. The gradient flattens near the river, as does the ground surface, with a value of 0.005 ft/ft from east of treatment gate 4 through treatment gate 5 with the groundwater flow turning toward an easterly direction. The calculated hydraulic gradient within the treatment gates range from 0.0004 to 0.0172 ft/ft as listed in Table 2. The hydraulic gradient is relatively flat within the treatment gate area with an overall gradient from treatment gate 1 to treatment gate 6 of 0.002 ft/ft in an easterly direction. It should also be noted that due to the low hydraulic gradient in the vicinity of the treatment gates, the calculated hydraulic gradient through gates 1 and gate 3 are in a westerly direction contrary to the overall groundwater flow direction. The apparently reversed hydraulic gradient at gates 1



Mr. Russell D. Hart  
U.S. EPA

-4-

21 December 2000

and 3 are most likely due to limitations on measuring and survey equipment which are only accurate to within 0.01 feet whereas the hydraulic gradient is a factor of 0.001 ft/ft at these locations.

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 0.106 ft/day. Near the river, the velocity of groundwater flow is calculated to be approximately 0.084 ft/day. The groundwater flow velocity within the treatment gates ranges from 0.0011 ft/day to 0.0488 ft/day. The groundwater flow velocity at each treatment gate is presented in Table 2.

## **2.2 GROUNDWATER SAMPLE ANALYTICAL RESULTS**

Groundwater samples were collected from a total of forty-one shallow monitoring wells screened within the shallow groundwater-bearing zone. These wells include MW-3S, MW-4S, MW-5S, MW-6S, MW-7S, MW-9S, MW-10S, MW-13S, MW-20S, MW-25S, MW-26S, MW-27S, MW-28S, MW-29S and TW-05; eight containment performance monitoring wells - MW-30S, MW-31S, MW-32S, MW-33S, MW-34S, MW-35S, MW-36S and MW-37S; and eighteen treatment-gate performance monitoring wells - TG1-1, TG1-2, TG1-3, TG2-1, TG2-2, TG2-3, TG3-1, TG3-2, TG3-3, TG4-1, TG4-2, TG4-3, TG5-1, TG5-2, TG5-3, TG6-1, TG6-2, and TG6-3. In addition, for quality assurance/quality control (QA/QC) purposes, 5 sample duplicates, 3 matrix spike/matrix spike duplicates (MS/MSDs) and 4 field blanks (identified by a FB prefix) were collected. Trip blanks accompanied each cooler of sample bottles from the laboratory to the site and were shipped back to the laboratory within each cooler full of samples.

Each groundwater sample was measured for the field parameters discussed in Section 1 and analyzed for BTEX and PAH compounds. The results of these measurements and analyses are discussed in the following subsections. Additionally, each treatment-gate performance monitoring well was analyzed for microbial enumeration, nitrate-nitrogen, nitrite-nitrogen, Kjeldahl nitrogen, ammonia nitrogen, total phosphate-phosphorous, orthophosphate-phosphorous, BOD, COD, and TOC.





Mr. Russell D. Hart  
U.S. EPA

-5-

21 December 2000

### **2.2.1 Field-Measured Parameters**

The groundwater samples were measured in the field for pH, specific conductance, temperature, redox potential, dissolved oxygen, and turbidity. The field parameters were collected using portable water quality meters. The results of the September 2000 measurements are provided in Table 3. The results of the monthly field measured parameters for the treatment-gate performance monitoring wells, which vary only slightly from the quarterly measurements, are presented in Appendix A, Table 1. The groundwater pH, redox potential, specific conductance, and temperature are monitored during well purging prior to sampling, and the final values for these measurements prior to sample collection are presented.

#### **pH (Standard Units)**

The groundwater pH ranged from 6.8 to 8.1 pH standard units (S.U.). The pH measurements indicate relatively neutral pH conditions, typically 7.0 S.U., for the groundwater at the site. pH is an important factor in determining the feasibility of bioremediation of contaminants in the site groundwater since biological systems typically function only in narrow pH ranges (typically 6.5 to 8.5 S.U.) and subsequently, microbial growth rates are pH dependant.

#### **Redox Potential (milliVolts [mV])**

The redox potentials of the groundwater at the site ranged from -99 to 170 mV. Redox potential indicates the capability of the groundwater to promote chemical oxidation-reduction processes that consume organic matter and oxidize inorganic compounds. Microorganisms typically act as catalysts in oxidation reactions and as such the redox potential indicates the potential for the groundwater to oxidize the contaminants present. Since environmental systems are typically not in equilibrium the redox potential is used as a gross indicator of the state of oxidation-reduction in the system; therefore, a redox potential value other than zero indicates chemical reaction activity. Oxidation-reduction rates in the system are greater as the redox potential increases in magnitude.

#### **Dissolved Oxygen (milligrams/Liter)**

Dissolved oxygen levels for the groundwater ranged from 0.3 to 7.0 mg/L. The dissolved oxygen value indicates the presence of oxygen in the water. A higher oxygen value promotes the



Mr. Russell D. Hart  
U.S. EPA

-6-

21 December 2000

growth of bacteria and nutrients that drive the oxidation reaction responsible for removal the contaminants from the groundwater system. Figure 2 indicates the dissolved oxygen concentrations over time at the treatment-gate performance monitoring wells.

The dissolved oxygen was measured subsequent to purging of the wells in June, July, and August 2000. The increased mixing with air due to the well purging is suspected to have artificially increased the dissolved oxygen concentrations present in these wells. This suspicion is supported by the dissolved oxygen concentrations measured in September 2000, where the dissolved oxygen was measured prior and subsequent to purging the wells. Results of the September 2000 indicate an increased dissolved oxygen concentration in the groundwater subsequent to purging of the well. Beginning in September 2000, dissolved oxygen will be measured prior to well purging for all monitoring well sampling events.

#### Specific Conductance (micromhos/centimeter [mΩ/cm])

The specific conductance, or conductivity, of the groundwater ranged from 0.07 to 1.57 mΩ/cm. Conductivity of water is a measure of the ability of the solution to carry an electrical current that is transported by ions in the solution; therefore, conductivity is used as an indicator of the total dissolved solids present in a water sample. As the dissolved solids content of a solution increases, the capacity for the water to transmit electrical current increases.

#### Temperature (Degrees Fahrenheit [°F])

Groundwater temperatures ranged from 13.2 to 16.6° C. Temperature is an extremely important factor in bioremediation since microbial growth rates are greatly dependent upon temperature. Due to the lack of significant groundwater temperature fluctuation; however, the influence of temperature on bioremediation of site contaminants is diminished.

#### Turbidity (nephelometric units [NTU])

Turbidity ranged from 5.0 to 1,212 nephelometric turbidity units (NTU). Turbidity is a measurement of the clarity of water, and is used as an indicator of the solids present in a water sample and overall water quality.



Mr. Russell D. Hart  
U.S. EPA

-7-

21 December 2000

## **2.2.2 Laboratory Analyses**

### **2.2.2.1 Laboratory Analyses for BTEX and PAH**

Each groundwater sample collected during the third quarter 2000 monitoring period was analyzed for BTEX and PAH compounds. The results of these analyses are presented in Table 4. Table 4 also indicates those parameters that were detected at concentrations that exceed their respective PALs (shown as bold values). Parameters with concentrations exceeding both PALs and ESs are presented as bold and shaded values in Table 4. Groundwater sampling results during this quarter were also compared to the ES and PAL standards provided by the WDNR for anthracene, fluoranthene, pyrene, chrysene and benzo(b)fluoranthene. These results are summarized in the following paragraphs. The laboratory reports are presented in Attachment A.

### **Groundwater Sample Results**

As Table 4 shows, primarily benzene, naphthalene, fluorene, pyrene, chrysene, benzo(b)fluoranthene and benzo(a)pyrene were detected at concentrations that exceed their respective PALs and/or ES in the groundwater samples collected from the shallow monitoring well network. The results are as follows:

#### **PAL Exceedances:**

- Benzene was detected at concentrations exceeding the WDNR PAL of 0.5 µg/L in groundwater samples collected from monitoring wells MW-4S, MW-34S, and TG1-1.
- Naphthalene was detected at concentrations exceeding the WDNR PAL of 8 µg/L in groundwater samples collected from monitoring wells MW-4S, MW-7S, MW-32S, MW-33S, MW-34S, TW-05, TG1-1, TG1-2, TG4-1, and TG4-2.
- Fluorene was detected at concentrations exceeding the WDNR PAL of 80 µg/L in a groundwater sample collected from MW-4S.
- Fluoranthene was detected in concentrations exceeding the WDNR PAL of 80 µg/L in a groundwater sample collected from MW-4S.



Mr. Russell D. Hart  
U.S. EPA

-9-

21 December 2000

The detected plume boundary is primarily in an area encompassing six shallow monitoring wells (MW-4S, MW-7S, TW-05, MW-32S, MW-33S, MW-34S, and MW-35S). Based on these detected concentrations, the width of the contaminant plume generally indicates an easterly trend as indicated in Figure 1 as well as during the previous ten quarterly groundwater-sampling events.

A summary table of the concentration of contaminants at wells that have regularly exceeded PALs and/or ES during the last ten quarters is presented in Table 5. Levels of naphthalene, fluorene, and benzo(a)pyrene fluctuate over wide ranges in these wells without a common pattern; however, these constituents have shown an overall decreasing trend in monitoring wells MW-4S, MW-7S and TW-05. A more accurate trend may be illustrated and performance evaluation performed as additional data for the containment performance wells (MW-30S through MW-37S) becomes available during the future quarterly groundwater sampling events.

#### **2.2.2.2 Laboratory Analyses for Treatment-Gate Performance Monitoring**

The groundwater samples collected from the treatment-gate performance monitoring wells were analyzed for microbial enumeration, nitrate-nitrogen, nitrite-nitrogen, Kjeldahl nitrogen, ammonia nitrogen, total phosphate-phosphorous, orthophosphate-phosphorous, BOD, COD, TOC, as well as BTEXs, and PAHs. The analytical results for nitrate-nitrogen, ammonia nitrogen, total phosphate-phosphorous, orthophosphate-phosphorous, BOD, COD, and TOC are presented in Table 6. The results of the treatment-gate performance monitoring well samples are summarized below. The results within this submittal indicate "baseline" conditions for the groundwater treatment system, meaning prior to air injection or addition of nutrient or bacterial formulations into the groundwater treatment system.

#### Nitrogen and Phosphorous Compounds

Nitrate-nitrogen was detected at concentrations ranging from non-detect to 0.036 milligrams per liter (mg/L). Nitrite-nitrogen was detected at low levels ranging from non-detect to 0.068 mg/L. Kjeldahl nitrogen was detected at concentrations ranging from non-detect to 6.8 mg/L. Ammonia nitrogen was detected at levels ranging from non-detect to 2.8 mg/L. Overall nitrogen compound concentrations under baseline conditions are at relatively low levels. Temporal changes in the nitrogen compound concentrations for their respective treatment gate are presented in Figures 3, 4, and 5.



Mr. Russell D. Hart  
U.S. EPA

-10-

21 December 2000

Total phosphate-phosphorous was detected at concentrations ranging from 0.39 to 20.6 mg/L. Orthophosphate-phosphorous was detected at concentrations ranging from 0.024 to 0.126 mg/L. The temporal changes in phosphate compound concentrations for the respective treatment gates are presented in Figures 6 and 7.

### BOD, COD, TOC

The BOD concentration for the treatment gate system ranges from non-detect to 14.8 mg/L. The COD concentration present in the treatment gate system ranges from 30 to 447 mg/L. The TOC concentration for the treatment gate system ranges from 2.6 to 27.5 mg/L. Overall the treatment gate wells indicate less BOD demand compared to COD demand. COD demand indicates presence of carbon compounds including the site contaminants in the groundwater. The low BOD demand indicates low concentrations of biological material including the bacteria required to remove the site contaminants.

### Microbial Enumeration

The average mean total microbe populations for treatment gates 1 and 2 ranged from  $4.3 \times 10^4$  to  $2.7 \times 10^7$  colony forming units per milliliter (CFU/mL) over the four months of data collected. The average mean microbe populations for treatment gates 3 and 4 range from  $7.7 \times 10^3$  to  $6.8 \times 10^5$  CFU/mL over the four months of data collected. The average mean microbe populations for treatment gates 5 and 6 range from  $9.3 \times 10^3$  to  $4.3 \times 10^6$  CFU/mL over the four months of data collected. The temporal changes in total microbial populations are presented in Figure 8.

The average mean degrader microbe populations for treatment gates 1 and 2 range from  $1.1 \times 10^3$  to  $1.1 \times 10^5$  CFU/mL over the four months of data collected. The average mean microbe populations for treatment gates 3 and 4 range from  $6.5 \times 10^2$  to  $3.5 \times 10^4$  CFU/mL over the four months of data collected. The average mean microbe populations for treatment gates 5 and 6 range from  $8.8 \times 10^2$  to  $5.7 \times 10^5$  CFU/mL over the four months of data collected. The temporal changes in degrader microbial populations are presented in Figure 9.

### Evaluation of Bioremediation Treatment Parameters

Degrader microbe populations  $<10^3$  CFU/mL are indicative of severe bioremediation limitations and may require augmentation of site conditions (i.e., air injection to increase dissolved oxygen





Mr. Russell D. Hart  
U.S. EPA

-11-

21 December 2000

concentration, nutrient and/or bacterial formulation addition, etc.) to meet treatment requirements. Degradation populations between  $10^3$  and  $10^6$  CFU/mL are capable of site treatment with slight to moderate augmentation of site conditions. Degradation populations  $>10^6$  CFU/mL are generally sufficient to support biotransformation of site contaminants without augmentation of site conditions. Recommended guidelines for bioremediation of contaminants in site groundwater also include a pH range of 5.5 to 8.5 S.U. and a minimum carbon-nitrogen-phosphorous (C:N:P) ratio of 100:14:1.

The baseline groundwater monitoring data presented for the third quarter of 2000 indicate that site augmentation is required for bioremediation since several wells had degradation counts less than recommended minimum of  $10^6$  CFU/mL for bioremediation without site augmentation, the C:N:P ratios in the treatment gate wells indicate a nitrogen and phosphorous deficiency in the groundwater, and the September dissolved oxygen concentrations in the wells prior to purging indicate an oxygen deficient environment.

Site augmentation began in October 2000 by injecting air into the wells at all treatment gates. 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/sk

Attachments

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

**Table 1**

**Groundwater Elevation Measurements  
Shallow Monitoring Well Network  
Moss American Site  
Milwaukee, Wisconsin  
Third Quarter 2000**

<b>Well ID</b>	<b>Ground Elevation</b>	<b>TOC Elevation</b>	<b>Depth to Water</b>	<b>GW Elevation</b>	<b>Product Thickness</b>
MW-3S	729.00	731.50	6.78	724.72	ND
MW-4S	731.00	732.86	3.95	728.91	ND
MW-5S	723.00	724.70	4.22	720.48	ND
MW-6S	727.00	724.28	3.37	720.91	ND
MW-7S	720.00	721.70	4.46	717.24	ND
MW-9S	720.00	721.71	5.65	716.06	ND
MW-10S	723.00	726.58	4.55	722.03	ND
MW-13S	737.00	738.68	2.05	736.63	ND
MW-20S	716.00	719.94	NM	NM	ND
MW-25S	736.83	739.24	2.70	736.54	ND
MW-26S	732.31	731.66	3.47	728.19	ND
MW-27S	720.59	723.15	4.12	719.03	ND
MW-28S	720.04	722.65	4.19	718.46	ND
MW-29S	720.01	722.39	4.04	718.35	ND
TW-05	721.76	724.16	2.66	721.50	ND
MW-30S	724.5	727.19	3.52	723.67	ND
MW-31S	723.8	726.35	1.66	724.69	ND
MW-32S	719.6	722.62	5.26	717.36	ND
MW-33S	719.1	721.69	4.6	717.09	ND
MW-34S	718.6	721.42	4.61	716.81	ND
MW-35S	718.9	721.54	4.21	717.33	ND
MW-36S	720.2	723.09	3.07	720.02	ND
MW-37S	720.5	723.13	5.12	718.01	ND

**Note:** All values in feet

TOC = Top of the casing

GW = Groundwater

NM = Not measured

ND = Not detected

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

**Table 2**

**Groundwater Elevation Measurements  
Treatment-Gate Performance Monitoring Wells  
Moss American Site  
Milwaukee, Wisconsin  
Third Quarter 2000**

Well ID	Ground Elevation	TOC Elevation	Depth to Water	GW Elevation	Hydraulic Gradient (ft/ft)	Groundwater Velocity (ft/day)	Product Thickness
TG1-1	720.05	723.18	5.01	718.17	0.0004	0.0011	ND
TG1-2	719.80	722.60	4.44	718.16			ND
TG1-3	719.30	722.35	4.16	718.19			ND
TG2-1	720.50	723.60	4.77	718.83	0.0172	0.0488	ND
TG2-2	719.90	722.86	4.89	717.97			ND
TG2-3	719.90	722.35	4.38	717.97			ND
TG3-1	718.40	720.95	3.52	717.43	0.0054	0.0153	ND
TG3-2	718.20	720.75	3.03	717.72			ND
TG3-3	717.80	720.30	2.60	717.70			ND
TG4-1	717.60	720.79	3.21	717.58	0.0016	0.0045	ND
TG4-2	717.90	720.51	2.92	717.59			ND
TG4-3	717.40	719.93	2.43	717.50			ND
TG5-1	717.60	720.56	3.43	717.13	0.0082	0.0232	ND
TG5-2	717.30	720.24	3.20	717.04			ND
TG5-3	717.00	719.73	3.01	716.72			ND
TG6-1	719.20	721.73	4.44	717.29	0.0020	0.0057	ND
TG6-2	719.20	721.90	4.60	717.30			ND
TG6-3	719.40	722.32	5.13	717.19			ND

**Note:** All values in feet

TOC = Top of the casing

GW = Groundwater

ft/day = feet per day

ND = Not detected

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

**Table 3**

**Field-Measured Parameters – Shallow Monitoring Wells  
Moss American Site  
Milwaukee, Wisconsin  
Third Quarter 2000**

<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	7.1	0.68	14.4	47	0.8	898
MW-4S	7.4	0.59	16.6	-12	1.0	202
MW-5S	6.8	0.13	12.8	-84	2.7	800
MW-6S	7.6	0.28	14.5	117	5.6	432
MW-7S	7.7	0.41	13.7	-85	0.4	58
MW-9S	6.7	0.83	13.8	-62	0.8	448
MW-10S	6.8	0.29	15.2	125	0.4	58
MW-13S	6.9	0.37	15.9	150	1.1	371
MW-20S	8.0	0.72	13.5	3	NM	5.0
MW-25S	6.8	0.56	14.6	157	0.6	162
MW-26S	7.0	0.37	15.5	170	0.4	>1000
MW-27S	6.9	0.08	14.2	-97	0.5	940
MW-28S	7.3	0.12	15.3	56	0.7	1005
MW-29S	7.7	0.24	15.6	133	0.6	565
TW-05	6.9	0.48	15.4	-94	0.6	825
MW-30S	6.8	0.16	14.8	-58	0.5	732
MW-31S	7.0	0.45	15.7	155	7.0	>1000
MW-32S	7.0	0.26	16.5	-99	1.3	400
MW-33S	7.1	0.34	14.6	-65	0.4	925
MW-34S	7.7	0.48	13.2	-70	0.5	231
MW-35S	7.1	0.13	16.3	76	0.6	1212
MW-36S	8.1	0.09	14.2	153	6.3	>1000
MW-37S	7.9	0.19	15.2	155	1.5	768

**Table 3 (Cont.)**

**Field-Measured Parameters – Treatment Gate Performance Monitoring Wells  
Moss American Site  
Milwaukee, Wisconsin  
Third Quarter 2000**

<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>
TG1-1	7.2	1.20	14.3	-53	2.0	1020
TG1-2	7.1	1.32	14.7	-44	0.8	898
TG1-3	7.1	1.32	14.6	-57	0.6	1074
TG2-1	7.2	1.71	14.3	136	1.0	476
TG2-2	7.1	0.86	14.8	-59	0.4	820
TG2-3	7.1	2.98	14.7	35	1.3	63
TG3-1	6.8	0.07	15.9	-65	0.6	926
TG3-2	7.0	1.57	16.5	-89	0.6	264
TG3-3	7.0	0.07	16.4	-78	0.6	420
TG4-1	7.6	0.57	15.6	-90	0.3	290
TG4-2	7.7	0.37	15.4	-29	0.4	840
TG4-3	7.7	0.48	14.9	-68	0.3	601
TG5-1	7.0	0.42	13.9	74	5.4	706
TG5-2	6.9	0.08	15.6	-69	0.6	74
TG5-3	7.1	0.30	13.3	115	0.8	59.2
TG6-1	8.0	0.31	15.3	-2	4.2	163
TG6-2	7.9	0.42	15.6	30	0.5	896
TG6-3	7.6	0.22	15.8	-36	0.6	414

S - Shallow Well

NM – Not Measured

TW - Temporary Well (Shallow)

TG – Treatment Gate Performance Monitoring Well



Table 4

**Groundwater Sample Analytical Results  
Plume Monitoring Well Samples  
Moss-American Site  
Milwaukee, Wisconsin  
Third Quarter 2000**

Sample ID:	MW-3S-11	MW-4S-11	MW-5S-11	MW-6S-11	MW-7S-11	WDNR PAL, ug/L	WDNR ES, ug/L
Sample Matrix:	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater		
Sample Date:	9/29/00	9/29/00	9/29/00	9/28/00	9/27/00		
Units of Measure:	ug/L	ug/L	ug/L	ug/L	ug/L		
<b>Parameters</b>							
<b>VOCs</b>							
Benzene	0.2 U	25	0.2 U	0.2 U	4 U	0.5	5
Toluene	0.2 U	28	0.2 U	0.2 U	4 U	68.6	343
Ethylbenzene	0.2 U	31	0.2 U	0.2 U	19 J	140	700
Total Xylenes	0.6 U	84	0.6 U	0.6 U	52 J	124	620
<b>PAHs</b>							
Naphthalene	0.81 U	810	0.79 U	0.81 U	3960	8.0	40
Acenaphthalylene	0.81 U	158 J	0.79 U	0.81 U	176	NA	NA
Acenaphthene	0.81 U	610 J	0.79 U	0.81 U	83	NA	NA
Fluorene	0.17 U	279	0.17 U	0.17 U	14.2	80	400
Phenanthrene	0.071 U	26.3 J	0.069 U	0.071 U	0.45	NA	NA
Anthracene	0.030 U	72.0	0.076 J	0.030 U	0.029 U	600	3,000
Fluoranthene	0.03 U	103	0.03 U	0.090 J	0.034 J	80	400
Pyrene	0.17 U	111 J	0.17 U	0.17 U	0.16 U	50	250
Benzo(a)anthracene	0.02 U	15.3	0.02 U	0.021 J	0.019 U	NA	NA
Chrysene	0.061 U	13.1 J	0.060 U	0.061 U	0.058 U	0.02	0.2
Benzo(b)fluoranthene	0.039 U	5.7 J	0.038 U	0.039 U	0.036 U	0.02	0.2
Benzo(k)fluoranthene	0.01 U	3.5 J	0.0099 U	0.01 U	0.0096 U	NA	NA
Benzo(a)pyrene	0.02 U	6.7 J	0.02 U	0.022	0.019 U	0.02	0.2
Dibenzo(a,h)anthracene	0.03 U	3.1 U	0.03 U	0.03 U	0.029 U	NA	NA
Benzo(g,h,i)perylene	0.1 U	10 U	0.099 U	0.1 U	0.096 U	NA	NA
Indeno(1,2,3-cd)pyrene	0.068 U	6.8 U	0.066 U	0.068 U	0.064 U	NA	NA

Table 4 (Cont.)

**Groundwater Sample Analytical Results  
Plume Monitoring Well Samples  
Moss-American Site  
Milwaukee, Wisconsin  
Third Quarter 2000**

Sample ID:	MW-9S-11	MW-10S-11	MW-13S-11	MW-20S-11	MW-25S-11	MW-26S-11	WDNR PAL, ug/L	WDNR ES, ug/L
Sample Matrix:	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater		
Sample Date:	9/28/00	9/28/00	9/28/00	9/27/00	9/28/00	9/28/00		
Units of Measure:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L		
<b>Parameters</b>								
<b>VOCs</b>								
Benzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.5	5
Toluene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	68.6	343
Ethylbenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	140	700
Total Xylenes	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	124	620
<b>PAHs</b>								
Naphthalene	0.79 U	0.80 U	0.80 U	0.76 U	0.84 U	0.83 U	8.0	40
Acenaphthalylene	0.79 U	0.80 U	0.80 U	0.76 U	0.84 U	0.83 U	NA	NA
Acenaphthene	0.79 U	0.80 U	0.80 U	0.76 U	0.84 U	0.83 U	NA	NA
Fluorene	0.17 U	0.17 U	0.17 U	0.16 U	0.18 U	0.18 U	80	400
Phenanthrene	0.069 U	0.070 U	0.070 U	0.066 U	0.074 U	0.073 U	NA	NA
Anthracene	0.064	0.037 J	0.08 J	0.028 U	0.07 J	0.031 U	600	3,000
Fluoranthene	0.029 U	0.030 U	0.030 U	0.028 U	0.032 U	0.031 U	80	400
Pyrene	0.17 U	0.17 U	0.17 U	0.16 U	0.18 U	0.18 U	50	250
Benzo(a)anthracene	0.020 U	0.020 U	0.020 U	0.019 U	0.021 U	0.021 U	NA	NA
Chrysene	0.059 U	0.060 U	0.060 U	0.057 U	0.063 U	0.062 U	0.02	0.2
Benzo(b)fluoranthene	0.037 U	0.038 U	0.038 U	0.036 U	0.04 U	0.039 U	0.02	0.2
Benzo(k)fluoranthene	0.0098 U	0.0100 U	0.010 U	0.0095 U	0.011 U	0.010 U	NA	NA
Benzo(a)pyrene	0.020 U	0.020 U	0.020 U	0.019 U	0.021 U	0.021 U	0.02	0.2
Dibenzo(a,h)anthracene	0.029 U	0.030 U	0.030 U	0.028 U	0.032 U	0.031 U	NA	NA
Benzo(g,h,i)perylene	0.098 U	0.100 U	0.10 U	0.095 U	0.11 U	0.10 U	NA	NA
Indeno(1,2,3-cd)pyrene	0.066 U	0.067 U	0.067 U	0.063 U	0.071 U	0.070 U	NA	NA

Table 4 (Cont.)

**Groundwater Sample Analytical Results  
Plume Monitoring Well Samples  
Moss-American Site  
Milwaukee, Wisconsin  
Third Quarter 2000**

Sample ID:	MW-27S-11	MW-28S-11	MW-29S-11	TW-05-11	WDNR PAL, ug/L	WDNR ES, ug/L
Sample Matrix:	Groundwater	Groundwater	Groundwater	Groundwater		
Sample Date:	9/28/00	9/26/00	9/27/00	9/28/00		
Units of Measure:	ug/L	ug/L	ug/L	ug/L		
<b>Parameters</b>						
<b>VOCs</b>						
Benzene	0.2 U	0.2 U	0.2 U	0.2 U	0.5	5
Toluene	0.2 U	0.2 U	0.2 U	0.2 U	68.6	343
Ethylbenzene	0.2 U	0.2 U	0.2 U	0.2 U	140	700
Total Xylenes	0.6 U	0.6 U	0.6 U	0.6 U	124	620
<b>PAHs</b>						
Naphthalene	0.81 U	0.80 U	0.83 U	15.3 J	8.0	40
Acenaphthalylene	0.81 U	0.80 U	0.83 U	14.6 J	NA	NA
Acenaphthene	0.81 U	0.80 U	0.83 U	100	NA	NA
Fluorene	0.17 U	0.17 U	0.18 U	74.6	80	400
Phenanthrene	0.071 U	0.070 U	0.072 U	0.68 U	NA	NA
Anthracene	0.030 U	0.132 J	0.031 J	30.1	600	3,000
Fluoranthene	0.03 U	0.151 J	0.031 U	22.2	80	400
Pyrene	0.17 U	0.17 U	0.18 U	18.5	50	250
Benzo(a)anthracene	0.02 U	0.038 J	0.021 U	1.94	NA	NA
Chrysene	0.061 U	0.060 U	0.062 U	1.58 J	0.02	0.2
Benzo(b)fluoranthene	0.038 U	0.047 J	0.039 U	0.78	0.02	0.2
Benzo(k)fluoranthene	0.010 U	0.019 J	0.010 U	0.395 J	NA	NA
Benzo(a)pyrene	0.020 U	0.04 J	0.021 U	0.89	0.02	0.2
Dibenzo(a,h)anthracene	0.030 U	0.030 U	0.031 U	0.29 U	NA	NA
Benzo(g,h,l)perylene	0.10 U	0.1 U	0.10 U	1.0 U	NA	NA
Indeno(1,2,3-cd)pyrene	0.068 U	0.067 U	0.069 U	0.65 U	NA	NA

Table 4 (contd.)

**Groundwater Sample Analytical Results  
Containment Performance Well Samples  
Moss-American Site  
Milwaukee, Wisconsin  
Third Quarter 2000**

Sample ID:	MW-30S-11	MW-31S-11	MW-32S-11	MW-33S-11	MW-34S-11	MW-35S-11	MW-36S-11	MW-37S-11	WDNR PAL, ug/L	WDNR ES, ug/L
Sample Matrix:	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater		
Sample Date:	9/29/00	9/28/00	9/26/00	9/26/00	9/27/00	9/26/00	9/27/00	9/27/00		
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	1.0 U	8.1 J	0.2 U	0.2 U	0.2 U	0.5	5
Toluene	0.2 U	0.2 U	0.2 U	1.4 J	0.2 U	0.2 U	0.2 U	0.2 U	68.6	343
Ethylbenzene	0.2 U	0.2 U	0.2 U	5.7	22	0.2 U	0.2 U	0.2 U	140	700
Total Xylenes	0.6 U	0.6 U	0.6 U	14 J	73	0.6 U	0.6 U	0.6 U	124	620
<b>PAHs</b>										
Naphthalene	0.81 U	0.82 U	59.3	2220	5720	0.78 U	0.80 U	0.78 U	8.0	40
Acenaphthylene	0.81 U	0.82 U	2.38 J	115.0 J	206 J	0.78 U	0.80 U	0.78 U	NA	NA
Acenaphthene	0.80 U	0.82 U	1.4 J	48	140 J	0.78 U	0.80 U	0.78 U	NA	NA
Fluorene	0.17 U	0.17 U	0.19 J	5.86	73 J	0.17 U	0.17 U	0.17 U	80	400
Phenanthrene	0.071 U	0.071 U	0.070 U	0.212 J	70	0.34	0.070 U	0.068 U	NA	NA
Anthracene	0.162 J	0.031 U	0.175 J	0.031 U	8.0 J	0.3	0.030 U	0.089 J	600	3,000
Fluoranthene	0.036 J	0.031 U	0.030 U	0.031 U	7.3	0.61	0.030 U	0.029 U	80	400
Pyrene	0.17 U	0.17 U	0.17 U	0.65 J	6.23	0.79	0.17 U	0.17 U	50	250
Benzo(a)anthracene	0.020 U	0.020 U	0.020 U	0.020 U	0.7	0.161	0.020 U	0.019 U	NA	NA
Chrysene	0.061 U	0.061 U	0.060 U	0.061 U	0.5	0.122 J	0.060 U	0.058 U	0.02	0.2
Benzo(b)fluoranthene	0.038 U	0.039 U	0.038 U	0.039 U	0.248	0.388	0.038 U	0.037 U	0.02	0.2
Benzo(k)fluoranthene	0.010 U	0.010 U	0.010 U	0.010 U	0.1	0.153	0.010 U	0.0097 U	NA	NA
Benzo(a)pyrene	0.020 U	0.020 U	0.020 U	0.020 U	0.3	0.302	0.020 U	0.019 U	0.02	0.2
Dibenzo(a,h)anthracene	0.030 U	0.031 U	0.030 U	0.031 U	0.1 J	0.054 J	0.030 U	0.029 U	NA	NA
Benzo(g,h,i)perylene	0.10 U	0.10 U	0.10 U	0.10 U	0.1 J	0.479	0.10 U	0.097 U	NA	NA
Indeno(1,2,3-cd)pyrene	0.068 U	0.068 U	0.067 U	0.068 U	0.147 J	0.4	0.067 U	0.065 U	NA	NA

**Table 4 (Cont.)**

**Groundwater Sample Analytical Results  
Treatment Performance Well Samples  
Moss-American Site  
Milwaukee, Wisconsin  
Third Quarter 2000**

Sample ID:	TG1-1-11	TG1-2-11	TG1-3-11	TG2-1-11	TG2-2-11	TG2-3-11	WDNR PAL, ug/L	WDNR ES, ug/L
Sample Matrix:	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater		
Sample Date:	9/26/00	9/26/00	9/26/00	9/26/00	9/26/00	9/26/00		
Units of Measure:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L		
<b>Parameters</b>								
<b>VOCs</b>								
Benzene	2.8 J	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.5	5
Toluene	1.6 J	2	0.96 J	0.2 U	0.2 U	0.2 U	68.6	343
Ethylbenzene	4.6 J	0.81 J	0.2 U	0.2 U	0.2 U	0.2 U	140	700
Total Xylenes	8.5 J	1.5 J	0.6 U	0.6 U	0.6 U	0.6 U	124	620
<b>PAHs</b>								
Naphthalene	475	144	0.86 J	0.79 U	0.80 U	13	8.0	40
Acenaphthylene	27 J	15.3 J	0.81 U	0.79 U	0.80 U	1.34 J	NA	NA
Acenaphthene	34	77 J	0.95 J	0.79 U	0.80 U	14	NA	NA
Fluorene	16.2	34.5	0.33 J	0.17 U	0.17 U	1.74	80	400
Phenanthrene	12.6	61.2	0.126 J	0.069 U	0.137 J	6.27	NA	NA
Anthracene	2.1	4.9	0.159 J	0.230	0.197 J	2.26	600	3,000
Fluoranthene	1.24	16.4	0.105 J	0.035 J	0.156 J	3.1	80	400
Pyrene	1.21	16	0.17 U	0.17 U	0.2 J	2.72	50	250
Benzo(a)anthracene	0.107	2.17	0.020 U	0.020 U	0.031 J	0.254	NA	NA
Chrysene	0.061 U	1.41	0.071 J	0.059 U	0.060 U	0.18 J	0.02	0.2
Benzo(b)fluoranthene	0.048 J	0.769	0.038 U	0.038 U	0.055 J	0.112	0.02	0.2
Benzo(k)fluoranthene	0.026 J	0.399	0.010 U	0.0099 U	0.023 J	0.05 J	NA	NA
Benzo(a)pyrene	0.052 J	0.79	0.021 J	0.020 U	0.047 J	0.107	0.02	0.2
Dibenzo(a,h)anthracene	0.030 U	0.126 J	0.030 U	0.030 U	0.030 U	0.033 U	NA	NA
Benzo(g,h,i)perylene	0.10 U	0.39 J	0.10 U	0.099 U	0.10 U	0.11 U	NA	NA
Indeno(1,2,3-cd)pyrene	0.068 U	0.45	0.067 U	0.066 U	0.075 J	0.073 U	NA	NA



Table 4 (Cont.)

**Groundwater Sample Analytical Results  
Treatment Performance Well Samples  
Moss-American Site  
Milwaukee, Wisconsin  
Third Quarter 2000**

Sample ID:	TG3-1-11	TG3-2-11	TG3-3-11	TG4-1-11	TG4-2-11	TG4-3-11	WDNR PAL, ug/L	WDNR ES, ug/L
Sample Matrix:	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater		
Sample Date:	9/26/00	9/26/00	9/26/00	9/27/00	9/27/00	9/27/00		
Units of Measure:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L		
<b>Parameters</b>								
<b>VOCs</b>								
Benzene	0.2 U	0.2 U	0.2 U	1 U	0.2 U	0.2 U	0.5	5
Toluene	0.2 U	0.2 U	0.2 U	1 U	0.2 U	0.2 U	68.6	343
Ethylbenzene	0.2 U	0.2 U	0.2 U	1 U	0.2 U	0.2 U	140	700
Total Xylenes	0.6 U	0.6 U	0.6 U	3	0.6 U	0.6 U	124	620
<b>PAHs</b>								
Naphthalene	3.01 J	0.76 U	0.81 U	775	30.7	0.79 U	8.0	40
Acenaphthylene	0.77 U	0.76 U	0.81 U	95.6	4.04 J	0.79 U	NA	NA
Acenaphthene	1.4 J	0.76 U	0.81 U	0.80 U	2.7 J	0.79 U	NA	NA
Fluorene	1.15	0.16 U	0.17 U	0.17 U	0.23 J	0.17 U	80	400
Phenanthrene	1.55	0.208 J	0.37	0.070 U	0.218 J	0.069 U	NA	NA
Anthracene	0.760	0.220	0.165 J	0.030 U	0.490 J	0.029 J	600	3,000
Fluoranthene	0.78	0.22	0.181 J	0.030 U	0.73	0.029 U	80	400
Pyrene	0.93	0.26 J	0.17 U	0.17 U	0.77	0.17 U	50	250
Benzo(a)anthracene	0.143	0.054 J	0.020 U	0.020 U	0.111	0.020 U	NA	NA
Chrysene	0.121 J	0.057 U	0.061 U	0.060 U	0.060 U	0.059 U	0.02	0.2
Benzo(b)fluoranthene	0.065	0.103	0.038 U	0.038 U	0.123	0.037 U	0.02	0.2
Benzo(k)fluoranthene	0.0325 J	0.0417 J	0.010 U	0.010 U	0.053 J	0.0098 U	NA	NA
Benzo(a)pyrene	0.073 J	0.082	0.020 U	0.020 U	0.118	0.020 U	0.02	0.2
Dibenzo(a,h)anthracene	0.029 U	0.029 U	0.030 U	0.030 U	0.030 U	0.029 U	NA	NA
Benzo(g,h,i)perylene	0.096 U	0.133 J	0.10 U	0.10 U	0.171 J	0.098 U	NA	NA
Indeno(1,2,3-cd)pyrene	0.08 J	0.113 J	0.068 U	0.067 U	0.138 J	0.066 U	NA	NA

Table 4 (Cont.)

**Groundwater Sample Analytical Results  
Treatment Performance Well Samples  
Moss-American Site  
Milwaukee, Wisconsin  
Third Quarter 2000**

Sample ID:	TG5-1-11	TG5-2-11	TG5-3-11	TG6-1-11	TG6-2-11	TG6-3-11	WDNR PAL, ug/L	WDNR ES, ug/L
Sample Matrix:	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater		
Sample Date:	9/28/00	9/28/00	9/28/00	9/27/00	9/27/00	9/27/00		
Units of Measure:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L		
<b>Parameters</b>								
<b>VOCs</b>								
Benzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.5	5
Toluene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	68.6	343
Ethylbenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	140	700
Total Xylenes	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	124	620
<b>PAHs</b>								
Naphthalene	2.44 J	8.1 U	0.79 U	0.78 U	0.80 U	0.87 U	8.0	40
Acenaphthylene	0.80 U	8.1 U	0.79 U	0.78 U	0.80 U	0.87 U	NA	NA
Acenaphthene	0.80 U	8.1 U	0.79 U	0.78 U	0.80 U	0.87 U	NA	NA
Fluorene	0.17 U	1.7 U	0.17 U	0.16 U	0.17 U	0.18 U	80	400
Phenanthrene	0.070 U	0.71 U	0.069 U	0.081 J	0.070 U	0.076 U	NA	NA
Anthracene	0.030 U	0.30 U	0.029 U	0.176 J	0.20 J	0.063 J	600	3,000
Fluoranthene	0.030 U	0.33 J	0.029 U	0.163 J	0.29	0.033 U	80	400
Pyrene	0.17 U	1.70 U	0.17 U	0.19 J	0.34 J	0.18 U	50	250
Benzo(a)anthracene	0.020 U	0.20 U	0.020 U	0.044 J	0.07 J	0.022 U	NA	NA
Chrysene	0.060 U	0.61 U	0.059 U	0.061 J	0.075 J	0.065 U	0.02	0.2
Benzo(b)fluoranthene	0.038 U	0.44 J	0.037 U	0.049 J	0.061	0.041 U	0.02	0.2
Benzo(k)fluoranthene	0.0100 U	0.12 J	0.0098 U	0.0202 J	0.0269 J	0.011 U	NA	NA
Benzo(a)pyrene	0.020 U	0.7 J	0.020 U	0.044 J	0.068 J	0.022 U	0.02	0.2
Dibenzo(a,h)anthracene	0.030 U	0.30 U	0.029 U	0.029 U	0.030 U	0.033 U	NA	NA
Benzo(g,h,i)perylene	0.100 U	1.3 J	0.098 U	0.097 U	0.100 U	0.11 U	NA	NA
Indeno(1,2,3-cd)pyrene	0.067 U	0.98 J	0.066 U	0.065 U	0.067 U	0.073 U	NA	NA

**Table 4 (Cont.)**

**Groundwater Sample Analytical Results  
Intermediate Well Samples  
Moss-American Site  
Milwaukee, Wisconsin  
Third Quarter 2000**

<b>Sample ID:</b>	<b>MW-3I-11</b>	<b>MW-4I-11</b>	<b>MW-7I-11</b>	<b>MW-9I-11</b>	<b>MW-20I-11</b>	<b>WDNR PAL, ug/L</b>	<b>WDNR ES, ug/L</b>
<b>Sample Matrix:</b>	<b>Groundwater</b>	<b>Groundwater</b>	<b>Groundwater</b>	<b>Groundwater</b>	<b>Groundwater</b>		
<b>Sample Date:</b>	<b>9/29/00</b>	<b>9/29/00</b>	<b>9/27/00</b>	<b>9/28/00</b>	<b>9/27/00</b>		
<b>Units of Measure:</b>	<b>ug/L</b>	<b>ug/L</b>	<b>ug/L</b>	<b>ug/L</b>	<b>ug/L</b>		
<b>Parameters</b>							
<b>VOCs</b>							
Benzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.5	5
Toluene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	68.6	343
Ethylbenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	140	700
Total Xylenes	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	124	620
<b>PAHs</b>							
Naphthalene	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	8.0	40
Acenaphthylene	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	NA	NA
Acenaphthene	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	NA	NA
Fluorene	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	80	400
Phenanthrene	0.043 U	0.043 U	0.043 U	0.043 U	0.043 U	NA	NA
Anthracene	0.095 J	0.029 U	0.095 J	0.029 U	0.029 U	600	3,000
Fluoranthene	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	80	400
Pyrene	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	50	250
Benzo(a)anthracene	0.017 U	0.017 U	0.017 U	0.017 U	0.017 U	NA	NA
Chrysene	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.02	0.2
Benzo(b)fluoranthene	0.033 U	0.033 U	0.033 U	0.033 U	0.033 U	0.02	0.2
Benzo(k)fluoranthene	0.026 U	0.026 U	0.026 U	0.026 U	0.026 U	NA	NA
Benzo(a)pyrene	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.02	0.2
Dibenzo(a,h)anthracene	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	NA	NA
Benzo(g,h,i)perylene	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	NA	NA
Indeno(1,2,3-cd)pyrene	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	NA	NA

Table 4 (Cont.)

**Groundwater Sample Analytical Results  
Field Duplicate Samples  
Moss-American Site  
Milwaukee, Wisconsin  
Third Quarter 2000**

Sample ID:	MW-3S-11DP	MW-10S-11DP	MW-13S-11DP	TG6-1-11-DP	MW-33S-11-DP	WDNR	WDNR
Sample Matrix:	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	PAL,	ES, ug/L
Sample Date:	9/29/00	9/28/00	9/28/00	9/27/00	9/26/00	ug/L	
Units of Measure:	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	2 U	0.5	5
Toluene	0.2 U	0.2 U	0.2 U	0.2 U	2.5 J	68.6	343
Ethylbenzene	0.2 U	0.2 U	0.2 U	0.2 U	8.6 J	140	700
Total Xylenes	0.6 U	0.6 U	0.6 U	0.6 U	22 J	124	620
<b>PAHs</b>							
Naphthalene	0.80 U	0.82 U	0.78 U	0.77 U	2220	8.0	40
Acenaphthalylene	0.80 U	0.82 U	0.78 U	0.77 U	114 J	NA	NA
Acenaphthene	0.80 U	0.82 U	0.78 U	0.77 U	48	NA	NA
Fluorene	0.17 U	0.17 U	0.17 U	0.16 U	5.81	80	400
Phenanthrene	0.07 U	0.072 U	0.068 U	0.121 J	0.176 J	NA	NA
Anthracene	0.044 J	0.031 U	0.029 U	0.189 J	0.030 U	600	3,000
Fluoranthene	0.030 U	0.031 U	0.029 U	0.27	0.030 U	80	400
Pyrene	0.17 U	0.17 U	0.17 U	0.28 J	0.17 U	50	250
Benzo(a)anthracene	0.020 U	0.021 U	0.020 U	0.067 J	0.020 U	NA	NA
Chrysene	0.060 U	0.062 U	0.059 U	0.072 J	0.060 U	0.02	0.2
Benzo(b)fluoranthene	0.038 U	0.039 U	0.037 U	0.071	0.038 U	0.02	0.2
Benzo(k)fluoranthene	0.010 U	0.010 U	0.0098 U	0.0295 J	0.010 U	NA	NA
Benzo(a)pyrene	0.020 U	0.021 U	0.020 U	0.066 J	0.020 U	0.02	0.2
Dibenzo(a,h)anthracene	0.030 U	0.031 U	0.029 U	0.029 U	0.030 U	NA	NA
Benzo(g,h,l)perylene	0.10 U	0.10 U	0.098 U	0.096 U	0.10 U	NA	NA
Indeno(1,2,3-cd)pyrene	0.067 U	0.069 U	0.065 U	0.064 U	0.068 U	NA	NA

Table 4 (Cont.)

**Groundwater Sample Analytical Results  
Matrix Spike - Matrix Spike Duplicate Samples  
Moss-American Site  
Milwaukee, Wisconsin  
Third Quarter 2000**

Sample ID:	MW-4S-11MS	MW-4S-11MSD	MW-31S-11MS	MW-31S-11MSD	MW-37S-11MS	MW-37S-11MSD	WDNR PAL, ug/L	WDNR ES, ug/L
Sample Matrix:	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater		
Sample Date:	9/29/00	9/29/00	9/28/00	9/28/00	9/27/00	9/27/00		
Units of Measure:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L		
<b>Parameters</b>								
<b>VOCs</b>								
Benzene	25	25	22	22	22	22	0.5	5
Toluene	28	28	22	22	22	22	68.6	343
Ethylbenzene	31	31	22	22	22	21	140	700
Total Xylenes	84	84	65	66	65	65	124	620
<b>PAHs</b>								
Naphthalene	810	870	205	207	173	177	8.0	40
Acenaphthylene	158 J	181 J	202	204	183	186	NA	NA
Acenaphthene	610 J	700 J	190	190	170	180	NA	NA
Fluorene	279	316	20.8	20.8	18.8	19.1	80	400
Phenanthrene	26.3 J	24.8 J	6.55	6.55	5.9	5.95	NA	NA
Anthracene	72	69	3.26	3.18	2.94	2.92	600	3,000
Fluoranthene	103	88	3.43	3.41	3.11	3.1	80	400
Pyrene	111	96	21.1	20.7	19.5	19.3	50	250
Benzo(a)anthracene	15.3	11.8	1.58	1.59	1.46	1.46	NA	NA
Chrysene	13.1 J	8.1 J	6.35	6.26	5.81	5.81	0.02	0.2
Benzo(b)fluoranthene	5.7 J	4.8 J	1.28	1.27	1.17	1.16	0.02	0.2
Benzo(k)fluoranthene	3.5 J	3 J	1.26	1.25	1.14	1.13	NA	NA
Benzo(a)pyrene	6.7 J	5.8 J	1.6	1.57	1.47	1.46	0.02	0.2
Dibenzo(a,h)anthracene	3.6 J	4.1 J	3.36	3.32	3.03	2.99	NA	NA
Benzo(g,h,i)perylene	12 J	11 J	12.8	12.7	11.7	11.6	NA	NA
Indeno(1,2,3-cd)pyrene	7.5 J	8.4 J	6.5	6.39	5.82	5.81	NA	NA



Table 4 (Cont.)

**Groundwater Sample Analytical Results  
Field Blank Samples  
Moss-American Site  
Milwaukee, Wisconsin  
Third Quarter 2000**

Sample ID:	FB-01-11	FB-02-11	FB-03-11	FB-04-11	WDNR	WDNR
Sample Matrix:	Groundwater	Groundwater	Groundwater	Groundwater	PAL,	ES, ug/L
Sample Date:	9/28/00	6/27/00	9/28/00	9/29/00	ug/L	
Units of Measure:	ug/L	ug/L	ug/L	ug/L		
<b>Parameters</b>						
<b>VOCs</b>						
Benzene	0.2 U	0.2 U	0.2 U	0.2 U	0.5	5
Toluene	0.2 U	0.2 U	0.2 U	0.2 U	68.6	343
Ethylbenzene	0.2 U	0.2 U	0.2 U	0.2 U	140	700
Total Xylenes	0.6 U	0.6 U	0.6 U	0.6 U	124	620
<b>PAHs</b>						
Naphthalene	0.78 U	0.81 U	0.80 U	0.82 U	8.0	40
Acenaphthylene	0.78 U	0.81 U	0.80 U	0.82 U	NA	NA
Acenaphthene	0.78 U	0.81 U	0.80 U	0.82 U	NA	NA
Fluorene	0.16 U	0.17 U	0.17 U	0.17 U	80	400
Phenanthrene	0.068 U	0.071 U	0.070 U	0.072 U	NA	NA
Anthracene	0.074 J	0.030 U	0.030 J	0.031 U	600	3,000
Fluoranthene	0.029 U	0.030 U	0.030 U	0.031 U	80	400
Pyrene	0.16 U	0.17 U	0.17 U	0.17 U	50	250
Benzo(a)anthracene	0.019 U	0.020 U	0.020 U	0.020 U	NA	NA
Chrysene	0.058 U	0.061 U	0.061 U	0.061 U	0.02	0.2
Benzo(b)fluoranthene	0.037 U	0.038 U	0.038 U	0.039 U	0.02	0.2
Benzo(k)fluoranthene	0.0097 U	0.010 U	0.010 U	0.010 U	NA	NA
Benzo(a)pyrene	0.019 U	0.020 U	0.020 U	0.020 U	0.02	0.2
Dibenzo(a,h)anthracene	0.029 U	0.030 U	0.030 U	0.031 U	NA	NA
Benzo(g,h,i)perylene	0.097 U	0.10 U	0.10 U	0.10 U	NA	NA
Indeno(1,2,3-cd)pyrene	0.065 U	0.068 U	0.068 U	0.069 U	NA	NA

**Table 4 (Cont.)**

**Groundwater Sample Analytical Results**

**Table Notes**

**Moss-American Site**

**Milwaukee, Wisconsin**

**Third Quarter 2000**

U - Indicates constituent not detected above detection limit. Detection limit indicated.

J - Indicates estimated concentration.

VOC - Volatile Organic Compound.

PAH - Polynuclear Aromatic Hydrocarbon.

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

ES = Enforcement Standard (WDNR).

NA - Not Applicable. PAL or ES not available for this parameter.

**Bold values indicate concentration exceeding PAL.**

**Bold and shaded values indicate concentration exceeding PAL and ES.**

Table 5

**Concentration Trends in Groundwater Samples  
Four Quarters of 1998 and 1999, Three Quarters of 2000  
Moss-American Site  
Milwaukee, Wisconsin**

	MW-4S	MW-7S	TW-05	TW-09 <sup>1</sup>	MW-32S <sup>2</sup>	MW-33S <sup>2</sup>	MW-34S <sup>2</sup>	MW-35S <sup>2</sup>
<b>Benzene</b>								
First Quarter (March '98)	10.0	5.00	0.20 U	2.00 J	NS	NS	NS	NS
Second Quarter (June '98)	8.00	5.00	0.20 U	0.50 J	NS	NS	NS	NS
Third Quarter (September '98)	3.00	8.00 J	0.20 U	2.00 U	NS	NS	NS	NS
Fourth Quarter (December '98)	3.00 J	NS	0.20 U	2.00 U	NS	NS	NS	NS
First Quarter (March '99)	5.00	9.00	0.20 U	0.30 U	NS	NS	NS	NS
Second Quarter (June '99)	6.00	7.00 J	0.20 U	2.00 U	NS	NS	NS	NS
Third Quarter (September '99)	3.00	9.00	0.20 U	0.80 J	NS	NS	NS	NS
Fourth Quarter (December '99)	2.80	7.10	0.20 U	---	NS	NS	NS	NS
First Quarter (March '00)	4.00	5.20	0.20 U	---	NS	NS	NS	NS
Second Quarter (June '00)	3.40	4.00 J	0.20 U	---	0.20 U	1.00 U	9.50 J	0.20 U
Third Quarter (September '00)	25.0	4.0 U	0.20 U	---	0.20 U	1.0 U	8.10 J	0.20 U
<b>Naphthalene</b>								
First Quarter (March '98)	2,080	6,470	3.51 J	3,080	NS	NS	NS	NS
Second Quarter (June '98)	172 J	16.1	15.1 J	11,800	NS	NS	NS	NS
Third Quarter (September '98)	863 J	7,140	19.0 J	580 J	NS	NS	NS	NS
Fourth Quarter (December '98)	1,760	NS	9.30 J	14,900	NS	NS	NS	NS
First Quarter (March '99)	1,330	5,560	19.9	9,500	NS	NS	NS	NS
Second Quarter (June '99)	940	6,400	3.90 J	11,600	NS	NS	NS	NS
Third Quarter (September '99)	418 J	0.80 U	7.90 J	126,000	NS	NS	NS	NS
Fourth Quarter (December '99)	790	4,740	9.00 J	---	NS	NS	NS	NS
First Quarter (March '00)	1,020	3,950	9.80 J	---	NS	NS	NS	NS
Second Quarter (June '00)	364 J	4,260	6.96 J	---	40.7	1,920	5,980	42.7
Third Quarter (September '00)	810	3,960	15.3 J	---	59.3	2,220	5,720	0.78 U

Table 5 (Cont.)

**Concentration Trends in Groundwater Samples  
Four Quarters of 1998 and 1999, Three Quarters of 2000  
Moss-American Site  
Milwaukee, Wisconsin**

	MW-4S	MW-7S	TW-05	TW-09 <sup>1</sup>	MW-32S <sup>2</sup>	MW-33S <sup>2</sup>	MW-34S <sup>2</sup>	MW-35S <sup>2</sup>
<b>Fluorene</b>								
First Quarter (March '98)	368	3.30 U	3.3 U	21.0 U	NS	NS	NS	NS
Second Quarter (June '98)	50.0	3.60 J	105	3,590	NS	NS	NS	NS
Third Quarter (September '98)	323 J	30.0	90.0	3.30 UJ	NS	NS	NS	NS
Fourth Quarter (December '98)	316	NS	62.3	4,120	NS	NS	NS	NS
First Quarter (March '99)	271	30.0	65.4	4,300	NS	NS	NS	NS
Second Quarter (June '99)	547	36.5	79.6	5,200	NS	NS	NS	NS
Third Quarter (September '99)	651	39.2	136	47,700	NS	NS	NS	NS
Fourth Quarter (December '99)	333	24.4	66.6	---	NS	NS	NS	NS
First Quarter (March '00)	281	15.8	55.5	---	NS	NS	NS	NS
Second Quarter (June '00)	223	12.8	53.2	---	0.17 U	1.41	89.0	4.92
Third Quarter (September '00)	103	14.2	74.6	---	0.19	5.86	73.0 J	0.17 U
<b>Benzo(a) pyrene</b>								
First Quarter (March '98)	25.3	0.021 U	2.04	20.3	NS	NS	NS	NS
Second Quarter (June '98)	112	25.3	1.63	226	NS	NS	NS	NS
Third Quarter (September '98)	7.45 J	0.42	3.40	4.40 J	NS	NS	NS	NS
Fourth Quarter (December '98)	8.95	NS	1.72	228	NS	NS	NS	NS
First Quarter (March '99)	6.10	0.43	2.10	240	NS	NS	NS	NS
Second Quarter (June '99)	35.1	0.12 U	1.42	23.0 J	NS	NS	NS	NS
Third Quarter (September '99)	40.5	0.022 U	4.33	3,610	NS	NS	NS	NS
Fourth Quarter (December '99)	9.70	0.21 U	1.49	---	NS	NS	NS	NS
First Quarter (March '00)	8.40	0.21 U	1.44	---	NS	NS	NS	NS
Second Quarter (June '00)	1.70 J	0.021 U	0.361	---	0.02 U	0.02 U	2.00 U	0.162
Third Quarter (September '00)	6.70 J	0.019 U	0.89	---	0.020 U	0.020 U	0.30	0.302

NS - Not Sampled

U - Constituent not detected above detection limit. Detection limit indicated.

J - Estimated Concentration

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

2 - Additional containment performance wells (MW-32S, MW-33S, MW-34S, MW-35S) installed after March 2000.

Table 6 (Cont.)

**Treatment Performance Monitoring Nutrient and Biological Parameter Analytical Summary  
Moss-American Site  
Milwaukee, Wisconsin  
Third Quarter 2000**

Parameter (mg/L)	Sample Identification											
	TG5-1				TG5-2				TG5-3			
	June	July	August	September	June	July	August	September	June	July	August	September
Kjeldahl Nitrogen	1.25 J	2.2	2.13	6.3 U	1.53 J	5.1 J	5.1 J	6.3 U	0.83 J	3.3 J	0.89 J	6.3 U
Nitrite Nitrogen	0.015 U	0.018 J	0.068	0.015 U	0.036 J	0.024 J	0.052	0.015 U	0.015 U	0.052	0.053	0.016 J
Nitrate Nitrogen	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U
Ammonia Nitrogen	1.1	0.88 J	1.4	0.95 J	1.6	1.1	1.2	0.86 J	0.38 J	0.64 J	0.67 J	0.27 J
Ortho-Phosphate as P	0.037	0.028	0.059	0.033	0.113	0.057	0.044	0.023	0.79	0.101	0.089	0.087
Biochemical Oxygen Dema (BOD)	3.3 U	NA	NA	1.7 U	5.0 U	NA	NA	4.8 U	2.3 U	NA	NA	4.8 U
Total Organic Carbon (non-purgable)	9	NA	NA	6.5	8.9	NA	NA	8.9	4	NA	NA	5.5
Total Phosphorous as PO4	2.19	1.01	1.02	0.5	4.11	2.34	1.29	0.35	3.93	3.1	1.15	0.43
Chemical Oxygen Dema (COD)	186	NA	NA	43.3 J	100	NA	NA	75	57.9	NA	NA	37.1 J
Total Microbial Population (mean)	4.70E+05	9.40E+04	1.20E+04	4.50E+05	5.50E+05	7.50E+05	5.80E+04	1.20E+05	4.50E+05	4.40E+05	3.40E+04	5.50E+05
Degrader Microbial Population (mean)	3.70E+04	1.90E+03	2.20E+03	3.40E+03	5.80E+03	1.00E+04	5.30E+03	1.40E+03	3.20E+04	9.40E+03	3.90E+03	2.60E+03
Parameter (mg/L)	TG6-1				TG6-2				TG6-3			
	June	July	August	September	June	July	August	September	June	July	August	September
Kjeldahl Nitrogen	1.26	3.3 J	3.2 U	3.2 U	0.63 U	3.2 U	3.2 U	1.6 U	0.92 J	1.34 J	3.2 U	1.8 J
Nitrite Nitrogen	0.026 J	0.021 J	0.017 J	0.030 J	0.015 U	0.024 J	0.044 J	0.015 U	0.015 U	0.015 U	0.016 J	0.015 U
Nitrate Nitrogen	0.030 U	0.030 U	0.030 U	0.030 U	0.038 J	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U
Ammonia Nitrogen	1.2	0.87 J	0.70 J	0.48 J	0.41 J	0.15 U	0.38 J	0.33 J	0.23 J	0.81 J	0.72 J	0.92
Ortho-Phosphate as P	0.116	0.036	0.106	0.108	0.126	0.0146 J	0.088	0.1	0.032	0.0106 J	0.07	0.032
Biochemical Oxygen Dema (BOD)	5.3 U	NA	NA	6.6	2.5 U	NA	NA	5.1 U	3.8 U	NA	NA	3.0 U
Total Organic Carbon (non-purgable)	6.5	NA	NA	5.7 U	4.8	NA	NA	5.8 U	10.9	NA	NA	10.8 U
Total Phosphorous as PO4	20.6	2.26	5.66	4.54	2.59	2.21	3.28	2.91	1.86	0.84	3.42	1.47
Chemical Oxygen Dema (COD)	447	NA	NA	154	135	NA	NA	137	94	NA	NA	87
Total Microbial Population (mean)	7.40E+05	2.50E+05	6.10E+04	1.30E+05	4.10E+04	4.20E+04	3.40E+04	1.30E+04	4.30E+06	3.60E+04	3.70E+04	9.30E+03
Degrader Microbial Population (mean)	9.50E+03	4.60E+03	2.50E+03	1.20E+04	1.40E+03	2.50E+03	5.10E+03	3.10E+03	5.70E+05	8.90E+02	8.80E+02	1.80E+03

U - Compound not detected above detection limit. Detection limit indicated

J - Estimated value.

NA - Not Analyzed

Table 6 (Cont.)

Treatment Performance Monitoring Nutrient and Biological Parameter Analytical Summary  
 Moss-American Site  
 Milwaukee, Wisconsin  
 Third Quarter 2000

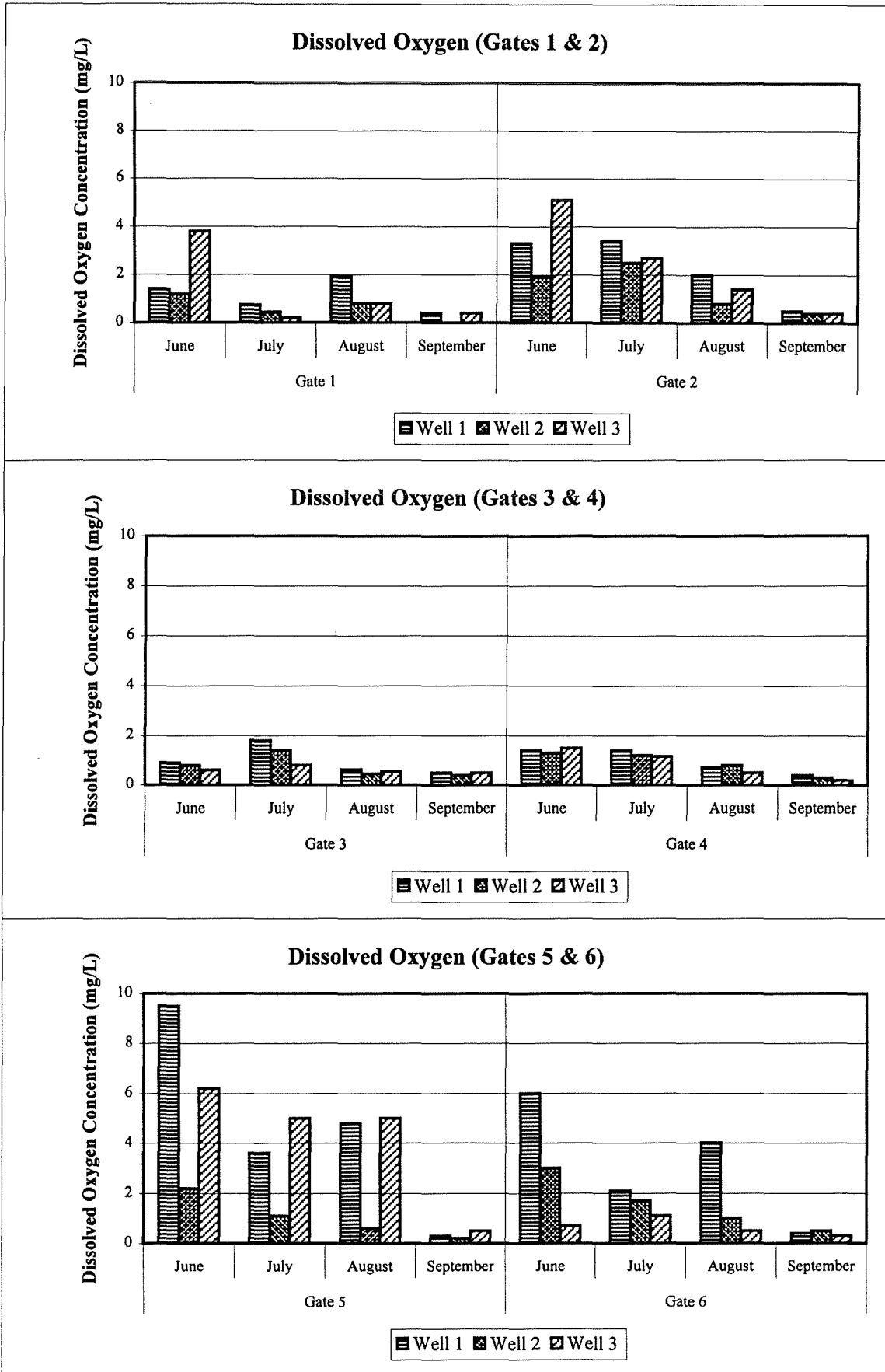
Parameter (mg/L)	Sample Identification											
	TG3-1				TG3-2				TG3-3			
	June	July	August	September	June	July	August	September	June	July	August	September
Kjeldahl Nitrogen	1.79 J	3.2 U	3.5 J	3.2 U	1.09 J	6.2 J	6.8 J	3.8 J	1.03 J	3.2 U	3.2 U	3.2 U
Nitrite Nitrogen	0.015 U	0.015 U	0.044 J	0.054 J	0.015 U	0.015 U	0.051	0.062 J	0.015 U	0.016 J	0.040 J	0.052 J
Nitrate Nitrogen	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U
Ammonia Nitrogen	1.4	1.3	1.6	1.4	1.00 J	0.26 J	0.87 J	1.1	0.86 J	0.61 J	0.99 J	0.89
Ortho-Phosphate as P	0.04	0.024	0.065	0.023 J	0.034	0.115	0.074	0.033 J	0.0111 J	0.028	0.078	0.028 J
Biochemical Oxygen Dema (BOD)	2.8 U	NA	NA	8.1 J	4.7 U	NA	NA	3.7 U	5.6	NA	NA	4.8 U
Total Organic Carbon (non-purgable)	12.7	NA	NA	14.1	9.8	NA	NA	11.5	8.1	NA	NA	7.9
Total Phosphorous as PO4	3.31	2.26	3.76	1.71 J	2.24	6.99	7.15	2.45	0.56	1.11	1.29	0.78 J
Chemical Oxygen Dema (COD)	158	NA	NA	56.7	164	NA	NA	102	55.1	NA	NA	32.4
Total Microbial Population (mean)	3.60E+05	2.50E+05	1.70E+05	1.70E+04	2.80E+05	6.80E+05	4.70E+05	2.20E+05	3.00E+05	3.00E+05	2.10E+05	6.10E+04
Degrader Microbial Population (mean)	3.70E+03	2.00E+03	3.60E+03	2.90E+03	2.90E+04	1.50E+04	3.50E+04	1.30E+04	4.30E+03	4.30E+03	1.10E+04	1.00E+04
Parameter (mg/L)	TG4-1				TG4-2				TG4-3			
	June	July	August	September	June	July	August	September	June	July	August	September
Kjeldahl Nitrogen	1.81 J	5.5 J	5.9 J	3.4 J	1.39 J	2.2	3.3 J	3.2 U	2	2.5	5.4 J	3.2 U
Nitrite Nitrogen	0.027 J	0.015 U	0.05	0.015 U	0.015 U	0.015 U	0.062	0.015 U	0.015 U	0.015 U	0.056	0.015 U
Nitrate Nitrogen	0.030 U	0.030 U	0.030 U	0.050 J	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U
Ammonia Nitrogen	2.3	2.5	2.8	2.2	0.72 J	1.2	1.5	1.2	1.8	1.7	2.1	1.9
Ortho-Phosphate as P	0.048	0.028	0.099	0.0140 J	0.0186 J	0.049	0.091	0.038	0.0156 J	0.047	0.077	0.033
Biochemical Oxygen Dema (BOD)	5.0 U	NA	NA	3.2 U	2.1 U	NA	NA	3.6 U	2.7 U	NA	NA	4.7 U
Total Organic Carbon (non-purgable)	9.6	NA	NA	11.2 U	7.1	NA	NA	9.5 U	8.2	NA	NA	9.2 U
Total Phosphorous as PO4	4.38	4.24	5.61	1.39	0.33	0.42	1.73	1.25	1.1	1.32	7.66	1.06
Chemical Oxygen Dema (COD)	109	NA	NA	60	32	NA	NA	91	34	NA	NA	56
Total Microbial Population (mean)	3.30E+04	3.70E+05	2.40E+04	1.80E+04	3.30E+04	7.00E+04	1.40E+05	9.50E+04	6.10E+04	2.20E+05	4.90E+05	1.00E+05
Degrader Microbial Population (mean)	3.80E+03	6.90E+03	1.40E+03	2.60E+03	7.70E+02	1.50E+03	7.70E+03	9.10E+03	4.00E+03	6.00E+03	4.60E+03	6.50E+02

Table 6

Treatment Performance Monitoring Nutrient and Biological Parameter Analytical Summary  
 Moss-American Site  
 Milwaukee, Wisconsin  
 Third Quarter 2000

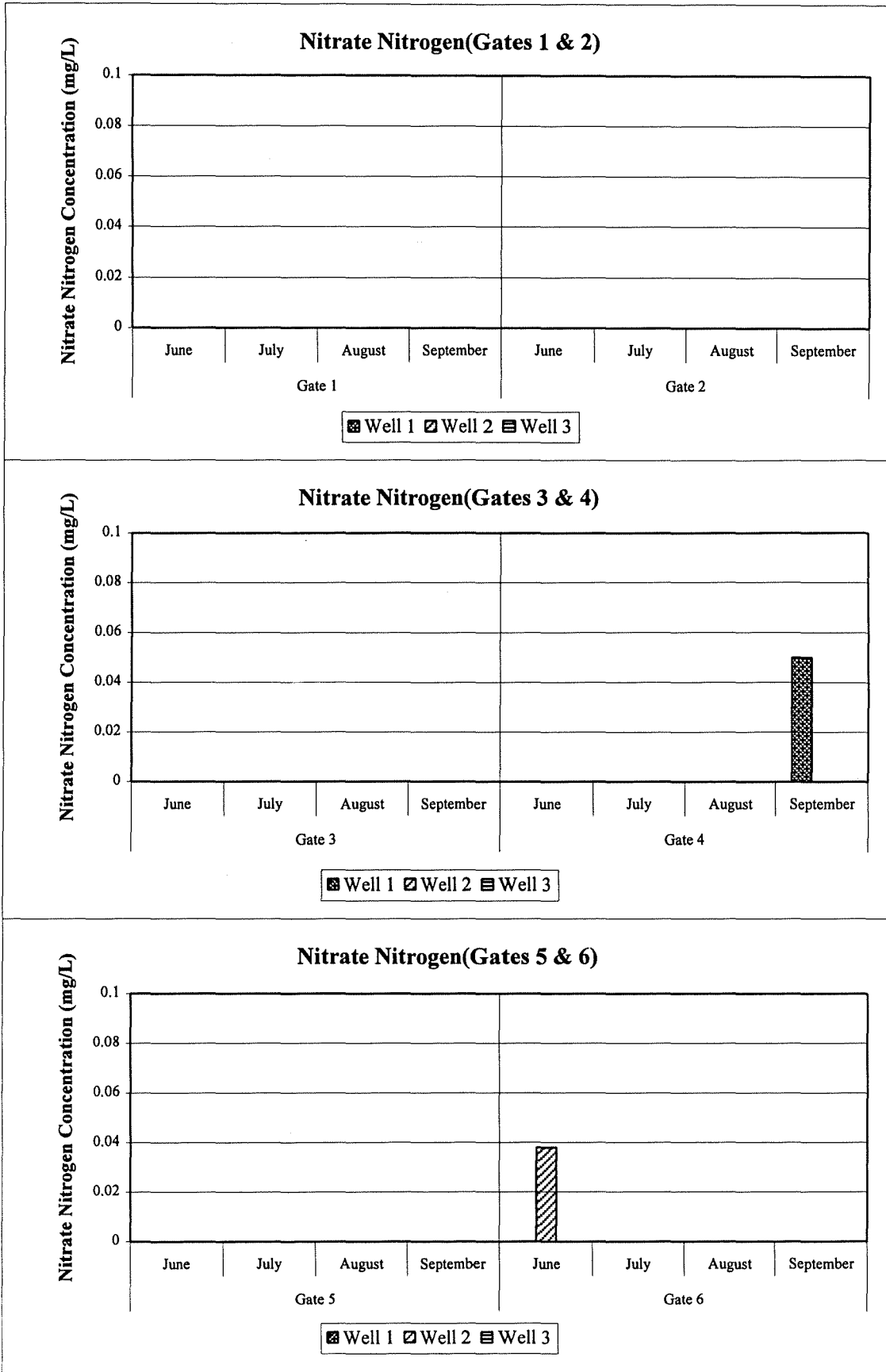
Parameter (mg/L)	Sample Identification											
	TG1-1				TG1-2				TG1-3			
	June	July	August	September	June	July	August	September	June	July	August	September
Kjeldahl Nitrogen	3.2 U	3.2 U	1.18 J	3.2 U	3.2 U	3.2 U	5.8 J	3.9 J	1.75 J	3.2 U	3.2 U	3.2 U
Nitrite Nitrogen	0.015 U	0.015 U	0.036 J	0.055 J	0.015	0.015 U	0.047 J	0.042 J	0.015 U	0.015 U	0.047 J	0.074 J
Nitrate Nitrogen	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U
Ammonia Nitrogen	0.78 J	0.46 J	0.61 J	0.48	0.78 J	0.35 J	0.15 U	0.60 J	0.52 J	0.55 J	0.99 J	0.51 J
Ortho-Phosphate as P	0.043	0.05	0.047	0.035 J	0.047	0.086	0.093	0.045 J	0.0171 J	0.103	0.074	0.353 J
Biochemical Oxygen Dema (BOD)	14.8	NA	NA	3.6 U	4.2 U	NA	NA	2.9 U	4.8 U	NA	NA	5.3 U
Total Organic Carbon (non-purgable)	27.5	NA	NA	5.2	20	NA	NA	15.2	15.6	NA	NA	7.9
Total Phosphorous as PO4	1.05	1.67	0.39	0.59 J	0.81	4.76	11.1	5.93	0.5	2.58	3.61	2.19 J
Chemical Oxygen Dema (COD)	68.4	NA	NA	26.9	40.5	NA	NA	161	30	NA	NA	48.7
Total Microbial Population (mean)	7.20E+04	5.80E+04	3.30E+05	4.30E+04	1.60E+05	2.70E+07	1.60E+05	2.20E+05	7.30E+04	5.90E+05	1.20E+05	2.20E+05
Degrader Microbial Population (mean)	1.50E+04	1.10E+03	2.50E+03	5.80E+03	4.30E+04	8.30E+04	3.90E+03	9.70E+03	3.00E+03	5.90E+03	1.10E+03	3.00E+03
Parameter (mg/L)	TG2-1				TG2-2				TG2-3			
	June	July	August	September	June	July	August	September	June	July	August	September
Kjeldahl Nitrogen	0.63 U	4.1 J	3.2 U	3.2 U	0.89 J	3.2 U	4.8 J	3.2 U	1.24 J	3.2 U	3.4 J	3.2 U
Nitrite Nitrogen	0.015 U	0.015 U	0.015 U	0.045 J	0.015 U	0.015 U	0.015 U	0.053	0.019 J	0.015 U	0.051	0.059 J
Nitrate Nitrogen	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U
Ammonia Nitrogen	0.17 J	1	0.35 J	0.15 U	0.56 J	0.64 J	0.93 J	0.69	0.88 J	0.75 J	0.64 J	0.33 J
Ortho-Phosphate as P	0.053	0.092	0.066	0.043 J	0.04	0.05	0.068	0.027 J	0.085	0.106	0.1	0.079 J
Biochemical Oxygen Dema (BOD)	3.1 U	NA	NA	4.4 U	5.6	NA	NA	3.4 U	3.5 U	NA	NA	5.9 U
Total Organic Carbon (non-purgable)	2.6	NA	NA	3.1	5.3	NA	NA	7.6	8.8	NA	NA	6.9
Total Phosphorous as PO4	3.6	4.64	3.68	1.61 J	4.64	1.56	3.94	2.14 J	3.21	3.15	3.56	2.21 J
Chemical Oxygen Dema (COD)	45	NA	NA	20	354	NA	NA	87	169	NA	NA	57.5
Total Microbial Population (mean)	5.40E+04	2.40E+05	1.30E+05	4.70E+04	8.50E+05	2.10E+06	7.60E+04	3.00E+05	2.00E+06	3.10E+05	2.80E+05	1.90E+05
Degrader Microbial Population (mean)	4.40E+03	3.80E+03	4.90E+03	1.10E+04	1.10E+05	1.10E+04	5.40E+03	5.10E+04	1.90E+04	2.20E+03	1.90E+04	7.90E+03

**Figure 2**  
**Kerr-McGee/Moss-American**  
**Treatment Performance Monitoring**  
**Third Quarter 2000**

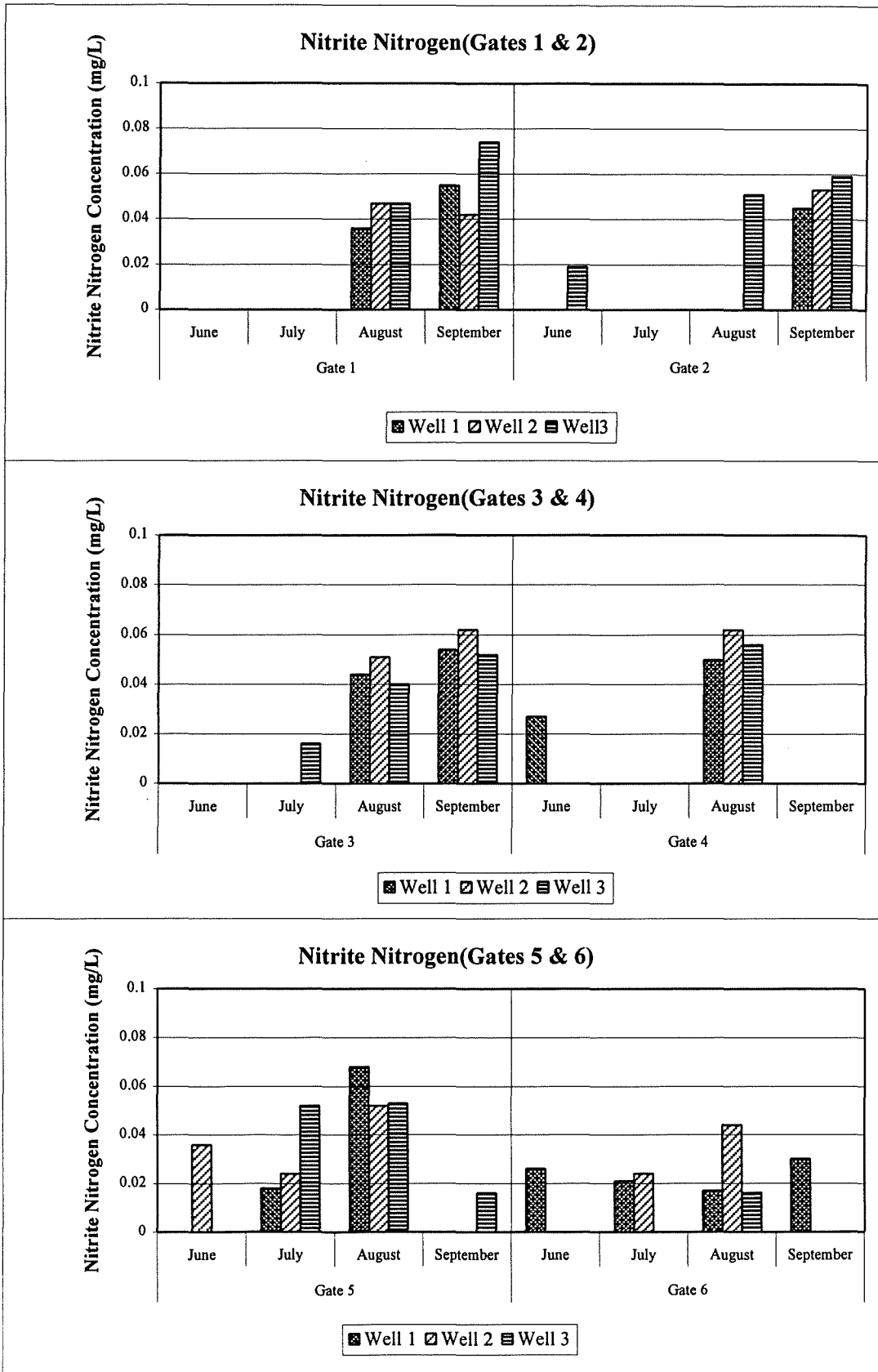




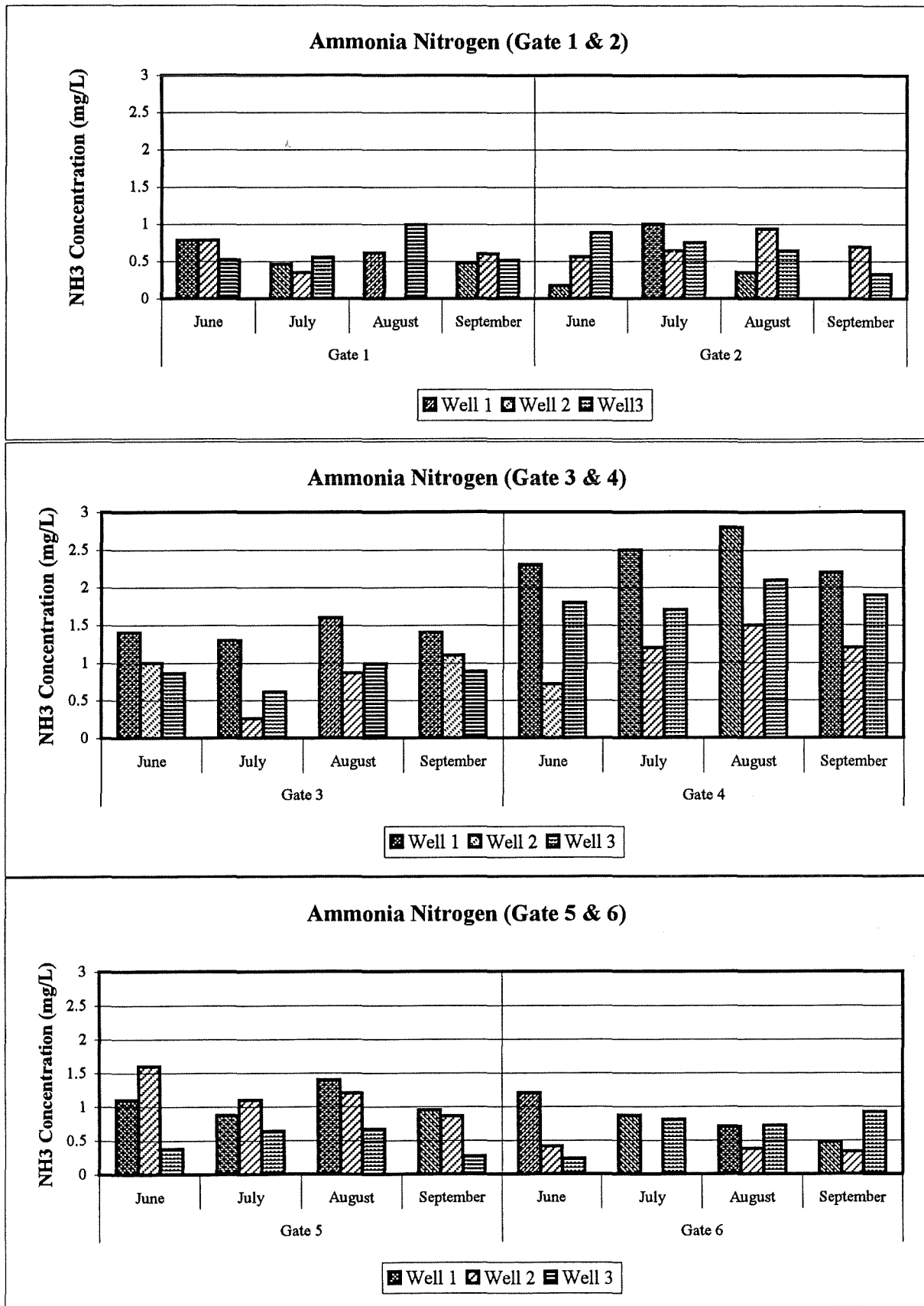
**Figure 3**  
**Kerr-McGee/Moss American**  
**Treatment Performance Monitoring**  
**Third Quarter 2000**



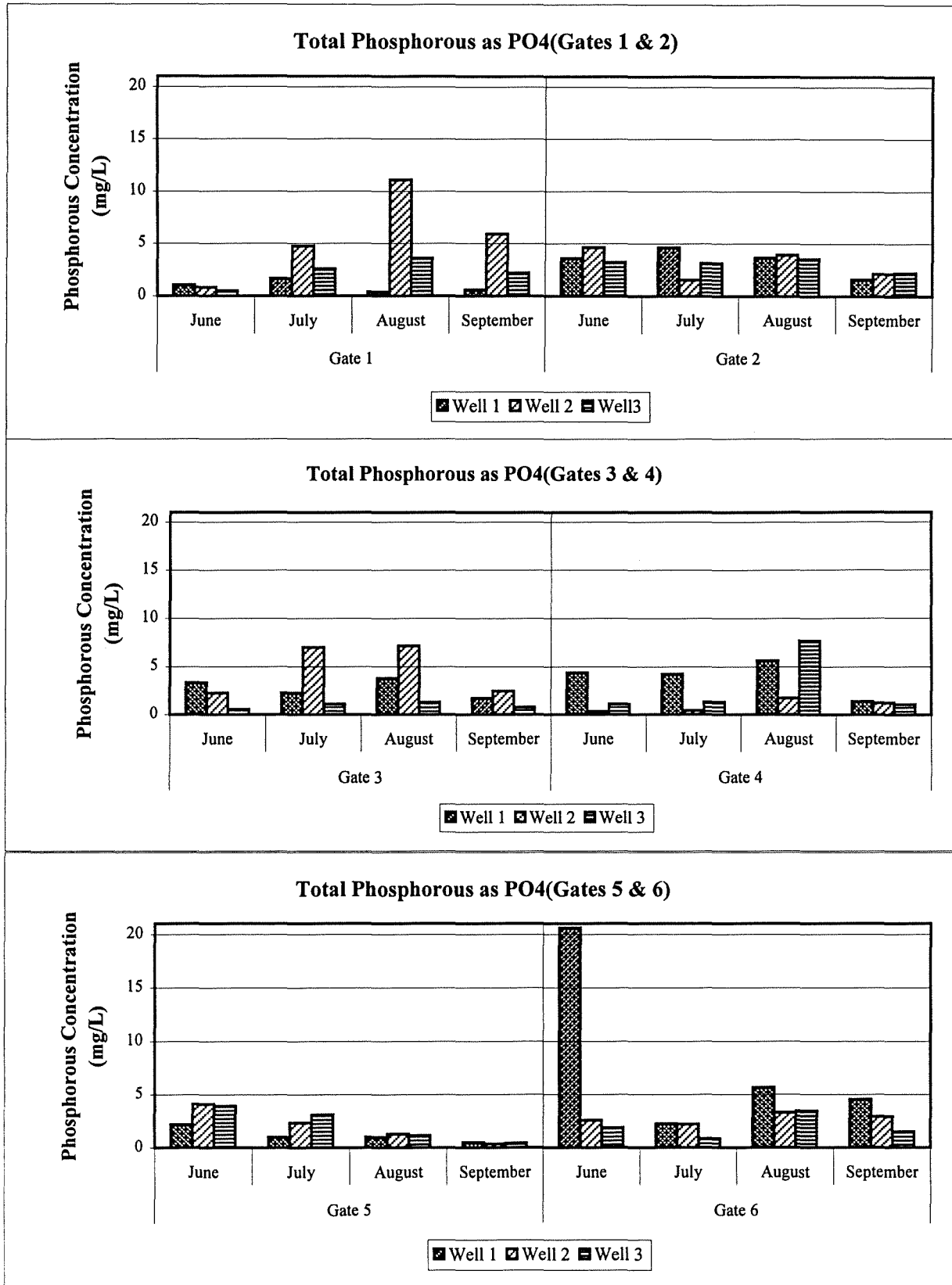
**Figure 4**  
**Kerr-McGee/Moss American**  
**Treatment Performance Monitoring**  
**Third Quarter 2000**



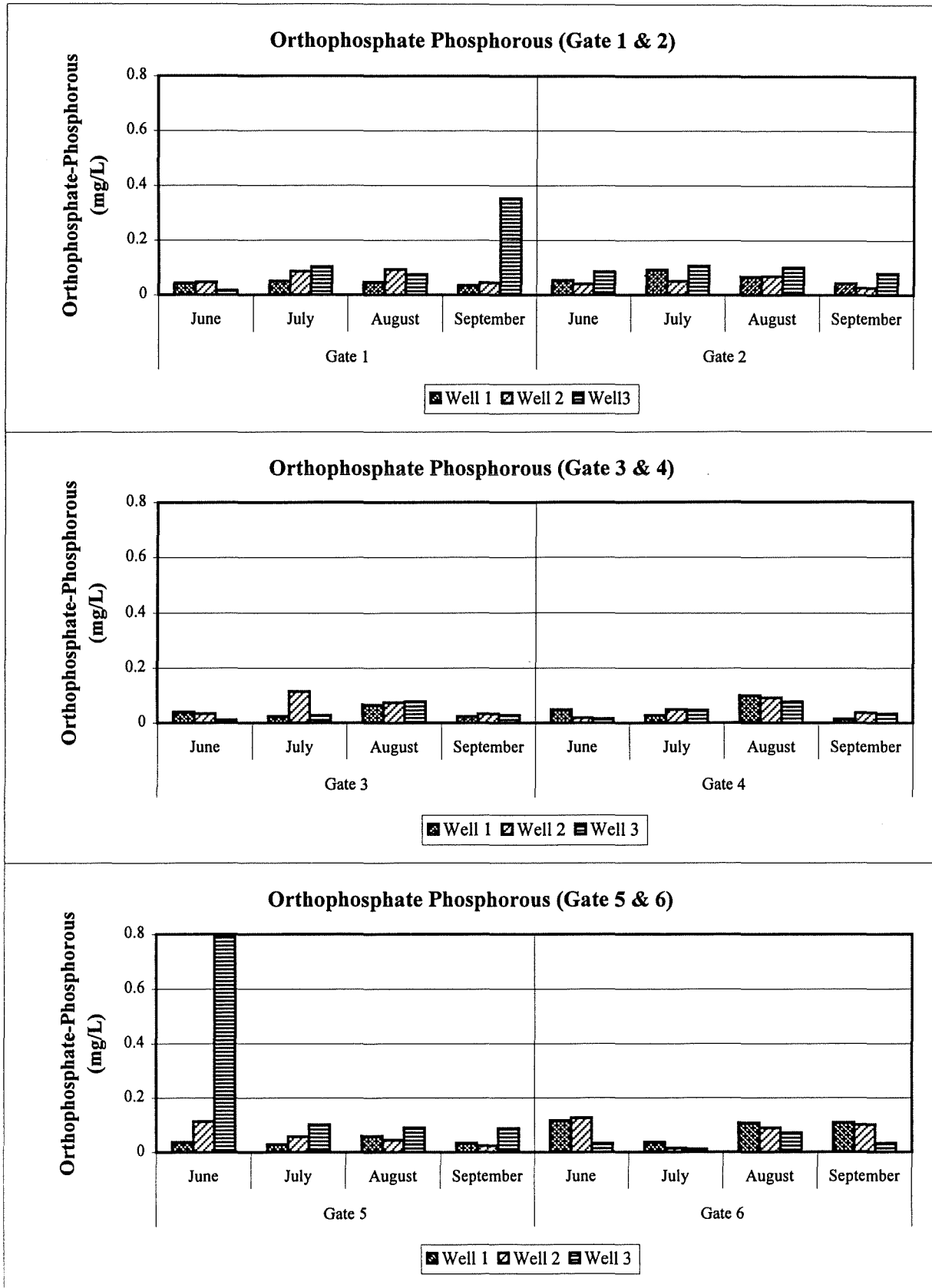
**Figure 5**  
**Kerr-McGee/Moss American**  
**Treatment Performance Monitoring**  
**Third Quarter 2000**



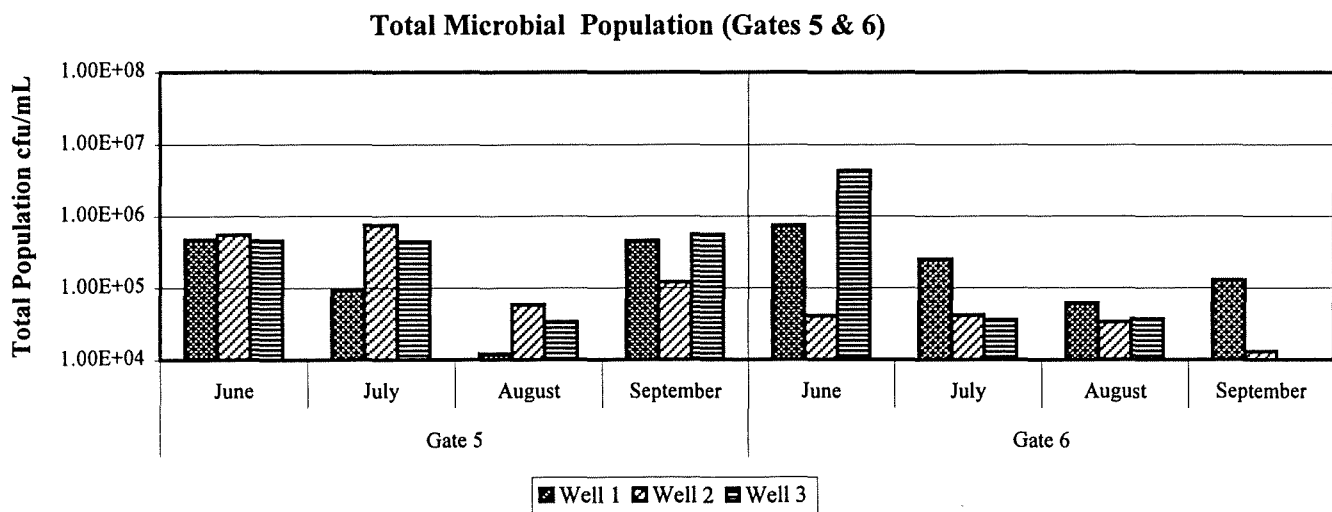
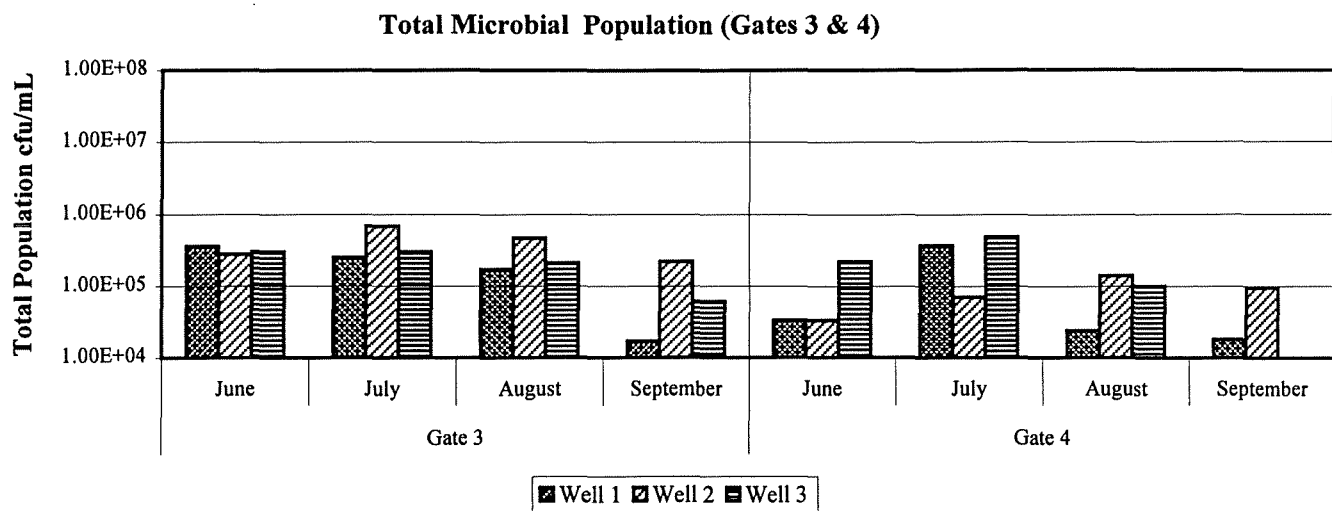
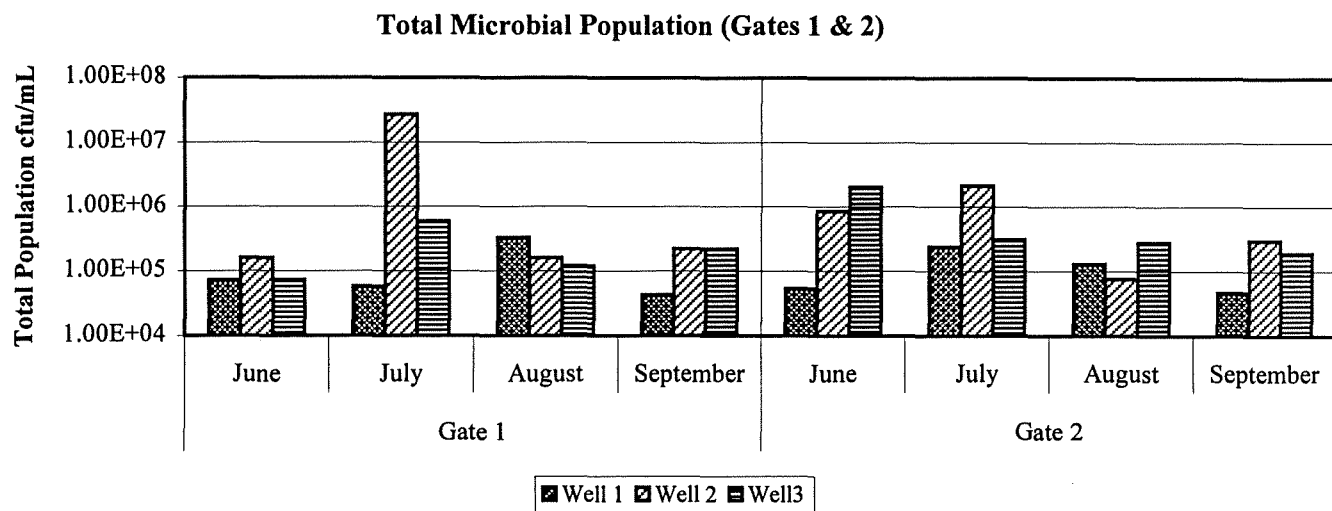
**Figure 6**  
**Kerr-McGee/Moss American**  
**Treatment Performance Monitoring**  
**Third Quarter 2000**



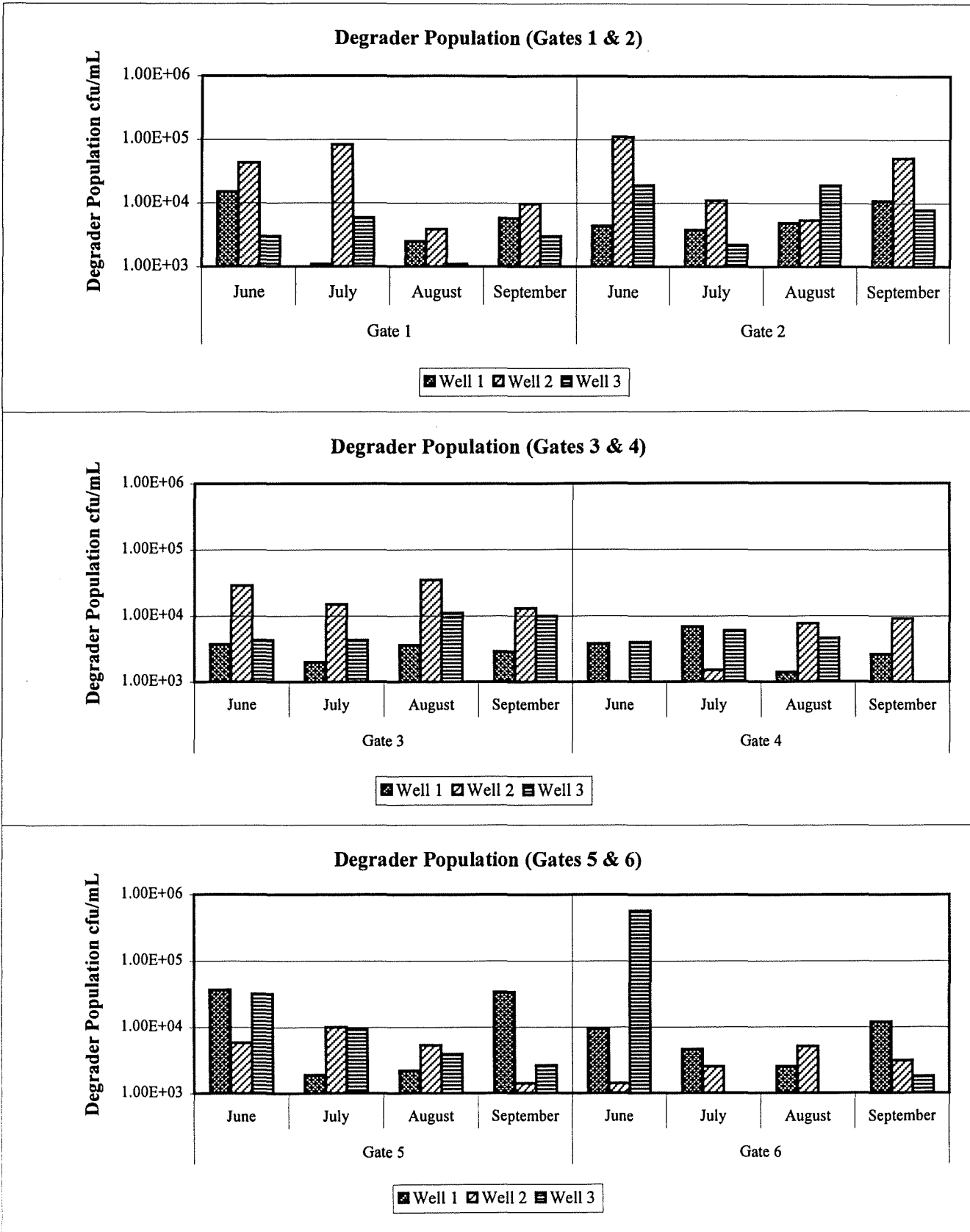
**Figure 7**  
**Kerr-McGee/Moss American**  
**Treatment Performance Monitoring**  
**Third Quarter 2000**



**Figure 8**  
**Kerr-McGee/Moss American**  
**Treatment Performance Monitoring**  
**Third Quarter 2000**

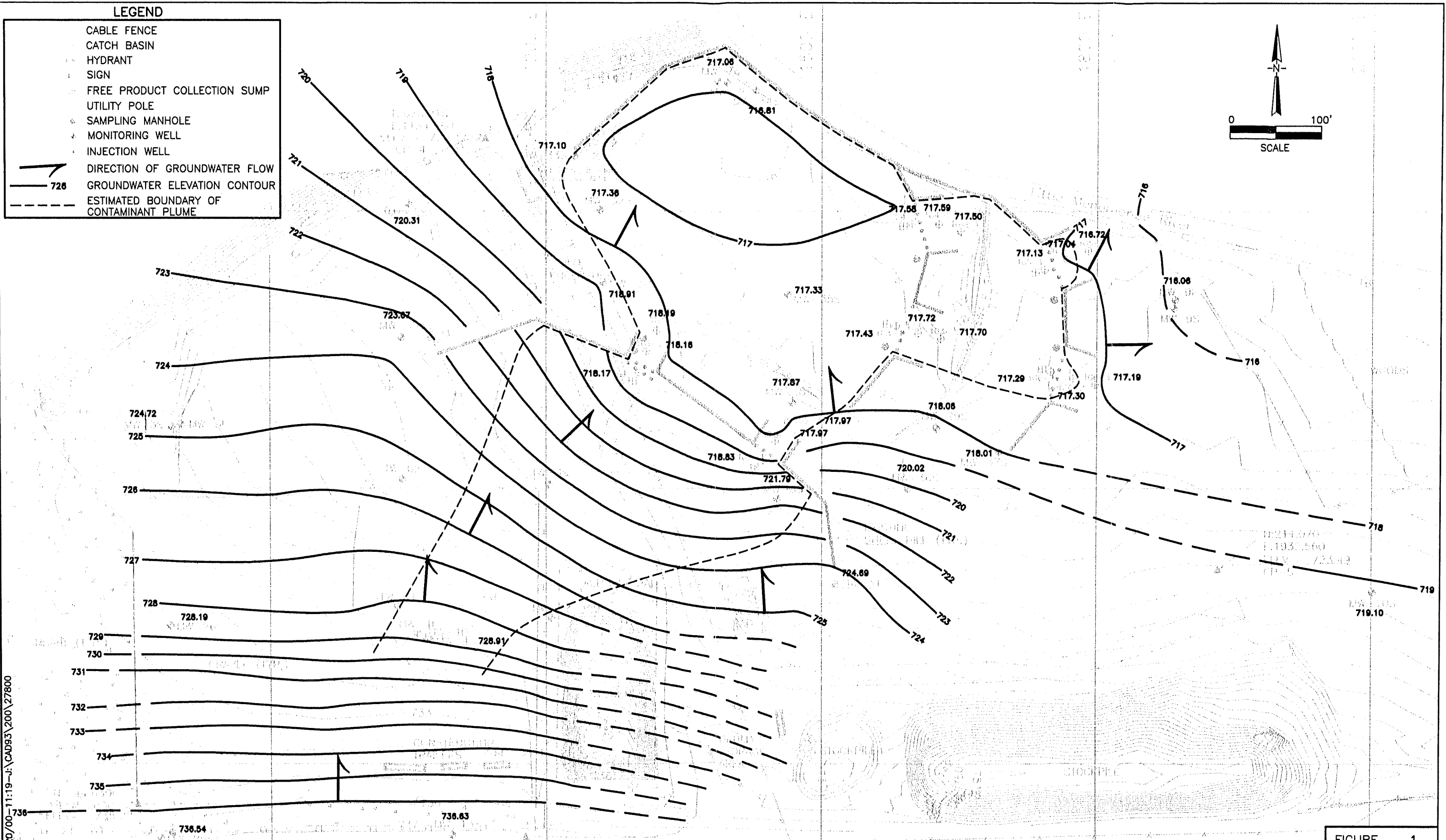
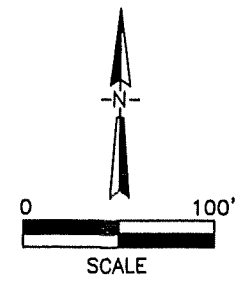


**Figure 9**  
**Kerr-McGee/Moss American**  
**Treatment Performance Monitoring**  
**Third Quarter 2000**



**LEGEND**

- CABLE FENCE
- CATCH BASIN
- ⊕ HYDRANT
- ⊕ SIGN
- ⊕ FREE PRODUCT COLLECTION SUMP
- ⊕ UTILITY POLE
- ⊕ SAMPLING MANHOLE
- ⊕ MONITORING WELL
- ⊕ INJECTION WELL
- DIRECTION OF GROUNDWATER FLOW
- 726 GROUNDWATER ELEVATION CONTOUR
- - - ESTIMATED BOUNDARY OF CONTAMINANT PLUME



HERNAND-12/20/00-11:19-J:\CAD93\200\27800

SOURCE: BERNKLAU SURVEYING, N64 W24801 MAIN ST., SUITE 103, SUSSEX, WI 53089

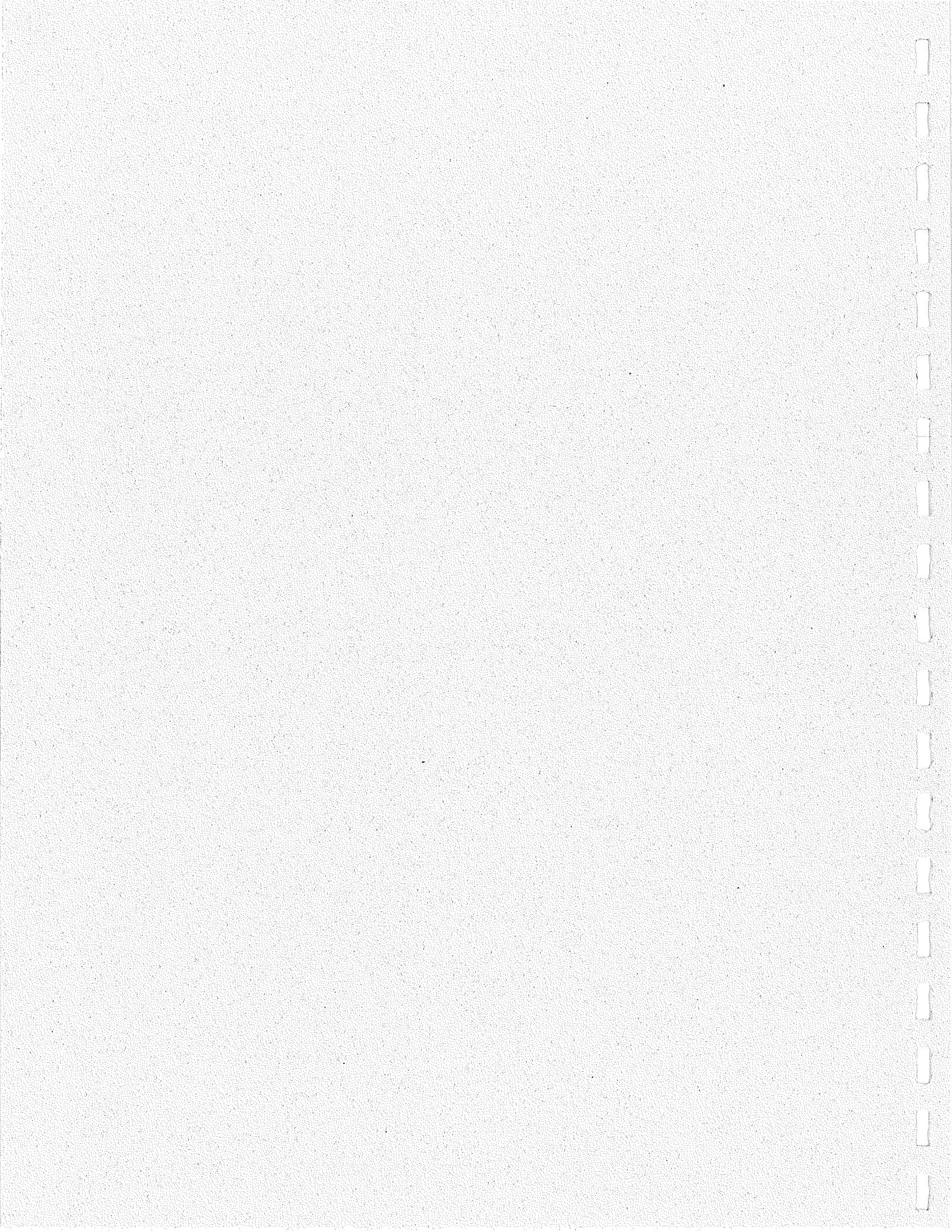


750 E. Bunker Ct.  
Suite 500  
Vernon Hills, Illinois  
60061

**GROUNDWATER ELEVATION CONTOUR MAP - SEPTEMBER 2000**  
KERR MCGEE CORPORATION  
MOSS-AMERICAN SITE  
Milwaukee, Wisconsin

FIGURE 1





**Attachment 1**  
**Monthly Field-Measured Parameters- Treatment Gate Monitoring Wells**  
**Moss-American Site**  
**Third Quarter (Monthly 2000)**

Well Number	Date	Temperature (C)	pH	Specific Conductance (microohms/cm)	Redox Potential (mV)	Dissolved Oxygen (mg/L)	Turbidity (Ntu)
TG1-1	June-00	13.4	7.00	0.643	0.44	1.40	NM
	July-00	14.9	7.83	0.560	19	0.75	NM
	August-00	21.4	7.40	0.734	22	1.90	NM
	September-00	14.3	7.19	1.200	-53	2.00	1020
TG1-2	June-00	13.9	6.90	0.766	38	1.20	NM
	July-00	13.9	1.46	7.150	-61	0.45	NM
	August-00	21.2	6.90	0.974	5	0.80	NM
TG1-3	September-00	14.7	7.06	1.320	-44	0.80	898
	June-00	13.5	7.00	0.745	-27	3.80	NM
	July-00	13.7	1.42	7.180	-63	0.20	NM
TG2-1	August-00	21.3	7.10	0.909	42	0.80	NM
	September-00	14.6	7.15	1.320	-57	0.60	1074
	June-00	11.5	7.30	0.486	114	3.30	NM
	July-00	13.4	7.51	0.800	59	3.40	NM
TG2-2	August-00	23.8	7.20	0.655	6	2.00	NM
	September-00	14.3	7.16	1.710	136	1.00	476
	June-00	12.8	7.10	0.497	103	1.30	NM
	July-00	14.0	7.39	0.810	-76	2.50	NM
TG2-3	August-00	23.5	7.20	0.507	-39	0.80	NM
	September-00	14.8	7.08	0.860	-59	0.40	820
	June-00	11.7	7.00	0.708	98	5.10	NM
	July-00	12.4	7.30	1.000	41	2.70	NM
TG3-1	August-00	23.4	7.00	0.496	47	1.40	NM
	September-00	14.7	7.14	2.980	35	1.30	63
	June-00	12.9	6.70	0.701	30	0.90	NM
	July-00	15.6	7.02	1.050	-29	1.80	NM
TG3-2	August-00	25.1	6.80	0.875	4	0.62	NM
	September-00	15.9	6.85	0.070	-65	0.60	926
	June-00	13.4	6.90	0.628	37	0.80	NM
	July-00	14.3	7.13	0.960	-39	1.40	NM
TG3-3	August-00	24.6	7.10	0.892	-66	0.45	NM
	September-00	16.5	7.01	1.570	-89	0.60	264
	June-00	14.4	6.90	0.601	41	0.60	NM
	July-00	15.5	7.30	0.970	-46	0.80	NM
TG4-1	August-00	24.8	7.10	0.831	-44	0.55	NM
	September-00	16.5	6.98	0.070	-78	0.60	420
	June-00	11.8	7.10	0.570	32	1.40	NM
	July-00	14.9	7.05	1.430	-81	1.40	NM
TG4-2	August-00	23.9	7.00	0.778	71	0.70	NM
	September-00	15.6	7.65	0.570	-90	0.30	290
	June-00	12.3	7.00	0.559	37	1.30	NM
	July-00	15.0	7.07	1.120	-11	1.20	NM
TG4-3	August-00	24.0	7.00	0.689	25	0.80	NM
	September-00	15.4	7.73	0.370	-29	0.40	840
	June-00	13.2	7.00	0.610	50	1.50	NM
	July-00	14.6	7.16	1.030	-43	1.15	NM
TG5-1	August-00	24.6	7.10	0.695	29	0.50	NM
	September-00	14.9	7.71	0.480	-68	0.30	601
	June-00	11.6	7.00	0.497	152	9.50	NM
	July-00	13.5	7.34	0.920	127	3.60	NM
TG5-2	August-00	27.0	7.10	0.533	-54	4.80	NM
	September-00	13.9	6.98	0.420	74	5.40	706
	June-00	12.4	7.00	0.730	163	2.20	NM
	July-00	15.2	7.01	1.110	-27	1.10	NM
TG5-3	August-00	27.3	7.20	0.560	-89	0.60	NM
	September-00	15.6	6.87	0.080	-69	0.60	74
	June-00	10.7	7.50	0.188	164	6.20	NM
	July-00	13.1	7.74	0.880	160	5.00	NM
TG6-1	August-00	26.9	7.20	0.772	15	5.00	NM
	September-00	13.6	7.17	0.170	135	0.80	76.1
	June-00	13.7	7.10	0.567	149	6.00	NM
	July-00	13.8	7.30	1.030	136	2.10	NM
TG6-2	August-00	28.0	7.10	0.804	8	4.00	NM
	September-00	15.3	7.97	0.310	-2	4.20	163
	June-00	63.4	7.00	0.689	216	3.00	NM
	July-00	14.9	7.13	1.330	228	1.70	NM
TG6-3	August-00	27.7	7.20	0.582	37	1.00	NM
	September-00	15.6	7.91	0.420	30	0.50	896
	June-00	14.3	6.60	0.383	148	0.70	NM
	July-00	16.2	7.01	1.200	39	1.10	NM
TG6-3	August-00	27.8	7.00	1.026	2	0.50	NM
	September-00	15.8	7.62	0.220	-36	0.60	414

NM= Not measured. Value only measured quarterly.



Lancaster Laboratories Sample No. WW 3468879

Collected: 09/29/2000 10:00 by JK Account Number: 07802

Submitted: 09/30/2000 10:00  
 Reported: 10/17/00 at 10:48 PM  
 Discard: 11/17/00  
 MW-3S-11 Grab Water Sample  
 Moss American Superfund Site - Milwaukee, WI

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

3-S11 SDG#: MOS71-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.81	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.81	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.81	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.17	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.071	ug/l	1
03285	Anthracene	120-12-7	N.D.	0.030	ug/l	1
03286	Fluoranthene	206-44-0	N.D.	0.030	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.020	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.061	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.039	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.030	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.068	ug/l	1

The recoveries for acenaphthylene, acenaphthene, and fluorene are outside the QC limits; therefore the associated samples were reextracted. The reextraction was performed outside the method hold time. These compounds met QC criteria for the LCS associated with the reextraction. Similar results were observed for the original extract and the reextract. The original results were reported.



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

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



Lancaster Laboratories Sample No. WW 3468879

Collected: 09/29/2000 10:00 by JK

Account Number: 07802

Submitted: 09/30/2000 10:00

Kerr-McGee Corporation

Reported: 10/17/00 at 10:48 PM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MW-3S-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

3-S11 SDG#: MOS71-03

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
08213	BTEX (8021)	SW-846 8021B	1	10/03/2000 19:51	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/10/2000 14:37	Michelle J. Kolodziejwski	1
03337	PAH Water Extraction	SW-846 3510C	1	10/05/2000 14:00	John M. Becker	1



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

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Lancaster Laboratories Sample No. WW 3468885

Collected: 09/29/2000 10:00

by JK

Account Number: 07802

Submitted: 09/30/2000 10:00

Reported: 10/17/00 at 10:48 PM

Discard: 11/17/00

Kerr-McGee Corporation

P.O. Box 25861

Oklahoma City OK 73125

MW-3S-11-Dup Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

3S11D SDG#: MOS71-07FD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.80	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.80	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.80	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.17	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.070	ug/l	1
03285	Anthracene	120-12-7	0.044 J	0.030	ug/l	1
03286	Fluoranthene	206-44-0	N.D.	0.030	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.020	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.060	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.038	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.030	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.067	ug/l	1

The recoveries for acenaphthylene, acenaphthene, and fluorene are outside the QC limits; therefore the associated samples were reextracted. The reextraction was performed outside the method hold time. These compounds met QC criteria for the LCS associated with the reextraction. Similar results were observed for the original extract and the reextract. The original results were reported.



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Lancaster Laboratories Sample No. WW 3468885

Collected: 09/29/2000 10:00 by JK

Account Number: 07802

Submitted: 09/30/2000 10:00

Kerr-McGee Corporation

Reported: 10/17/00 at 10:48 PM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MW-3S-11-Dup Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

3S11D SDG#: MOS71-07FD

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
08213	BTEX (8021)	SW-846 8021B	1	10/03/2000 17:39	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/10/2000 15:41	Michelle J. Kolodziejski	1
03337	PAH Water Extraction	SW-846 3510C	1	10/05/2000 14:00	John M. Becker	1



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Lancaster Laboratories Sample No. WW 3468882

Collected: 09/29/2000 11:45 by JK Account Number: 07802

Submitted: 09/30/2000 10:00  
 Reported: 10/17/00 at 10:48 PM  
 Discard: 11/17/00  
 MW-4S-11 Unspiked Grab Water Sample  
 Moss American Superfund Site - Milwaukee, WI

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

4-S11 SDG#: MOS71-06BKG

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	2.7	0.20	ug/l	1
00777	Toluene	108-88-3	5.2	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	8.1	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	16.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	840.	81.	ug/l	100
03281	Acenaphthylene	208-96-8	129. J	81.	ug/l	100
03282	Acenaphthene	83-32-9	600. J	81.	ug/l	100
03283	Fluorene	86-73-7	315.	17.	ug/l	100
03284	Phenanthrene	85-01-8	21.0 J	7.1	ug/l	100
03285	Anthracene	120-12-7	72.	3.1	ug/l	100
03286	Fluoranthene	206-44-0	85.	3.1	ug/l	100
03287	Pyrene	129-00-0	72. J	17.	ug/l	100
03288	Benzo(a)anthracene	56-55-3	10.4	2.0	ug/l	100
03289	Chrysene	218-01-9	9.5 J	6.1	ug/l	100
03290	Benzo(b)fluoranthene	205-99-2	N.D.	3.9	ug/l	100
03291	Benzo(k)fluoranthene	207-08-9	1.9 J	1.0	ug/l	100
03292	Benzo(a)pyrene	50-32-8	5.3 J	2.0	ug/l	100
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	3.1	ug/l	100
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	10.	ug/l	100
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	6.8	ug/l	100

The recoveries for acenaphthylene, acenaphthene, and fluorene are outside the QC limits; therefore the associated samples were reextracted. The reextraction was performed outside the method hold time. These compounds met QC criteria for the LCS associated with the reextraction. Similar results were observed for the original extract and the reextract. The original results were reported.

Accurate surrogate recoveries could not be determined due to the dilution required for analysis of the sample.



Lancaster Laboratories Sample No. WW 3468882

Collected: 09/29/2000 11:45 by JK

Account Number: 07802

Submitted: 09/30/2000 10:00

Kerr-McGee Corporation

Reported: 10/17/00 at 10:48 PM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MW-4S-11 Unspiked Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

4-S11 SDG#: MOS71-06BKG

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
08213	BTEX (8021)	SW-846 8021B	1	10/03/2000 21:30	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/12/2000 21:39	Michelle J. Kolodziejwski	100
03337	PAH Water Extraction	SW-846 3510C	1	10/05/2000 14:00	John M. Becker	1



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Lancaster Laboratories Sample No. WW 3468883

Collected: 09/29/2000 11:45 by JK Account Number: 07802

Submitted: 09/30/2000 10:00  
 Reported: 10/17/00 at 10:48 PM  
 Discard: 11/17/00  
 MW-4S-11 Matrix Spike Grab Water Sample  
 Loss American Superfund Site - Milwaukee, WI

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

4-S11 SDG#: MOS71-06MS

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	25.	0.20	ug/l	1
00777	Toluene	108-88-3	28.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	31.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	84.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	810.	81.	ug/l	100
03281	Acenaphthylene	208-96-8	158. J	81.	ug/l	100
03282	Acenaphthene	83-32-9	610. J	81.	ug/l	100
03283	Fluorene	86-73-7	279.	17.	ug/l	100
03284	Phenanthrene	85-01-8	26.3 J	7.1	ug/l	100
03285	Anthracene	120-12-7	72.	3.0	ug/l	100
03286	Fluoranthene	206-44-0	103.	3.0	ug/l	100
03287	Pyrene	129-00-0	111.	17.	ug/l	100
03288	Benzo(a)anthracene	56-55-3	15.3	2.0	ug/l	100
03289	Chrysene	218-01-9	13.1 J	6.1	ug/l	100
03290	Benzo(b)fluoranthene	205-99-2	5.7 J	3.8	ug/l	100
03291	Benzo(k)fluoranthene	207-08-9	3.5 J	1.0	ug/l	100
03292	Benzo(a)pyrene	50-32-8	6.7 J	2.0	ug/l	100
03293	Dibenzo(a,h)anthracene	53-70-3	3.6 J	3.0	ug/l	100
03294	Benzo(g,h,i)perylene	191-24-2	12. J	10.	ug/l	100
03295	Indeno(1,2,3-cd)pyrene	193-39-5	7.5 J	6.8	ug/l	100

The recoveries for acenaphthylene, acenaphthene, and fluorene are outside the QC limits; therefore the associated samples were reextracted. The reextraction was performed outside the method hold time. These compounds met QC criteria for the LCS associated with the reextraction. Similar results were observed for the original extract and the reextract. The original results were reported.

Accurate surrogate recoveries could not be determined due to the dilution required for analysis of the sample.



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Lancaster Laboratories Sample No. WW 3468883

Collected: 09/29/2000 11:45 by JK

Account Number: 07802

Submitted: 09/30/2000 10:00

Kerr-McGee Corporation

Reported: 10/17/00 at 10:48 PM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MW-4S-11 Matrix Spike Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

4-S11 SDG#: MOS71-06MS

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
08213	BTEX (8021)	SW-846 8021B	1	10/03/2000 22:02	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/12/2000 22:00	Michelle J. Kolodziejski	100
03337	PAH Water Extraction	SW-846 3510C	1	10/05/2000 14:00	John M. Becker	1



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Lancaster Laboratories Sample No. WW 3468884

Collected: 09/29/2000 11:45 by JK Account Number: 07802

Submitted: 09/30/2000 10:00  
 Reported: 10/17/00 at 10:48 PM  
 Discard: 11/17/00  
 MW-4S-11 Matrix Spike Duplicate Grab Water Sample  
 Moss American Superfund Site - Milwaukee, WI

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

4-S11 SDG#: MOS71-06MSD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	25.	0.20	ug/l	1
00777	Toluene	108-88-3	28.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	31.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	84.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	870.	80.	ug/l	100
03281	Acenaphthylene	208-96-8	181. J	80.	ug/l	100
03282	Acenaphthene	83-32-9	700. J	80.	ug/l	100
03283	Fluorene	86-73-7	316.	17.	ug/l	100
03284	Phenanthrene	85-01-8	24.8 J	7.0	ug/l	100
03285	Anthracene	120-12-7	69.	3.0	ug/l	100
03286	Fluoranthene	206-44-0	88.	3.0	ug/l	100
03287	Pyrene	129-00-0	96.	17.	ug/l	100
03288	Benzo(a)anthracene	56-55-3	11.8	2.0	ug/l	100
03289	Chrysene	218-01-9	8.1 J	6.0	ug/l	100
03290	Benzo(b)fluoranthene	205-99-2	4.8 J	3.8	ug/l	100
03291	Benzo(k)fluoranthene	207-08-9	3.0 J	1.0	ug/l	100
03292	Benzo(a)pyrene	50-32-8	5.8 J	2.0	ug/l	100
03293	Dibenzo(a,h)anthracene	53-70-3	4.1 J	3.0	ug/l	100
03294	Benzo(g,h,i)perylene	191-24-2	11. J	10.	ug/l	100
03295	Indeno(1,2,3-cd)pyrene	193-39-5	8.4 J	6.7	ug/l	100

The recoveries for acenaphthylene, acenaphthene, and fluorene are outside the QC limits; therefore the associated samples were reextracted. The reextraction was performed outside the method hold time. These compounds met QC criteria for the LCS associated with the reextraction. Similar results were observed for the original extract and the reextract. The original results were reported.



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Lancaster Laboratories Sample No. WW 3468884

Collected: 09/29/2000 11:45

by JK

Account Number: 07802

Submitted: 09/30/2000 10:00

Reported: 10/17/00 at 10:48 PM

Discard: 11/17/00

Kerr-McGee Corporation

P.O. Box 25861

Oklahoma City OK 73125

MW-4S-11 Matrix Spike Duplicate Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

4-S11 SDG#: MOS71-06MSD

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
08213	BTEX (8021)	SW-846 8021B	1	10/03/2000 16:00	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/12/2000 22:22	Michelle J. Kolodziejwski	100
03337	PAH Water Extraction	SW-846 3510C	1	10/05/2000 14:00	John M. Becker	1



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Lancaster Laboratories Sample No. WW 3468877

Collected: 09/29/2000 09:30 by JK Account Number: 07802

Submitted: 09/30/2000 10:00  
 Reported: 10/17/00 at 10:48 PM  
 Discard: 11/17/00  
 MW-5S-11 Grab Water Sample  
 Kerr-McGee Corporation  
 P.O. Box 25861  
 Oklahoma City OK 73125  
 Moss American Superfund Site - Milwaukee, WI

5S11- SDG#: MOS71-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.79	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.79	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.79	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.17	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.069	ug/l	1
03285	Anthracene	120-12-7	0.076 J	0.030	ug/l	1
03286	Fluoranthene	206-44-0	N.D.	0.030	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.020	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.060	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.038	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.0099	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.030	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.099	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.066	ug/l	1

The recoveries for acenaphthylene, acenaphthene, and fluorene are outside the QC limits; therefore the associated samples were reextracted. The reextraction was performed outside the method hold time. These compounds met QC criteria for the LCS associated with the reextraction. Similar results were observed for the original extract and the reextract. The original results were reported.



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Lancaster Laboratories Sample No. WW 3468877

Collected: 09/29/2000 09:30 by JK

Account Number: 07802

Submitted: 09/30/2000 10:00

Kerr-McGee Corporation

Reported: 10/17/00 at 10:48 PM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MW-5S-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

5S11- SDG#: MOS71-01

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
08213	BTEX (8021)	SW-846 8021B	1	10/03/2000 18:45	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/10/2000 13:54	Michelle J. Kolodziejski	1
03337	PAH Water Extraction	SW-846 3510C	1	10/05/2000 14:00	John M. Becker	1



Lancaster Laboratories Sample No. WW 3467882

Collected: 09/28/2000 15:30 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:13 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MW-6S-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

6S-11 SDG#: MOS70-11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.81	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.81	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.81	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.17	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.071	ug/l	1
03285	Anthracene	120-12-7	N.D.	0.030	ug/l	1
03286	Fluoranthene	206-44-0	0.090 J	0.030	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	0.021 J	0.020	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.061	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.039	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	ug/l	1
03292	Benzo(a)pyrene	50-32-8	0.022 J	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.030	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.068	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	10/02/2000 23:59	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/09/2000 17:24	Michelle J. Kolodziejwski	1
03337	PAH Water Extraction	SW-846 3510C	1	10/05/2000 01:00	Darin P. Wagner	1



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Lancaster Laboratories Sample No. WW 3467882

Collected: 09/28/2000 15:30 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:13 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MW-6S-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

6S-11 SDG#: MOS70-11





Lancaster Laboratories Sample No. WW 3466803

Collected: 09/27/2000 11:15 by SR Account Number: 07802

Submitted: 09/28/2000 09:00  
 Reported: 10/16/00 at 10:30 PM  
 Discard: 11/16/00  
 MW-7S-11 Grab Water Sample  
 Moss American Superfund Site - Milwaukee, WI

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

7S011 SDG#: MOS69-06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	4.0	ug/l	20
00777	Toluene	108-88-3	N.D.	4.0	ug/l	20
00778	Ethylbenzene	100-41-4	19. J	4.0	ug/l	20
00779	Total Xylenes	1330-20-7	52. J	12.	ug/l	20
Due to dilution of the sample made necessary by the high level of non-target compounds, normal quantitation limits were not attained.						
01861	PAH's in Water					
03280	Naphthalene	91-20-3	3,960.	77.	ug/l	100
03281	Acenaphthylene	208-96-8	176.	0.77	ug/l	1
03282	Acenaphthene	83-32-9	83.	0.77	ug/l	1
03283	Fluorene	86-73-7	14.2	0.16	ug/l	1
03284	Phenanthrene	85-01-8	0.45	0.067	ug/l	1
03285	Anthracene	120-12-7	N.D.	0.029	ug/l	1
03286	Fluoranthene	206-44-0	0.034 J	0.029	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.16	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.019	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.058	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.036	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.0096	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.019	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.029	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.096	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.064	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
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Lancaster Laboratories Sample No. WW 3466803

Collected: 09/27/2000 11:15 by SR

Account Number: 07802

Submitted: 09/28/2000 09:00

Kerr-McGee Corporation

Reported: 10/16/00 at 10:30 PM

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Discard: 11/16/00

Oklahoma City OK 73125

MW-7S-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

7S011	SDG#: MOS69-06						
08213	BTEX (8021)	SW-846 8021B	1	10/01/2000 17:55	Steven J. Stabinger	20	
01861	PAH's in Water	SW-846 8310	1	10/03/2000 14:12	Michelle J. Kolodziejcki	1	
01861	PAH's in Water	SW-846 8310	1	10/04/2000 16:21	Michelle J. Kolodziejcki	100	
03337	PAH Water Extraction	SW-846 3510C	1	10/02/2000 13:00	John M. Becker	1	



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Lancaster Laboratories Sample No. WW 3467875

Collected: 09/28/2000 09:40 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:13 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MW-9S-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

9S-11 SDG#: MOS70-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.79	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.79	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.79	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.17	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.069	ug/l	1
03285	Anthracene	120-12-7	0.064 J	0.029	ug/l	1
03286	Fluoranthene	206-44-0	N.D.	0.029	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.020	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.059	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.037	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.0098	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.029	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.098	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.066	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	10/02/2000 19:05	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/09/2000 14:16	Michelle J. Kolodziejwski	1
03337	PAH Water Extraction	SW-846 3510C	1	10/05/2000 01:00	Darin P. Wagner	1



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Lancaster Laboratories Sample No. WW 3467875

Collected: 09/28/2000 09:40 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:13 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MW-9S-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

9S-11 SDG#: MOS70-04



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Lancaster Laboratories Sample No. WW 3467876

Collected: 09/28/2000 10:30 by SR Account Number: 07802

Submitted: 09/29/2000 10:30  
 Reported: 10/17/00 at 02:13 AM  
 Discard: 11/17/00  
 MW-10S-11 Grab Water Sample  
 Moss American Superfund Site - Milwaukee, WI

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

10S11 SDG#: MOS70-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Dilution Factor
				Method	Units	
				Detection Limit		
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.80	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.80	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.80	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.17	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.070	ug/l	1
03285	Anthracene	120-12-7	0.037 J	0.030	ug/l	1
03286	Fluoranthene	206-44-0	N.D.	0.030	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.020	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.060	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.038	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.0100	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.030	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.100	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.067	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
08213	BTEX (8021)	SW-846 8021B	1	10/02/2000 19:38	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/09/2000 14:38	Michelle J. Kolodziejwski	1
03337	PAH Water Extraction	SW-846 3510C	1	10/05/2000 01:00	Darin P. Wagner	1



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Lancaster Laboratories Sample No. WW 3467876

Collected: 09/28/2000 10:30 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:13 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MW-10S-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

10S11 SDG#: MOS70-05



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Lancaster Laboratories Sample No. WW 3467877

Collected: 09/28/2000 10:30 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:13 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MW-10S-11-Dup Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

10D11 SDG#: MOS70-06FD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.82	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.82	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.82	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.17	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.072	ug/l	1
03285	Anthracene	120-12-7	N.D.	0.031	ug/l	1
03286	Fluoranthene	206-44-0	N.D.	0.031	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.021	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.062	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.039	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.021	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.031	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.069	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	10/02/2000 20:10	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/09/2000 14:59	Michelle J. Kolodziejcki	1
03337	PAH Water Extraction	SW-846 3510C	1	10/05/2000 01:00	Darin P. Wagner	1



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Lancaster Laboratories Sample No. WW 3467877

Collected: 09/28/2000 10:30 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

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Reported: 10/17/00 at 02:13 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MW-10S-11-Dup Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

10D11 SDG#: MOS70-06FD



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Lancaster Laboratories Sample No. WW 3467886

Collected: 09/28/2000 16:30 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:14 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MW-13S-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

13S11 SDG#: MOS70-13

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Dilution Factor
				Method	Units	
				Detection Limit		
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.80	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.80	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.80	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.17	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.070	ug/l	1
03285	Anthracene	120-12-7	0.075 J	0.030	ug/l	1
03286	Fluoranthene	206-44-0	N.D.	0.030	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.020	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.060	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.038	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.030	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.067	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis		Analyst	Dilution Factor
				Date and Time			
08213	BTEX (8021)	SW-846 8021B	1	10/03/2000 00:32		Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/10/2000 09:16		Michelle J. Kolodziejski	1
03337	PAH Water Extraction	SW-846 3510C	1	10/05/2000 01:00		Darin P. Wagner	1



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Lancaster Laboratories Sample No. WW 3467886

Collected: 09/28/2000 16:30 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:14 AM

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Discard: 11/17/00

Oklahoma City OK 73125

MW-13S-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

13S11 SDG#: MOS70-13



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Lancaster Laboratories Sample No. WW 3467887

Collected: 09/28/2000 16:30 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:14 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MW-13S-11-Dup Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

13D11 SDG#: MOS70-14FD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Dilution Factor
				Method Detection Limit	Units	
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.78	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.78	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.78	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.17	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.068	ug/l	1
03285	Anthracene	120-12-7	N.D.	0.029	ug/l	1
03286	Fluoranthene	206-44-0	N.D.	0.029	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.020	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.059	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.037	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.0098	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.029	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.098	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.065	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis		Analyst	Dilution Factor
				Date and Time			
08213	BTEX (8021)	SW-846 8021B	1	10/03/2000 01:05		Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/10/2000 09:37		Michelle J. Kolodziejwski	1
03337	PAH Water Extraction	SW-846 3510C	1	10/05/2000 01:00		Darin P. Wagner	1



Lancaster Laboratories Sample No. WW 3467887

Collected: 09/28/2000 16:30 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:14 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MW-13S-11-Dup Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

13D11 SDG#: MOS70-14FD



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Lancaster Laboratories Sample No. WW 3466801

Collected: 09/27/2000 10:20 by SR Account Number: 07802

Submitted: 09/28/2000 09:00  
 Reported: 10/16/00 at 10:30 PM  
 Discard: 11/16/00  
 MW-20S-11 Grab Water Sample  
 Moss American Superfund Site - Milwaukee, WI

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

20S11 SDG#: MOS69-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.76	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.76	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.76	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.16	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.066	ug/l	1
03285	Anthracene	120-12-7	N.D.	0.028	ug/l	1
03286	Fluoranthene	206-44-0	N.D.	0.028	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.16	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.019	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.057	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.036	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.0095	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.019	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.028	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.095	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.063	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	10/01/2000 20:06	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/03/2000 13:07	Michelle J. Kolodziejski	1
03337	PAH Water Extraction	SW-846 3510C	1	10/02/2000 13:00	John M. Becker	1



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Lancaster Laboratories Sample No. WW 3466801

Collected: 09/27/2000 10:20 by SR

Account Number: 07802

Submitted: 09/28/2000 09:00

Kerr-McGee Corporation

Reported: 10/16/00 at 10:30 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MW-20S-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

20S11 SDG#: MOS69-04



Lancaster Laboratories Sample No. WW 3467888

Collected: 09/28/2000 16:45 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30  
 Reported: 10/17/00 at 02:14 AM  
 Discard: 11/17/00

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

MW-25S-11 Grab Water Sample  
 Moss American Superfund Site - Milwaukee, WI

25S11 SDG#: MOS70-15

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Dilution Factor
				Method	Units	
				Detection Limit		
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.84	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.84	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.84	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.18	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.074	ug/l	1
03285	Anthracene	120-12-7	0.066 J	0.032	ug/l	1
03286	Fluoranthene	206-44-0	N.D.	0.032	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.18	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.021	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.063	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.040	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.011	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.021	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.032	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.071	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis		Analyst	Dilution Factor
				Date and Time			
08213	BTEX (8021)	SW-846 8021B	1	10/03/2000 01:37		Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/10/2000 09:59		Michelle J. Kolodziejski	1
03337	PAH Water Extraction	SW-846 3510C	1	10/05/2000 01:00		Darin P. Wagner	1



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Lancaster Laboratories Sample No. WW 3467888

Collected: 09/28/2000 16:45 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:14 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MW-25S-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

25S11 SDG#: MOS70-15



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Lancaster Laboratories Sample No. WW 3467889

Collected: 09/28/2000 16:50 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:14 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MW-26S-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

26S11 SDG#: MOS70-16

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Dilution Factor
				Method Detection Limit	Units	
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.83	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.83	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.83	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.18	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.073	ug/l	1
03285	Anthracene	120-12-7	N.D.	0.031	ug/l	1
03286	Fluoranthene	206-44-0	N.D.	0.031	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.18	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.021	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.062	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.039	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.021	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.031	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.070	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis		Analyst	Dilution Factor
				Date and Time			
08213	BTEX (8021)	SW-846 8021B	1	10/03/2000 02:10		Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/10/2000 10:20		Michelle J. Kolodziejwski	1
03337	PAH Water Extraction	SW-846 3510C	1	10/05/2000 01:00		Darin P. Wagner	1



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Lancaster Laboratories Sample No. WW 3467889

Collected: 09/28/2000 16:50 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:14 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MW-26S-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

26S11 SDG#: MOS70-16



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Lancaster Laboratories Sample No. WW 3467879

Collected: 09/28/2000 11:35 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:13 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MW-27S-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

27S11 SDG#: MOS70-08

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.81	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.81	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.81	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.17	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.071	ug/l	1
03285	Anthracene	120-12-7	N.D.	0.030	ug/l	1
03286	Fluoranthene	206-44-0	N.D.	0.030	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.020	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.061	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.038	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.030	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.068	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	10/02/2000 22:54	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/09/2000 16:20	Michelle J. Kolodziejwski	1
03337	PAH Water Extraction	SW-846 3510C	1	10/05/2000 01:00	Darin P. Wagner	1



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Lancaster Laboratories Sample No. WW 3467879

Collected: 09/28/2000 11:35 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:13 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MW-27S-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

27S11 SDG#: MOS70-08



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Lancaster Laboratories Sample No. WW 3465786

Collected: 09/26/2000 16:00 by JK Account Number: 07802

Submitted: 09/27/2000 09:30  
 Reported: 10/16/00 at 02:29 PM  
 Discard: 11/16/00  
 MW-28S-11 Grab Water Sample  
 Moss American Superfund Site - Milwaukee, WI

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

28S11 SDG#: MOS68-13

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1

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.

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

01861 PAH's in Water

03280	Naphthalene	91-20-3	N.D.	0.80	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.80	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.80	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.17	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.070	ug/l	1
03285	Anthracene	120-12-7	0.132 J	0.030	ug/l	1
03286	Fluoranthene	206-44-0	0.151 J	0.030	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	0.038 J	0.020	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.060	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	0.047 J	0.038	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	0.019 J	0.010	ug/l	1
03292	Benzo(a)pyrene	50-32-8	0.040 J	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.030	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.067	ug/l	1



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Lancaster Laboratories Sample No. WW 3465786

Collected: 09/26/2000 16:00 by JK

Account Number: 07802

Submitted: 09/27/2000 09:30

Kerr-McGee Corporation

Reported: 10/16/00 at 02:29 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MW-28S-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

28S11 SDG#: MOS68-13

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis	Analyst	Dilution Factor
				Date and Time		
08213	BTEX (8021)	SW-846 8021B	1	09/29/2000 04:22	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	09/29/2000 21:54	Michelle J. Kolodziejski	1
03337	PAH Water Extraction	SW-846 3510C	1	09/28/2000 13:30	John M. Becker	1



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Lancaster Laboratories Sample No. WW 3466814

Collected: 09/27/2000 16:15 by SR

Account Number: 07802

Submitted: 09/28/2000 09:00

Reported: 10/16/00 at 10:31 PM

Discard: 11/16/00

MW-29S-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

Kerr-McGee Corporation

P.O. Box 25861

Oklahoma City OK 73125

29S11 SDG#: MOS69-15

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
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.						
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.83	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.83	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.83	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.18	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.072	ug/l	1
03285	Anthracene	120-12-7	0.076 J	0.031	ug/l	1
03286	Fluoranthene	206-44-0	N.D.	0.031	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.18	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.021	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.062	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.039	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.021	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.031	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.069	ug/l	1

## Laboratory Chronicle



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Lancaster Laboratories Sample No. WW 3466814

Collected: 09/27/2000 16:15 by SR

Account Number: 07802

Submitted: 09/28/2000 09:00

Kerr-McGee Corporation

Reported: 10/16/00 at 10:31 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MW-29S-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

29S11 SDG#: MOS69-15

CAT	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/29/2000 16:54	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/03/2000 17:04	Michelle J. Kolodziejcki	1
03337	PAH Water Extraction	SW-846 3510C	1	10/02/2000 13:00	John M. Becker	1



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Lancaster Laboratories Sample No. WW 3468878

Collected: 09/29/2000 09:45 by JK Account Number: 07802

Submitted: 09/30/2000 10:00  
 Reported: 10/17/00 at 10:48 PM  
 Discard: 11/17/00  
 MW-30S-11 Grab Water Sample  
 Kerr-McGee Corporation  
 P.O. Box 25861  
 Oklahoma City OK 73125  
 Moss American Superfund Site - Milwaukee, WI

30S11 SDG#: MOS71-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.81	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.81	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.81	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.17	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.071	ug/l	1
03285	Anthracene	120-12-7	0.162 J	0.030	ug/l	1
03286	Fluoranthene	206-44-0	0.036 J	0.030	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.020	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.061	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.038	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.030	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.068	ug/l	1

The recoveries for acenaphthylene, acenaphthene, and fluorene are outside the QC limits; therefore the associated samples were reextracted. The reextraction was performed outside the method hold time. These compounds met QC criteria for the LCS associated with the reextraction. Similar results were observed for the original extract and the reextract. The original results were reported.



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Lancaster Laboratories Sample No. WW 3468878

Collected: 09/29/2000 09:45 by JK

Account Number: 07802

Submitted: 09/30/2000 10:00

Kerr-McGee Corporation

Reported: 10/17/00 at 10:48 PM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MW-30S-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

30S11 SDG#: MOS71-02

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
08213	BTEX (8021)	SW-846 8021B	1	10/03/2000 19:18	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/10/2000 14:15	Michelle J. Kolodziejski	1
03337	PAH Water Extraction	SW-846 3510C	1	10/05/2000 14:00	John M. Becker	1



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Lancaster Laboratories Sample No. WW 3467883

Collected: 09/28/2000 15:10 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:13 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MW-31S-11 Unspiked Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

31S11 SDG#: MOS70-12BKG

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Dilution Factor
				Method	Units	
				Detection Limit		
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.82	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.82	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.82	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.17	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.071	ug/l	1
03285	Anthracene	120-12-7	N.D.	0.031	ug/l	1
03286	Fluoranthene	206-44-0	N.D.	0.031	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.020	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.061	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.039	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.031	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.068	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
08213	BTEX (8021)	SW-846 8021B	1	10/02/2000 15:49	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/06/2000 10:12	Michelle J. Kolodziejski	1
03337	PAH Water Extraction	SW-846 3510C	1	10/05/2000 01:00	Darin P. Wagner	1



Lancaster Laboratories Sample No. WW 3467883

Collected: 09/28/2000 15:10 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:13 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MW-31S-11 Unspiked Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

31S11 SDG#: MOS70-12BKG



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Lancaster Laboratories Sample No. WW 3467884

Collected: 09/28/2000 15:10 by SR Account Number: 07802

Submitted: 09/29/2000 10:30  
 Reported: 10/17/00 at 02:14 AM  
 Discard: 11/17/00  
 MW-31S-11 Matrix Spike Grab Water Sample  
 Moss American Superfund Site - Milwaukee, WI

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

31S11 SDG#: MOS70-12MS

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	22.	0.20	ug/l	1
00777	Toluene	108-88-3	22.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	22.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	65.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	205.	0.81	ug/l	1
03281	Acenaphthylene	208-96-8	202.	0.81	ug/l	1
03282	Acenaphthene	83-32-9	190.	0.81	ug/l	1
03283	Fluorene	86-73-7	20.8	0.17	ug/l	1
03284	Phenanthrene	85-01-8	6.55	0.071	ug/l	1
03285	Anthracene	120-12-7	3.26	0.030	ug/l	1
03286	Fluoranthene	206-44-0	3.43	0.030	ug/l	1
03287	Pyrene	129-00-0	21.1	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	1.58	0.020	ug/l	1
03289	Chrysene	218-01-9	6.35	0.061	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	1.28	0.039	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	1.26	0.010	ug/l	1
03292	Benzo(a)pyrene	50-32-8	1.60	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	3.36	0.030	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	12.8	0.10	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	6.50	0.068	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	10/02/2000 16:21	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/06/2000 10:34	Michelle J. Kolodziejski	1
03337	PAH Water Extraction	SW-846 3510C	1	10/05/2000 01:00	Darin P. Wagner	1



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Lancaster Laboratories Sample No. WW 3467884

Collected: 09/28/2000 15:10 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:14 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MW-31S-11 Matrix Spike Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

31S11 SDG#: MOS70-12MS



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Lancaster Laboratories Sample No. WW 3467885

Collected: 09/28/2000 15:10 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:14 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MW-31S-11 Matrix Spike Dup/Dup Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

31S11 SDG#: MOS70-12MSD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	22.	0.20	ug/l	1
00777	Toluene	108-88-3	22.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	22.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	66.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	207.	0.81	ug/l	1
03281	Acenaphthylene	208-96-8	204.	0.81	ug/l	1
03282	Acenaphthene	83-32-9	190.	0.81	ug/l	1
03283	Fluorene	86-73-7	20.8	0.17	ug/l	1
03284	Phenanthrene	85-01-8	6.55	0.071	ug/l	1
03285	Anthracene	120-12-7	3.18	0.030	ug/l	1
03286	Fluoranthene	206-44-0	3.41	0.030	ug/l	1
03287	Pyrene	129-00-0	20.7	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	1.59	0.020	ug/l	1
03289	Chrysene	218-01-9	6.26	0.061	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	1.27	0.038	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	1.25	0.010	ug/l	1
03292	Benzo(a)pyrene	50-32-8	1.57	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	3.32	0.030	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	12.7	0.10	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	6.39	0.068	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	10/02/2000 16:54	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/06/2000 10:55	Michelle J. Kolodziejwski	1
03337	PAH Water Extraction	SW-846 3510C	1	10/05/2000 01:00	Darin P. Wagner	1



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Lancaster Laboratories Sample No. WW 3467885

Collected: 09/28/2000 15:10 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:14 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MW-31S-11 Matrix Spike Dup/Dup Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

31S11 SDG#: MOS70-12MSD



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Lancaster Laboratories Sample No. WW 3465782

Collected: 09/26/2000 11:45 by JK

Account Number: 07802

Submitted: 09/27/2000 09:30

Kerr-McGee Corporation

Reported: 10/16/00 at 02:28 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MW-32S-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

32S11 SDG#: MOS68-09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.						
01861	PAH's in Water					
03280	Naphthalene	91-20-3	59.3	0.80	ug/l	1
03281	Acenaphthylene	208-96-8	2.38 J	0.80	ug/l	1
03282	Acenaphthene	83-32-9	1.4 J	0.80	ug/l	1
03283	Fluorene	86-73-7	0.19 J	0.17	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.070	ug/l	1
03285	Anthracene	120-12-7	0.175 J	0.030	ug/l	1
03286	Fluoranthene	206-44-0	N.D.	0.030	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.020	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.060	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.038	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.030	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.067	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
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Lancaster Laboratories Sample No. WW 3465782

Collected: 09/26/2000 11:45 by JK

Account Number: 07802

Submitted: 09/27/2000 09:30

Kerr-McGee Corporation

Reported: 10/16/00 at 02:28 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MW-32S-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

32S11	SDG#: MOS68-09					
08213	BTEX (8021)	SW-846 8021B	1	09/29/2000 02:11	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	09/29/2000 20:28	Michelle J. Kolodziejwski	1
03337	PAH Water Extraction	SW-846 3510C	1	09/28/2000 13:30	John M. Becker	1



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Lancaster Laboratories Sample No. WW 3465780

Collected: 09/26/2000 11:30 by JK

Account Number: 07802

Submitted: 09/27/2000 09:30

Kerr-McGee Corporation

Reported: 10/16/00 at 02:28 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MW-33S-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

33S11 SDG#: MOS68-07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	1.0	ug/l	5
00777	Toluene	108-88-3	1.4 J	1.0	ug/l	5
00778	Ethylbenzene	100-41-4	5.7	1.0	ug/l	5
00779	Total Xylenes	1330-20-7	14. J	3.0	ug/l	5

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

Due to dilution of the sample made necessary by the high level of non-target compounds, normal quantitation limits were not attained.

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01861	PAH's in Water					
03280	Naphthalene	91-20-3	2,220.	8.1	ug/l	10
03281	Acenaphthylene	208-96-8	115.	8.1	ug/l	10
03282	Acenaphthene	83-32-9	48.	0.81	ug/l	1
03283	Fluorene	86-73-7	5.86	0.17	ug/l	1
03284	Phenanthrene	85-01-8	0.212 J	0.071	ug/l	1
03285	Anthracene	120-12-7	N.D.	0.031	ug/l	1
03286	Fluoranthene	206-44-0	N.D.	0.031	ug/l	1
03287	Pyrene	129-00-0	0.65 J	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.020	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.061	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.039	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.031	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.068	ug/l	1



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Lancaster Laboratories Sample No. WW 3465780

Collected: 09/26/2000 11:30 by JK

Account Number: 07802

Submitted: 09/27/2000 09:30

Kerr-McGee Corporation

Reported: 10/16/00 at 02:28 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MW-33S-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

33S11 SDG#: MOS68-07

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
08213	BTEX (8021)	SW-846 8021B	1	09/28/2000 20:12	Steven J. Stabinger	5
01861	PAH's in Water	SW-846 8310	1	09/29/2000 21:33	Michelle J. Kolodziejski	1
01861	PAH's in Water	SW-846 8310	1	10/02/2000 10:58	Michelle J. Kolodziejski	10
03337	PAH Water Extraction	SW-846 3510C	1	09/28/2000 13:30	John M. Becker	1



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Lancaster Laboratories Sample No. WW 3465781

Collected: 09/26/2000 11:30 by JK

Account Number: 07802

Submitted: 09/27/2000 09:30

Kerr-McGee Corporation

Reported: 10/16/00 at 02:28 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MW-33S-11 Dup Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

33D11 SDG#: MOS68-08FD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Units	Dilution Factor
				Method	Detection Limit		
08213	BTEX (8021)						
00776	Benzene	71-43-2	N.D.		2.0	ug/l	10
00777	Toluene	108-88-3	2.5 J		2.0	ug/l	10
00778	Ethylbenzene	100-41-4	8.6 J		2.0	ug/l	10
00779	Total Xylenes	1330-20-7	22. J		6.0	ug/l	10

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

Due to dilution of the sample made necessary by the high level of non-target compounds, normal quantitation limits were not attained.

01861 PAH's in Water

03280	Naphthalene	91-20-3	2,200.		8.1	ug/l	10
03281	Acenaphthylene	208-96-8	114.		8.1	ug/l	10
03282	Acenaphthene	83-32-9	48.		0.81	ug/l	1
03283	Fluorene	86-73-7	5.81		0.17	ug/l	1
03284	Phenanthrene	85-01-8	0.176 J		0.071	ug/l	1
03285	Anthracene	120-12-7	N.D.		0.030	ug/l	1
03286	Fluoranthene	206-44-0	N.D.		0.030	ug/l	1
03287	Pyrene	129-00-0	N.D.		0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.		0.020	ug/l	1
03289	Chrysene	218-01-9	N.D.		0.060	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.		0.038	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.		0.010	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.		0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.		0.030	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.		0.10	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.068	ug/l	1



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Lancaster Laboratories Sample No. WW 3465781

Collected: 09/26/2000 11:30 by JK

Account Number: 07802

Submitted: 09/27/2000 09:30

Kerr-McGee Corporation

Reported: 10/16/00 at 02:28 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MW-33S-11 Dup Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

33D11 SDG#: MOS68-08FD

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis		Analyst	Dilution Factor
				Date	Time		
08213	BTEX (8021)	SW-846 8021B	1	09/28/2000	20:45	Steven J. Stabinger	10
01861	PAH's in Water	SW-846 8310	1	09/29/2000	20:07	Michelle J. Kolodziejski	1
01861	PAH's in Water	SW-846 8310	1	10/02/2000	10:32	Michelle J. Kolodziejski	10
03337	PAH Water Extraction	SW-846 3510C	1	09/28/2000	13:30	John M. Becker	1



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Lancaster Laboratories Sample No. WW 3466804

Collected: 09/27/2000 11:25 by SR

Account Number: 07802

Submitted: 09/28/2000 09:00

Kerr-McGee Corporation

Reported: 10/16/00 at 10:30 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MW-34S-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

34S11 SDG#: MOS69-07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	8.1 J	4.0	ug/l	20
00777	Toluene	108-88-3	N.D.	4.0	ug/l	20
00778	Ethylbenzene	100-41-4	22.	4.0	ug/l	20
00779	Total Xylenes	1330-20-7	73.	12.	ug/l	20

Due to dilution of the sample made necessary by the high level of non-target compounds, normal quantitation limits were not attained.

01861 PAH's in Water

03280	Naphthalene	91-20-3	5,720.	78.	ug/l	100
03281	Acenaphthylene	208-96-8	206. J	78.	ug/l	100
03282	Acenaphthene	83-32-9	140. J	78.	ug/l	100
03283	Fluorene	86-73-7	73. J	17.	ug/l	100
03284	Phenanthrene	85-01-8	70.	6.8	ug/l	100
03285	Anthracene	120-12-7	8.0 J	2.9	ug/l	100
03286	Fluoranthene	206-44-0	7.31	0.029	ug/l	1
03287	Pyrene	129-00-0	6.23	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	0.721	0.020	ug/l	1
03289	Chrysene	218-01-9	0.51	0.059	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	0.248	0.037	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	0.137	0.0098	ug/l	1
03292	Benzo(a)pyrene	50-32-8	0.322	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	0.050 J	0.029	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	0.104 J	0.098	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	0.147 J	0.066	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
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Lancaster Laboratories Sample No. WW 3466804

Collected: 09/27/2000 11:25 by SR

Account Number: 07802

Submitted: 09/28/2000 09:00

Kerr-McGee Corporation

Reported: 10/16/00 at 10:30 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MW-34S-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

34S11	SDG#: MOS69-07					
08213	BTEX (8021)	SW-846 8021B	1	10/01/2000 18:27	Steven J. Stabinger	20
01861	PAH's in Water	SW-846 8310	1	10/03/2000 14:33	Michelle J. Kolodziejcki	1
01861	PAH's in Water	SW-846 8310	1	10/04/2000 16:46	Michelle J. Kolodziejcki	100
03337	PAH Water Extraction	SW-846 3510C	1	10/02/2000 13:00	John M. Becker	1



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Lancaster Laboratories Sample No. WW 3465787

Collected: 09/26/2000 16:10 by JK Account Number: 07802

Submitted: 09/27/2000 09:30 Kerr-McGee Corporation

Reported: 10/16/00 at 02:29 PM P.O. Box 25861

Discard: 11/16/00 Oklahoma City OK 73125

MW-35S-11 Grab Water Sample  
Moss American Superfund Site - Milwaukee, WI

35S11 SDG#: MOS68-14

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.						
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.78	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.78	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.78	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.17	ug/l	1
03284	Phenanthrene	85-01-8	0.34	0.068	ug/l	1
03285	Anthracene	120-12-7	0.30	0.029	ug/l	1
03286	Fluoranthene	206-44-0	0.61	0.029	ug/l	1
03287	Pyrene	129-00-0	0.79	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	0.161	0.020	ug/l	1
03289	Chrysene	218-01-9	0.122 J	0.059	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	0.388	0.037	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	0.153	0.0098	ug/l	1
03292	Benzo(a)pyrene	50-32-8	0.302	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	0.054 J	0.029	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	0.479 J	0.098	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	0.40	0.065	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
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Lancaster Laboratories Sample No. WW 3466813

Collected: 09/27/2000 16:30 by SR

Account Number: 07802

Submitted: 09/28/2000 09:00

Kerr-McGee Corporation

Reported: 10/16/00 at 10:31 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MW-36S-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

36S11 SDG#: MOS69-14

CAT	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/29/2000 16:21	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/03/2000 16:42	Michelle J. Kolodziejcki	1
03337	PAH Water Extraction	SW-846 3510C	1	10/02/2000 13:00	John M. Becker	1



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Lancaster Laboratories Sample No. WW 3466810

Collected: 09/27/2000 15:40 by SR

Account Number: 07802

Submitted: 09/28/2000 09:00

Kerr-McGee Corporation

Reported: 10/16/00 at 10:31 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MW-37S-11 Unspiked Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

37S11 SDG#: MOS69-13BKG

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Napthalene	91-20-3	N.D.	0.78	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.78	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.78	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.17	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.068	ug/l	1
03285	Anthracene	120-12-7	0.089 J	0.029	ug/l	1
03286	Fluoranthene	206-44-0	N.D.	0.029	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.17	ug/l	1
03288	Benzo(a) anthracene	56-55-3	N.D.	0.019	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.058	ug/l	1
03290	Benzo(b) fluoranthene	205-99-2	N.D.	0.037	ug/l	1
03291	Benzo(k) fluoranthene	207-08-9	N.D.	0.0097	ug/l	1
03292	Benzo(a) pyrene	50-32-8	N.D.	0.019	ug/l	1
03293	Dibenzo(a,h) anthracene	53-70-3	N.D.	0.029	ug/l	1
03294	Benzo(g,h,i) perylene	191-24-2	N.D.	0.097	ug/l	1
03295	Indeno(1,2,3-cd) pyrene	193-39-5	N.D.	0.065	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/29/2000 14:44	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/03/2000 10:58	Michelle J. Kolodziejwski	1
03337	PAH Water Extraction	SW-846 3510C	1	10/02/2000 13:00	John M. Becker	1



Lancaster Laboratories Sample No. WW 3466810

Collected: 09/27/2000 15:40 by SR

Account Number: 07802

Submitted: 09/28/2000 09:00

Kerr-McGee Corporation

Reported: 10/16/00 at 10:31 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MW-37S-11 Unspiked Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

37S11 SDG#: MOS69-13BKG



Lancaster Laboratories Sample No. WW 3466811

Collected: 09/27/2000 15:40 by SR

Account Number: 07802

Submitted: 09/28/2000 09:00

Kerr-McGee Corporation

Reported: 10/16/00 at 10:31 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MW-37S-11 Matrix Spike Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

37S11 SDG#: MOS69-13MS

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	22.	0.20	ug/l	1
00777	Toluene	108-88-3	22.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	22.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	65.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	173.	0.78	ug/l	1
03281	Acenaphthylene	208-96-8	183.	0.78	ug/l	1
03282	Acenaphthene	83-32-9	170.	0.78	ug/l	1
03283	Fluorene	86-73-7	18.8	0.16	ug/l	1
03284	Phenanthrene	85-01-8	5.90	0.068	ug/l	1
03285	Anthracene	120-12-7	2.94	0.029	ug/l	1
03286	Fluoranthene	206-44-0	3.11	0.029	ug/l	1
03287	Pyrene	129-00-0	19.5	0.16	ug/l	1
03288	Benzo(a)anthracene	56-55-3	1.46	0.019	ug/l	1
03289	Chrysene	218-01-9	5.81	0.058	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	1.17	0.037	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	1.14	0.0097	ug/l	1
03292	Benzo(a)pyrene	50-32-8	1.47	0.019	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	3.03	0.029	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	11.7	0.097	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	5.82	0.065	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
08213	BTEX (8021)	SW-846 8021B	1	09/29/2000 15:16	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/03/2000 11:20	Michelle J. Kolodziejwski	1
03337	PAH Water Extraction	SW-846 3510C	1	10/02/2000 13:00	John M. Becker	1



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Lancaster Laboratories Sample No. WW 3466811

Collected: 09/27/2000 15:40 by SR

Account Number: 07802

Submitted: 09/28/2000 09:00

Kerr-McGee Corporation

Reported: 10/16/00 at 10:31 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MW-37S-11 Matrix Spike Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

37S11 SDG#: MOS69-13MS



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Lancaster Laboratories Sample No. WW 3466812

Collected: 09/27/2000 15:40 by SR

Account Number: 07802

Submitted: 09/28/2000 09:00

Reported: 10/16/00 at 10:31 PM

Discard: 11/16/00

Kerr-McGee Corporation

P.O. Box 25861

Oklahoma City OK 73125

MW-37S-11 Matrix Spike Dup/Dup Grab Water Sample  
Moss American Superfund Site - Milwaukee, WI

37S11 SDG#: MOS69-13MSD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	22.	0.20	ug/l	1
00777	Toluene	108-88-3	22.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	21.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	65.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	177.	0.79	ug/l	1
03281	Acenaphthylene	208-96-8	186.	0.79	ug/l	1
03282	Acenaphthene	83-32-9	180.	0.79	ug/l	1
03283	Fluorene	86-73-7	19.1	0.17	ug/l	1
03284	Phenanthrene	85-01-8	5.95	0.069	ug/l	1
03285	Anthracene	120-12-7	2.92	0.030	ug/l	1
03286	Fluoranthene	206-44-0	3.10	0.030	ug/l	1
03287	Pyrene	129-00-0	19.3	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	1.46	0.020	ug/l	1
03289	Chrysene	218-01-9	5.81	0.059	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	1.16	0.037	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	1.13	0.0098	ug/l	1
03292	Benzo(a)pyrene	50-32-8	1.46	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	2.99	0.030	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	11.6	0.098	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	5.81	0.066	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
08213	BTEX (8021)	SW-846 8021B	1	09/29/2000 15:49	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/03/2000 11:41	Michelle J. Kolodziejwski	1
03337	PAH Water Extraction	SW-846 3510C	1	10/02/2000 13:00	John M. Becker	1



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Lancaster Laboratories Sample No. WW 3466811

Collected: 09/27/2000 15:40 by SR

Account Number: 07802

Submitted: 09/28/2000 09:00

Kerr-McGee Corporation

Reported: 10/16/00 at 10:31 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MW-37S-11 Matrix Spike Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

37S11 SDG#: MOS69-13MS





Lancaster Laboratories Sample No. WW 3467881

Collected: 09/28/2000 12:00 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:13 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

TW-0S-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

TWS11 SDG#: MOS70-10

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	15.3 J	7.8	ug/l	10
03281	Acenaphthylene	208-96-8	14.6 J	7.8	ug/l	10
03282	Acenaphthene	83-32-9	100.	7.8	ug/l	10
03283	Fluorene	86-73-7	74.6	1.7	ug/l	10
03284	Phenanthrene	85-01-8	N.D.	0.68	ug/l	10
03285	Anthracene	120-12-7	30.1	0.29	ug/l	10
03286	Fluoranthene	206-44-0	22.2	0.29	ug/l	10
03287	Pyrene	129-00-0	18.5	1.7	ug/l	10
03288	Benzo(a)anthracene	56-55-3	1.94	0.19	ug/l	10
03289	Chrysene	218-01-9	1.58 J	0.58	ug/l	10
03290	Benzo(b)fluoranthene	205-99-2	0.78	0.37	ug/l	10
03291	Benzo(k)fluoranthene	207-08-9	0.395 J	0.097	ug/l	10
03292	Benzo(a)pyrene	50-32-8	0.89	0.19	ug/l	10
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.29	ug/l	10
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	1.0	ug/l	10
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.65	ug/l	10

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

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	10/02/2000 23:27	Steven J. Stabinger	1



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Lancaster Laboratories Sample No. WW 3467881

Collected: 09/28/2000 12:00 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:13 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

TW-0S-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

TWS11	SDG#: MOS70-10					
01861	PAH's in Water	SW-846 8310	1	10/12/2000 20:34	Michelle J. Kolodziejski	10
03337	PAH Water Extraction	SW-846 3510C	1	10/05/2000 01:00	Darin P. Wagner	1



Lancaster Laboratories Sample No. WW 3465774

Collected: 09/26/2000 08:05 by JK Account Number: 07802

Submitted: 09/27/2000 09:30  
 Reported: 10/16/00 at 02:27 PM  
 Discard: 11/16/00  
 MA3-TG1-1-260900-01 Grab Water Sample  
 Moss American Superfund Site - Milwaukee, WI

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

26091 SDG#: MOS68-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen The quantitation limit for total kjeldahl nitrogen was increased due to the nature of the sample matrix.	7727-37-9	N.D.	3.2	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	0.055	0.015	mg/l	1
00220	Nitrate Nitrogen This sample was preserved to pH <2 with sulfuric acid immediately following the nitrite-nitrogen analysis. This extends the holding time for nitrate-nitrogen analysis to 28 days.	14797-55-8	N.D.	0.030	mg/l	1
00221	Ammonia Nitrogen Sufficient sample volume was not available to perform matrix QC for this analysis. Therefore, an LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.	7664-41-7	0.48 J	0.15	mg/l	1
00226	Ortho-Phosphate as P	14265-44-2	0.035	0.0056	mg/l	1
00227	Total Phosphorus as P (water)	7723-14-0	0.191	0.040	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	3.6	mg/l	1
00273	Total Organic Carbon The Total Organic Carbon (TOC) result reported above was determined by measuring total carbon by a persulfate digestion/infrared detection method on an acidified sample which has been purged of inorganic carbon using nitrogen. It represents "non-purgeable TOC".	n.a.	5.2	0.40	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	0.59	0.12	mg/l	1
01553	Chemical Oxygen Demand	n.a.	26.9	2.2	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	2.8 J	1.0	ug/l	5
00777	Toluene	108-88-3	1.6 J	1.0	ug/l	5
00778	Ethylbenzene	100-41-4	4.6 J	1.0	ug/l	5
00779	Total Xylenes Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.	1330-20-7	8.5 J	3.0	ug/l	5

Due to dilution of the sample made necessary by the high level of non-target compounds, normal quantitation limits were not attained.



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Lancaster Laboratories Sample No. WW 3465774

Collected: 09/26/2000 08:05 by JK

Account Number: 07802

Submitted: 09/27/2000 09:30

Kerr-McGee Corporation

Reported: 10/16/00 at 02:27 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MA3-TG1-1-260900-01 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

26091 SDG#: MOS68-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01861	PAH's in Water					
03280	Naphthalene	91-20-3	475.	8.1	ug/l	10
03281	Acenaphthylene	208-96-8	27.0	0.81	ug/l	1
03282	Acenaphthene	83-32-9	34.	0.81	ug/l	1
03283	Fluorene	86-73-7	16.2	0.17	ug/l	1
03284	Phenanthrene	85-01-8	12.6	0.071	ug/l	1
03285	Anthracene	120-12-7	2.06	0.030	ug/l	1
03286	Fluoranthene	206-44-0	1.24	0.030	ug/l	1
03287	Pyrene	129-00-0	1.21	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	0.107	0.020	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.061	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	0.048 J	0.038	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	0.026 J	0.010	ug/l	1
03292	Benzo(a)pyrene	50-32-8	0.052 J	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.030	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.068	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	10/03/2000 18:37	Venia M. McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/27/2000 19:54	Brad M. La Placa	1
00220	Nitrate Nitrogen	EPA 353.2	1	09/28/2000 12:22	Mark A. Buckwalter	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/29/2000 08:45	Michele L. Hanby	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/28/2000 02:00	Daniel S. Smith	1
00227	Total Phosphorus as P (water)	EPA 365.1	1	10/03/2000 10:56	Mark A. Buckwalter	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/28/2000 00:52	Elaine F. Stoltzfus	1
00273	Total Organic Carbon	EPA 415.1	1	10/02/2000 07:58	Timothy M. Petree	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	10/03/2000 10:56	Mark A. Buckwalter	1
01553	Chemical Oxygen Demand	EPA 410.2	1	10/11/2000 07:45	Susan A. Engle	1



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Lancaster Laboratories Sample No. WW 3465774

Collected: 09/26/2000 08:05 by JK

Account Number: 07802

Submitted: 09/27/2000 09:30

Kerr-McGee Corporation

Reported: 10/16/00 at 02:27 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MA3-TG1-1-260900-01 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

26091	SDG#: MOS68-01						
08213	BTEX (8021)	SW-846 8021B	1	09/28/2000 19:39	Steven J. Stabinger	5	
01861	PAH's in Water	SW-846 8310	1	09/29/2000 17:15	Michelle J. Kolodziejski	1	
01861	PAH's in Water	SW-846 8310	1	10/02/2000 09:41	Michelle J. Kolodziejski	10	
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	10/03/2000 10:05	Patricia J. Weirich	1	
03337	PAH Water Extraction	SW-846 3510C	1	09/28/2000 13:30	John M. Becker	1	
08263	Total Phos as P Prep (water)	EPA 365.1	1	10/02/2000 12:30	Patricia J. Weirich	1	
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	10/02/2000 13:30	Patricia J. Weirich	1	



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Lancaster Laboratories Sample No. WW 3465775

Collected: 09/26/2000 08:20 by JK

Account Number: 07802

Submitted: 09/27/2000 09:30

Kerr-McGee Corporation

Reported: 10/16/00 at 02:27 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MA3-TG1-2-260900-02 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

26092 SDG#: MOS68-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	3.9 J	3.2	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	0.042 J	0.015	mg/l	1
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.030	mg/l	1
This sample was preserved to pH <2 with sulfuric acid immediately following the nitrite-nitrogen analysis. This extends the holding time for nitrate-nitrogen analysis to 28 days.						
00221	Ammonia Nitrogen	7664-41-7	0.60 J	0.15	mg/l	1
Sufficient sample volume was not available to perform matrix QC for this analysis. Therefore, an LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.						
00226	Ortho-Phosphate as P	14265-44-2	0.045	0.0056	mg/l	1
00227	Total Phosphorus as P (water)	7723-14-0	1.93	0.040	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	2.9	mg/l	1
00273	Total Organic Carbon	n.a.	15.2	0.40	mg/l	1
The Total Organic Carbon (TOC) result reported above was determined by measuring total carbon by a persulfate digestion/infrared detection method on an acidified sample which has been purged of inorganic carbon using nitrogen. It represents "non-purgeable TOC".						
00345	Total Phosphorus as PO4 water	14265-44-2	5.93	0.12	mg/l	1
01553	Chemical Oxygen Demand	n.a.	161.	4.5	mg/l	2
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	2.0	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	0.81 J	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	1.5 J	0.60	ug/l	1

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.

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



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Lancaster Laboratories Sample No. WW 3465775

Collected: 09/26/2000 08:20 by JK Account Number: 07802

Submitted: 09/27/2000 09:30  
 Reported: 10/16/00 at 02:27 PM  
 Discard: 11/16/00  
 MA3-TG1-2-260900-02 Grab Water Sample  
 Moss American Superfund Site - Milwaukee, WI

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

26092 SDG#: MOS68-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01861	PAH's in Water					
03280	Naphthalene	91-20-3	144.	0.84	ug/l	1
03281	Acenaphthylene	208-96-8	15.3	0.84	ug/l	1
03282	Acenaphthene	83-32-9	77.	0.84	ug/l	1
03283	Fluorene	86-73-7	34.5	0.18	ug/l	1
03284	Phenanthrene	85-01-8	61.2	0.74	ug/l	10
03285	Anthracene	120-12-7	4.9	0.32	ug/l	10
03286	Fluoranthene	206-44-0	16.4	0.32	ug/l	10
03287	Pyrene	129-00-0	16.0	0.18	ug/l	1
03288	Benzo(a)anthracene	56-55-3	2.17	0.021	ug/l	1
03289	Chrysene	218-01-9	1.41	0.063	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	0.796	0.040	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	0.399	0.011	ug/l	1
03292	Benzo(a)pyrene	50-32-8	0.790	0.021	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	0.126 J	0.032	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	0.39 J	0.11	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	0.45	0.070	ug/l	1

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

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	10/03/2000 18:38	Venia M. McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/27/2000 19:56	Brad M. La Placa	1
00220	Nitrate Nitrogen	EPA 353.2	1	09/28/2000 12:26	Mark A. Buckwalter	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/29/2000 08:45	Michele L. Hanby	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/28/2000 02:00	Daniel S. Smith	1
00227	Total Phosphorus as P (water)	EPA 365.1	1	10/03/2000 10:57	Mark A. Buckwalter	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/28/2000 00:52	Elaine F. Stoltzfus	1
00273	Total Organic Carbon	EPA 415.1	1	10/02/2000 08:06	Timothy M. Petree	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	10/03/2000 10:57	Mark A. Buckwalter	1



Lancaster Laboratories Sample No. WW 3465775

Collected: 09/26/2000 08:20 by JK

Account Number: 07802

Submitted: 09/27/2000 09:30

Kerr-McGee Corporation

Reported: 10/16/00 at 02:27 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MA3-TG1-2-260900-02 Grab Water Sample  
Moss American Superfund Site - Milwaukee, WI

Sample ID	Method	Standard	Count	Date/Time	Analyst	Count
26092	SDG#: MOS68-02					
11553	Chemical Oxygen Demand	EPA 410.2	1	10/11/2000 07:45	Susan A. Engle	2
8213	BTEX (8021)	SW-846 8021B	1	09/28/2000 23:28	Steven J. Stabinger	1
11861	PAH's in Water	SW-846 8310	1	09/29/2000 17:36	Michelle J. Kolodziejski	1
11861	PAH's in Water	SW-846 8310	1	10/02/2000 10:07	Michelle J. Kolodziejski	10
1460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	10/03/2000 10:05	Patricia J. Weirich	1
03337	PAH Water Extraction	SW-846 3510C	1	09/28/2000 13:30	John M. Becker	1
8263	Total Phos as P Prep (water)	EPA 365.1	1	10/02/2000 12:30	Patricia J. Weirich	1
18264	Total Phos as PO4 Prep (water)	EPA 365.1	1	10/02/2000 13:30	Patricia J. Weirich	1



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Lancaster Laboratories Sample No. WW 3465776

Collected: 09/26/2000 08:35 by JK Account Number: 07802  
 Submitted: 09/27/2000 09:30 Kerr-McGee Corporation  
 Reported: 10/16/00 at 02:28 PM P.O. Box 25861  
 Discard: 11/16/00 Oklahoma City OK 73125  
 MA3-TG1-3-260900-03 Grab Water Sample  
 Moss American Superfund Site - Milwaukee, WI

26093 SDG#: MOS68-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen The quantitation limit for total kjeldahl nitrogen was increased due to the nature of the sample matrix.	7727-37-9	N.D.	3.2	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	0.074	0.015	mg/l	1
00220	Nitrate Nitrogen This sample was preserved to pH <2 with sulfuric acid immediately following the nitrite-nitrogen analysis. This extends the holding time for nitrate-nitrogen analysis to 28 days.	14797-55-8	N.D.	0.030	mg/l	1
00221	Ammonia Nitrogen Sufficient sample volume was not available to perform matrix QC for this analysis. Therefore, an LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.	7664-41-7	0.51 J	0.15	mg/l	1
00226	Ortho-Phosphate as P	14265-44-2	0.353	0.0056	mg/l	1
00227	Total Phosphorus as P (water)	7723-14-0	0.713	0.040	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	5.3	mg/l	1
00273	Total Organic Carbon The Total Organic Carbon (TOC) result reported above was determined by measuring total carbon by a persulfate digestion/infrared detection method on an acidified sample which has been purged of inorganic carbon using nitrogen. It represents "non-purgeable TOC".	n.a.	7.9	0.40	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	2.19	0.12	mg/l	1
01553	Chemical Oxygen Demand	n.a.	48.7	2.2	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	0.96 J	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes 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.	1330-20-7	N.D.	0.60	ug/l	1

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



Lancaster Laboratories Sample No. WW 3465776

Collected: 09/26/2000 08:35 by JK Account Number: 07802

Submitted: 09/27/2000 09:30  
 Reported: 10/16/00 at 02:28 PM  
 Discard: 11/16/00  
 MA3-TG1-3-260900-03 Grab Water Sample  
 Moss American Superfund Site - Milwaukee, WI

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

26093 SDG#: MOS68-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
	accuracy at a batch level.					
01861	PAH's in Water					
03280	Naphthalene	91-20-3	0.86 J	0.81	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.81	ug/l	1
03282	Acenaphthene	83-32-9	0.95 J	0.81	ug/l	1
03283	Fluorene	86-73-7	0.33 J	0.17	ug/l	1
03284	Phenanthrene	85-01-8	0.126 J	0.070	ug/l	1
03285	Anthracene	120-12-7	0.159 J	0.030	ug/l	1
03286	Fluoranthene	206-44-0	0.105 J	0.030	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.020	ug/l	1
03289	Chrysene	218-01-9	0.071 J	0.060	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.038	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	ug/l	1
03292	Benzo(a)pyrene	50-32-8	0.021 J	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.030	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.067	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	10/03/2000 18:39	Venia M. McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/27/2000 19:57	Brad M. La Placa	1
00220	Nitrate Nitrogen	EPA 353.2	1	09/28/2000 12:27	Mark A. Buckwalter	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/29/2000 08:45	Michele L. Hanby	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/28/2000 02:00	Daniel S. Smith	1
00227	Total Phosphorus as P (water)	EPA 365.1	1	10/03/2000 10:58	Mark A. Buckwalter	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/28/2000 00:52	Elaine F. Stoltzfus	1
00273	Total Organic Carbon	EPA 415.1	1	10/02/2000 08:14	Timothy M. Petree	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	10/03/2000 10:58	Mark A. Buckwalter	1



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Lancaster Laboratories Sample No. WW 3465776

Collected: 09/26/2000 08:35 by JK

Account Number: 07802

Submitted: 09/27/2000 09:30

Kerr-McGee Corporation

Reported: 10/16/00 at 02:28 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MA3-TG1-3-260900-03 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

26093	SDG#: MOS68-03					
01553	Chemical Oxygen Demand	EPA 410.2	1	10/11/2000 07:45	Susan A. Engle	1
08213	BTEX (8021)	SW-846 8021B	1	09/29/2000 00:00	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	09/29/2000 17:58	Michelle J. Kolodziejski	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	10/03/2000 10:05	Patricia J. Weirich	1
03337	PAH Water Extraction	SW-846 3510C	1	09/28/2000 13:30	John M. Becker	1
08263	Total Phos as P Prep (water)	EPA 365.1	1	10/02/2000 12:30	Patricia J. Weirich	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	10/02/2000 13:30	Patricia J. Weirich	1



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Lancaster Laboratories Sample No. WW 3465777

Collected: 09/26/2000 09:40 by JK

Account Number: 07802

Submitted: 09/27/2000 09:30

Kerr-McGee Corporation

Reported: 10/16/00 at 02:28 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MA3-TG2-1-260900-04 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

26094 SDG#: MOS68-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen The quantitation limit for total kjeldahl nitrogen was increased due to the nature of the sample matrix.	7727-37-9	N.D.	3.2	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	0.045 J	0.015	mg/l	1
00220	Nitrate Nitrogen This sample was preserved to pH <2 with sulfuric acid immediately following the nitrite-nitrogen analysis. This extends the holding time for nitrate-nitrogen analysis to 28 days.	14797-55-8	N.D.	0.030	mg/l	1
00221	Ammonia Nitrogen Sufficient sample volume was not available to perform matrix QC for this analysis. Therefore, an LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.	7664-41-7	N.D.	0.15	mg/l	1
00226	Ortho-Phosphate as P	14265-44-2	0.043	0.0056	mg/l	1
00227	Total Phosphorus as P (water)	7723-14-0	0.524	0.040	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	4.4	mg/l	1
00273	Total Organic Carbon The Total Organic Carbon (TOC) result reported above was determined by measuring total carbon by a persulfate digestion/infrared detection method on an acidified sample which has been purged of inorganic carbon using nitrogen. It represents "non-purgeable TOC".	n.a.	3.1	0.40	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	1.61	0.12	mg/l	1
01553	Chemical Oxygen Demand	n.a.	20.0	2.2	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.79	ug/l	1



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Lancaster Laboratories Sample No. WW 3465777

Collected: 09/26/2000 09:40 by JK

Account Number: 07802

Submitted: 09/27/2000 09:30  
 Reported: 10/16/00 at 02:28 PM  
 Discard: 11/16/00

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

MA3-TG2-1-260900-04 Grab Water Sample  
 Moss American Superfund Site - Milwaukee, WI

26094 SDG#: MOS68-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Dilution Factor
				Method	Units	
				Detection Limit		
03281	Acenaphthylene	208-96-8	N.D.	0.79	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.79	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.17	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.069	ug/l	1
03285	Anthracene	120-12-7	0.23	0.030	ug/l	1
03286	Fluoranthene	206-44-0	0.035 J	0.030	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.020	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.059	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.038	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.0099	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.030	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.099	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.066	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis		Analyst	Dilution Factor
				Date	Time		
00217	Kjeldahl Nitrogen	EPA 351.2	1	10/03/2000	18:40	Venia M. McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/27/2000	19:58	Brad M. La Placa	1
00220	Nitrate Nitrogen	EPA 353.2	1	09/28/2000	12:29	Mark A. Buckwalter	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/29/2000	08:45	Michele L. Hanby	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/28/2000	02:00	Daniel S. Smith	1
00227	Total Phosphorus as P (water)	EPA 365.1	1	10/03/2000	10:59	Mark A. Buckwalter	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/28/2000	00:52	Elaine F. Stoltzfus	1
00273	Total Organic Carbon	EPA 415.1	1	10/02/2000	08:22	Timothy M. Petree	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	10/03/2000	10:58	Mark A. Buckwalter	1
01553	Chemical Oxygen Demand	EPA 410.2	1	10/11/2000	07:45	Susan A. Engle	1
08213	BTEX (8021)	SW-846 8021B	1	09/29/2000	00:33	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	09/29/2000	18:19	Michelle J. Kolodziejwski	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	10/03/2000	10:05	Patricia J. Weirich	1



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Lancaster Laboratories Sample No. WW 3465777

Collected: 09/26/2000 09:40 by JK

Account Number: 07802

Submitted: 09/27/2000 09:30

Kerr-McGee Corporation

Reported: 10/16/00 at 02:28 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MA3-TG2-1-260900-04 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

26094	SDG#: MOS68-04					
03337	PAH Water Extraction	SW-846 3510C	1	09/28/2000 13:30	John M. Becker	1
08263	Total Phos as P Prep (water)	EPA 365.1	1	10/02/2000 12:30	Patricia J. Weirich	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	10/02/2000 13:30	Patricia J. Weirich	1



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Lancaster Laboratories Sample No. WW 3465778

Collected: 09/26/2000 10:15 by JK

Account Number: 07802

Submitted: 09/27/2000 09:30

Kerr-McGee Corporation

Reported: 10/16/00 at 02:28 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MA3-TG2-2-260900-05 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

26095 SDG#: MOS68-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Dilution Factor
				Method	Units	
00217	Kjeldahl Nitrogen The quantitation limit for total kjeldahl nitrogen was increased due to the nature of the sample matrix.	7727-37-9	N.D.	Detection Limit 3.2	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	0.053	0.015	mg/l	1
00220	Nitrate Nitrogen This sample was preserved to pH <2 with sufuric acid immediately following the nitrite-nitrogen analysis. This extends the holding time for nitrate-nitrogen analysis to 28 days.	14797-55-8	N.D.	0.030	mg/l	1
00221	Ammonia Nitrogen Sufficient sample volume was not available to perform matrix QC for this analysis. Therefore, an LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.	7664-41-7	0.69 J	0.15	mg/l	1
00226	Ortho-Phosphate as P	14265-44-2	0.027	0.0056	mg/l	1
00227	Total Phosphorus as P (water)	7723-14-0	0.698	0.040	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	3.4	mg/l	1
00273	Total Organic Carbon The Total Organic Carbon (TOC) result reported above was determined by measuring total carbon by a persulfate digestion/infrared detection method on an acidified sample which has been purged of inorganic carbon using nitrogen. It represents "non-purgeable TOC".	n.a.	7.6	0.40	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	2.14	0.12	mg/l	1
01553	Chemical Oxygen Demand	n.a.	87.	4.5	mg/l	2
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.80	ug/l	1



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Lancaster Laboratories Sample No. WW 3465778

Collected: 09/26/2000 10:15 by JK

Account Number: 07802

Submitted: 09/27/2000 09:30

Kerr-McGee Corporation

Reported: 10/16/00 at 02:28 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MA3-TG2-2-260900-05 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

26095 SDG#: MOS68-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Dilution Factor
				Method	Units	
03281	Acenaphthylene	208-96-8	N.D.	0.80	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.80	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.17	ug/l	1
03284	Phenanthrene	85-01-8	0.137 J	0.070	ug/l	1
03285	Anthracene	120-12-7	0.197 J	0.030	ug/l	1
03286	Fluoranthene	206-44-0	0.156 J	0.030	ug/l	1
03287	Pyrene	129-00-0	0.20 J	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	0.031 J	0.020	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.060	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	0.055 J	0.038	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	0.023 J	0.010	ug/l	1
03292	Benzo(a)pyrene	50-32-8	0.047 J	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.030	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	0.075 J	0.067	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
00217	Kjeldahl Nitrogen	EPA 351.2	1	10/03/2000 18:44	Venia M. McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/27/2000 20:02	Brad M. La Placa	1
00220	Nitrate Nitrogen	EPA 353.2	1	09/28/2000 12:30	Mark A. Buckwalter	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/29/2000 08:45	Michele L. Hanby	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/28/2000 02:00	Daniel S. Smith	1
00227	Total Phosphorus as P (water)	EPA 365.1	1	10/03/2000 11:00	Mark A. Buckwalter	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/28/2000 00:52	Elaine F. Stoltzfus	1
00273	Total Organic Carbon	EPA 415.1	1	10/02/2000 08:30	Timothy M. Petree	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	10/03/2000 11:00	Mark A. Buckwalter	1
01553	Chemical Oxygen Demand	EPA 410.2	1	10/11/2000 07:45	Susan A. Engle	2
08213	BTEX 3021)	SW-846 8021B	1	09/29/2000 01:06	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	09/29/2000 18:41	Michelle J. Kolodziejwski	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	10/03/2000 10:05	Patricia J. Weirich	1



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Lancaster Laboratories Sample No. WW 3465778

Collected: 09/26/2000 10:15 by JK

Account Number: 07802

Submitted: 09/27/2000 09:30

Kerr-McGee Corporation

Reported: 10/16/00 at 02:28 PM

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Discard: 11/16/00

Oklahoma City OK 73125

MA3-TG2-2-260900-05 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

26095	SDG#: MOS68-05					
03337	PAH Water Extraction	SW-846 3510C	1	09/28/2000 13:30	John M. Becker	1
08263	Total Phos as P Prep (water)	EPA 365.1	1	10/02/2000 12:30	Patricia J. Weirich	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	10/02/2000 13:30	Patricia J. Weirich	1





Lancaster Laboratories Sample No. WW 3465779

Collected: 09/26/2000 10:30 by JK

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Submitted: 09/27/2000 09:30

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P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MA3-TG2-3-260900-06 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

26096 SDG#: MOS68-06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen The quantitation limit for total kjeldahl nitrogen was increased due to the nature of the sample matrix.	7727-37-9	N.D.	3.2	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	0.059	0.015	mg/l	1
00220	Nitrate Nitrogen This sample was preserved to pH <2 with sulfuric acid immediately following the nitrite-nitrogen analysis. This extends the holding time for nitrate-nitrogen analysis to 28 days.	14797-55-8	N.D.	0.030	mg/l	1
00221	Ammonia Nitrogen Sufficient sample volume was not available to perform matrix QC for this analysis. Therefore, an LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.	7664-41-7	0.33 J	0.15	mg/l	1
00226	Ortho-Phosphate as P	14265-44-2	0.079	0.0056	mg/l	1
00227	Total Phosphorus as P (water)	7723-14-0	0.720	0.040	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	5.9	mg/l	1
00273	Total Organic Carbon The Total Organic Carbon (TOC) result reported above was determined by measuring total carbon by a persulfate digestion/infrared detection method on an acidified sample which has been purged of inorganic carbon using nitrogen. It represents "non-purgeable TOC".	n.a.	6.9	0.40	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	2.21	0.12	mg/l	1
01553	Chemical Oxygen Demand	n.a.	57.5	2.2	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	13.0	0.88	ug/l	1



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Lancaster Laboratories Sample No. WW 3465779

Collected: 09/26/2000 10:30

by JK

Account Number: 07802

Submitted: 09/27/2000 09:30

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Reported: 10/16/00 at 02:28 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MA3-TG2-3-260900-06 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

26096 SDG#: MOS68-06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Dilution Factor
				Method	Units	
03281	Acenaphthylene	208-96-8	1.34 J	0.88	ug/l	1
03282	Acenaphthene	83-32-9	14.	0.88	ug/l	1
03283	Fluorene	86-73-7	1.74	0.19	ug/l	1
03284	Phenanthrene	85-01-8	6.27	0.077	ug/l	1
03285	Anthracene	120-12-7	2.26	0.033	ug/l	1
03286	Fluoranthene	206-44-0	3.10	0.033	ug/l	1
03287	Pyrene	129-00-0	2.72	0.19	ug/l	1
03288	Benzo(a)anthracene	56-55-3	0.254	0.022	ug/l	1
03289	Chrysene	218-01-9	0.180 J	0.066	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	0.112	0.042	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	0.050 J	0.011	ug/l	1
03292	Benzo(a)pyrene	50-32-8	0.107	0.022	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.033	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.073	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
00217	Kjeldahl Nitrogen	EPA 351.2	1	10/03/2000 18:45	Venia M. McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/27/2000 20:03	Brad M. La Placa	1
00220	Nitrate Nitrogen	EPA 353.2	1	09/28/2000 12:31	Mark A. Buckwalter	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/29/2000 08:45	Michele L. Hanby	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/28/2000 02:00	Daniel S. Smith	1
00227	Total Phosphorus as P (water)	EPA 365.1	1	10/03/2000 11:01	Mark A. Buckwalter	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/28/2000 00:52	Elaine F. Stoltzfus	1
00273	Total Organic Carbon	EPA 415.1	1	10/02/2000 08:38	Timothy M. Petree	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	10/03/2000 11:01	Mark A. Buckwalter	1
01553	Chemical Oxygen Demand	EPA 410.2	1	10/11/2000 07:45	Susan A. Engle	1
08213	BTEX (8021)	SW-846 8021B	1	09/29/2000 01:39	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	09/29/2000 19:02	Michelle J. Kolodziejcki	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	10/03/2000 10:05	Patricia J. Weirich	1



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Lancaster Laboratories Sample No. WW 3465779

Collected: 09/26/2000 10:30 by JK

Account Number: 07802

Submitted: 09/27/2000 09:30

Kerr-McGee Corporation

Reported: 10/16/00 at 02:28 PM

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Discard: 11/16/00

Oklahoma City OK 73125

MA3-TG2-3-260900-06 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

26096	SDG#: MOS68-06					
03337	PAH Water Extraction	SW-846 3510C	1	09/28/2000 13:30	John M. Becker	1
08263	Total Phos as P Prep (water)	EPA 365.1	1	10/02/2000 12:30	Patricia J. Weirich	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	10/02/2000 13:30	Patricia J. Weirich	1



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Lancaster Laboratories Sample No. WW 3465783

Collected: 09/26/2000 15:00 by JK

Account Number: 07802

Submitted: 09/27/2000 09:30

Kerr-McGee Corporation

Reported: 10/16/00 at 02:28 PM

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Discard: 11/16/00

Oklahoma City OK 73125

MA3-TG3-1-260900-07 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

26097 SDG#: MOS68-10

CAT No.	Analysis Name	CAS Number	As Received Result	As Received	Units	Dilution Factor
				Method		
				Detection Limit		
00217	Kjeldahl Nitrogen	7727-37-9	N.D.	3.2	mg/l	1
The quantitation limit for total kjeldahl nitrogen was increased due to the nature of the sample matrix.						
00219	Nitrite Nitrogen	14797-65-0	0.054	0.015	mg/l	1
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.030	mg/l	1
This sample was preserved to pH <2 with sulfuric acid immediately following the nitrite-nitrogen analysis. This extends the holding time for nitrate-nitrogen analysis to 28 days.						
00221	Ammonia Nitrogen	7664-41-7	1.4	0.15	mg/l	1
Sufficient sample volume was not available to perform matrix QC for this analysis. Therefore, an LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.						
00226	Ortho-Phosphate as P	14265-44-2	0.023	0.0056	mg/l	1
00227	Total Phosphorus as P (water)	7723-14-0	0.557	0.040	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	8.1	0.67	mg/l	1
00273	Total Organic Carbon	n.a.	14.1	0.40	mg/l	1
The Total Organic Carbon (TOC) result reported above was determined by measuring total carbon by a persulfate digestion/infrared detection method on an acidified sample which has been purged of inorganic carbon using nitrogen. It represents "non-purgeable TOC".						
00345	Total Phosphorus as PO4 water	14265-44-2	1.71	0.12	mg/l	1
01553	Chemical Oxygen Demand	n.a.	56.7	2.2	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.						
01961	PAH's in Water					
03280	Naphthalene	91-20-3	3.01 J	0.77	ug/l	1



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Lancaster Laboratories Sample No. WW 3465783

Collected: 09/26/2000 15:00 by JK Account Number: 07802

Submitted: 09/27/2000 09:30  
 Reported: 10/16/00 at 02:28 PM  
 Discard: 11/16/00  
 MA3-TG3-1-260900-07 Grab Water Sample  
 Moss American Superfund Site - Milwaukee, WI

Kerr-McGee Corporation  
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26097 SDG#: MOS68-10

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Units	Dilution Factor
				Method	Detection Limit		
03281	Acenaphthylene	208-96-8	N.D.		0.77	ug/l	1
03282	Acenaphthene	83-32-9	1.4 J		0.77	ug/l	1
03283	Fluorene	86-73-7	1.15		0.16	ug/l	1
03284	Phenanthrene	85-01-8	1.55		0.067	ug/l	1
03285	Anthracene	120-12-7	0.76		0.029	ug/l	1
03286	Fluoranthene	206-44-0	0.78		0.029	ug/l	1
03287	Pyrene	129-00-0	0.93		0.16	ug/l	1
03288	Benzo(a)anthracene	56-55-3	0.143		0.019	ug/l	1
03289	Chrysene	218-01-9	0.121 J		0.058	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	0.065		0.036	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	0.0325 J		0.0096	ug/l	1
03292	Benzo(a)pyrene	50-32-8	0.073 J		0.019	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.		0.029	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.		0.096	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	0.080 J		0.064	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis		Analyst	Dilution Factor
				Date and Time			
00217	Kjeldahl Nitrogen	EPA 351.2	1	10/03/2000 18:47		Venia M. McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/27/2000 20:04		Brad M. La Placa	1
00220	Nitrate Nitrogen	EPA 353.2	1	09/28/2000 12:32		Mark A. Buckwalter	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/29/2000 08:45		Michele L. Hanby	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/28/2000 02:00		Daniel S. Smith	1
00227	Total Phosphorus as P (water)	EPA 365.1	1	10/03/2000 11:02		Mark A. Buckwalter	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/28/2000 00:52		Elaine F. Stoltzfus	1
00273	Total Organic Carbon	EPA 415.1	1	10/02/2000 08:47		Timothy M. Petree	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	10/03/2000 11:02		Mark A. Buckwalter	1
01553	Chemical Oxygen Demand	EPA 410.2	1	10/11/2000 07:45		Susan A. Engle	1
08213	BTEX (8021)	SW-846 8021B	1	09/29/2000 02:44		Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	09/29/2000 20:50		Michelle J. Kolodziejcki	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	10/03/2000 10:05		Patricia J. Weirich	1



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Lancaster Laboratories Sample No. WW 3465783

Collected: 09/26/2000 15:00 by JK

Account Number: 07802

Submitted: 09/27/2000 09:30

Kerr-McGee Corporation

Reported: 10/16/00 at 02:28 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MA3-TG3-1-260900-07 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

26097	SDG#: MOS68-10					
03337	PAH Water Extraction	SW-846 3510C	1	09/28/2000 13:30	John M. Becker	1
08263	Total Phos as P Prep (water)	EPA 365.1	1	10/02/2000 12:30	Patricia J. Weirich	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	10/02/2000 13:30	Patricia J. Weirich	1



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Lancaster Laboratories Sample No. WW 3465784

Collected: 09/26/2000 15:10 by JK

Account Number: 07802

Submitted: 09/27/2000 09:30

Kerr-McGee Corporation

Reported: 10/16/00 at 02:29 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MA3-TG3-2-260900-08 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

26098 SDG#: MOS68-11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	3.8 J	3.2	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	0.062	0.015	mg/l	1
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.030	mg/l	1
This sample was preserved to pH <2 with sulfuric acid immediately following the nitrite-nitrogen analysis. This extends the holding time for nitrate-nitrogen analysis to 28 days.						
00221	Ammonia Nitrogen	7664-41-7	1.1	0.15	mg/l	1
Sufficient sample volume was not available to perform matrix QC for this analysis. Therefore, an LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.						
00226	Ortho-Phosphate as P	14265-44-2	0.033	0.0056	mg/l	1
00227	Total Phosphorus as P (water)	7723-14-0	0.797	0.040	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	3.7	mg/l	1
00273	Total Organic Carbon	n.a.	11.5	0.40	mg/l	1
The Total Organic Carbon (TOC) result reported above was determined by measuring total carbon by a persulfate digestion/infrared detection method on an acidified sample which has been purged of inorganic carbon using nitrogen. It represents "non-purgeable TOC".						
00345	Total Phosphorus as PO4 water	14265-44-2	2.45	0.12	mg/l	1
01553	Chemical Oxygen Demand	n.a.	102.	4.5	mg/l	2
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1

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.

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



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Lancaster Laboratories Sample No. WW 3465784

Collected: 09/26/2000 15:10 by JK Account Number: 07802

Submitted: 09/27/2000 09:30  
 Reported: 10/16/00 at 02:29 PM  
 Discard: 11/16/00  
 MA3-TG3-2-260900-03 Grab Water Sample  
 Moss American Superfund Site - Milwaukee, WI

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

26098 SDG#: MOS68-11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.76	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.76	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.76	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.16	ug/l	1
03284	Phenanthrene	85-01-8	0.208 J	0.067	ug/l	1
03285	Anthracene	120-12-7	0.22	0.029	ug/l	1
03286	Fluoranthene	206-44-0	0.22	0.029	ug/l	1
03287	Pyrene	129-00-0	0.26 J	0.16	ug/l	1
03288	Benzo(a)anthracene	56-55-3	0.054 J	0.019	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.057	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	0.103	0.036	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	0.0417 J	0.0095	ug/l	1
03292	Benzo(a)pyrene	50-32-8	0.082	0.019	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.029	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	0.133 J	0.095	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	0.113 J	0.064	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
00217	Kjeldahl Nitrogen	EPA 351.2	1	10/03/2000 18:48	Venia M. McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/27/2000 20:06	Brad M. La Placa	1
00220	Nitrate Nitrogen	EPA 353.2	1	09/28/2000 12:36	Mark A. Buckwalter	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/29/2000 08:45	Michele L. Hanby	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/28/2000 02:00	Daniel S. Smith	1
00227	Total Phosphorus as P (water)	EPA 365.1	1	10/03/2000 11:03	Mark A. Buckwalter	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/28/2000 00:52	Elaine F. Stoltzfus	1
00273	Total Organic Carbon	EPA 415.1	1	10/02/2000 08:55	Timothy M. Petree	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	10/03/2000 11:03	Mark A. Buckwalter	1
01553	Chemical Oxygen Demand	EPA 410.2	1	10/11/2000 07:45	Susan A. Engle	2
08213	BTEX (8021)	SW-846 8021B	1	09/29/2000 03:16	Steven J. Stabinger	1



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Lancaster Laboratories Sample No. WW 3465784

Collected: 09/26/2000 15:10 by JK

Account Number: 07802

Submitted: 09/27/2000 09:30

Kerr-McGee Corporation

Reported: 10/16/00 at 02:29 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MA3-TG3-2-260900-08 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

26098	SDG#: MOS68-11						
01861	PAH's in Water	SW-846 8310	1	09/29/2000 21:11	Michelle J. Kolodziejski	1	
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	10/03/2000 10:05	Patricia J. Weirich	1	
03337	PAH Water Extraction	SW-846 3510C	1	09/28/2000 13:30	John M. Becker	1	
08263	Total Phos as P Prep (water)	EPA 365.1	1	10/02/2000 12:30	Patricia J. Weirich	1	
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	10/02/2000 13:30	Patricia J. Weirich	1	



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Lancaster Laboratories Sample No. WW 3465785

Collected: 09/26/2000 15:20 by JK Account Number: 07802

Submitted: 09/27/2000 09:30  
 Reported: 10/16/00 at 02:29 PM  
 Discard: 11/16/00  
 MA3-TG3-3-260900-09 Grab Water Sample  
 Moss American Superfund Site - Milwaukee, WI

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

26099 SDG#: MOS68-12

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	N.D.	3.2	mg/l	1
	The quantitation limit for total kjeldahl nitrogen was increased due to the nature of the sample matrix.					
00219	Nitrite Nitrogen	14797-65-0	0.052	0.015	mg/l	1
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.030	mg/l	1
	This sample was preserved to pH <2 with sulfuric acid immediately following the nitrite-nitrogen analysis. This extends the holding time for nitrate-nitrogen analysis to 28 days.					
00221	Ammonia Nitrogen	7664-41-7	0.89 J	0.15	mg/l	1
	Sufficient sample volume was not available to perform matrix QC for this analysis. Therefore, an LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.					
00226	Ortho-Phosphate as P	14265-44-2	0.028	0.0056	mg/l	1
00227	Total Phosphorus as P (water)	7723-14-0	0.254	0.040	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	4.8	mg/l	1
00273	Total Organic Carbon	n.a.	7.9	0.40	mg/l	1
	The Total Organic Carbon (TOC) result reported above was determined by measuring total carbon by a persulfate digestion/infrared detection method on an acidified sample which has been purged of inorganic carbon using nitrogen. It represents "non-purgeable TOC".					
00345	Total Phosphorus as PO4 water	14265-44-2	0.78	0.12	mg/l	1
01553	Chemical Oxygen Demand	n.a.	32.4	2.2	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
	Sufficient sample volume was not available to perform a MS/MSD for this analysis. Therefore, a LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.					
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.81	ug/l	1



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Lancaster Laboratories Sample No. WW 3465785

Collected: 09/26/2000 15:20 by JK Account Number: 07802

Submitted: 09/27/2000 09:30  
 Reported: 10/16/00 at 02:29 PM  
 Discard: 11/16/00  
 MA3-TG3-3-260900-09 Grab Water Sample  
 Moss American Superfund Site - Milwaukee, WI

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

26099 SDG#: MOS68-12

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Dilution Factor
				Method	Units	
03281	Acenaphthylene	208-96-8	N.D.	Detection Limit	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.81	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.17	ug/l	1
03284	Phenanthrene	85-01-8	0.37	0.071	ug/l	1
03285	Anthracene	120-12-7	0.165 J	0.030	ug/l	1
03286	Fluoranthene	206-44-0	0.181 J	0.030	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.020	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.061	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.038	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.030	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.068	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis		Analyst	Dilution Factor
				Date and Time			
00217	Kjeldahl Nitrogen	EPA 351.2	1	10/03/2000 18:49		Venia M. McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/27/2000 20:07		Brad M. La Placa	1
00220	Nitrate Nitrogen	EPA 353.2	1	09/28/2000 12:37		Mark A. Buckwalter	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/29/2000 08:45		Michele L. Hanby	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/28/2000 02:00		Daniel S. Smith	1
00227	Total Phosphorus as P (water)	EPA 365.1	1	10/03/2000 11:03		Mark A. Buckwalter	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/28/2000 00:52		Elaine F. Stoltzfus	1
00273	Total Organic Carbon	EPA 415.1	1	10/02/2000 09:03		Timothy M. Petree	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	10/03/2000 11:03		Mark A. Buckwalter	1
01553	Chemical Oxygen Demand	EPA 410.2	1	10/11/2000 07:45		Susan A. Engle	1
08213	BTEX (8021)	SW-846 8021B	1	09/29/2000 03:49		Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	09/29/2000 19:24		Michelle J. Kolodziejski	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	10/03/2000 10:05		Patricia J. Weirich	1



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Lancaster Laboratories Sample No. WW 3465785

Collected: 09/26/2000 15:20 by JK

Account Number: 07802

Submitted: 09/27/2000 09:30

Kerr-McGee Corporation

Reported: 10/16/00 at 02:29 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MA3-TG3-3-260900-09 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

26099	SDG#: MOS68-12					
03337	PAH Water Extraction	SW-846 3510C	1	09/28/2000 13:30	John M. Becker	1
08263	Total Phos as P Prep (water)	EPA 365.1	1	10/02/2000 12:30	Patricia J. Weirich	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	10/02/2000 13:30	Patricia J. Weirich	1



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Lancaster Laboratories Sample No. WW 3466798

Collected: 09/27/2000 08:45 by SR Account Number: 07802

Submitted: 09/28/2000 09:00  
 Reported: 10/16/00 at 10:30 PM  
 Discard: 11/16/00  
 MA3-TG4-1-270900-01 Grab Water Sample  
 Moss American Superfund Site - Milwaukee, WI

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

19271 SDG#: MOS69-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	3.4 J	3.2	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l	1
00220	Nitrate Nitrogen	14797-55-8	0.050 J	0.030	mg/l	1
This sample was preserved to pH <2 with sulfuric acid immediately following the nitrite-nitrogen analysis. This extends the holding time for nitrate-nitrogen analysis to 28 days.						
00221	Ammonia Nitrogen	7664-41-7	2.2	0.15	mg/l	1
00226	Ortho-Phosphate as P	14265-44-2	0.0141 J	0.0056	mg/l	1
00227	Total Phosphorus as P (water)	7723-14-0	0.453	0.040	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	3.2	mg/l	1
00273	Total Organic Carbon	n.a.	11.2	0.40	mg/l	1
The Total Organic Carbon (TOC) result reported above was determined by measuring total carbon by a persulfate digestion/infrared detection method on an acidified sample which has been purged of inorganic carbon using nitrogen. It represents "non-purgeable TOC".						
00345	Total Phosphorus as PO4 water	14265-44-2	1.39	0.12	mg/l	1
04001	Chemical Oxygen Demand	n.a.	60.	6.4	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	1.0	ug/l	5
00777	Toluene	108-88-3	N.D.	1.0	ug/l	5
00778	Ethylbenzene	100-41-4	N.D.	1.0	ug/l	5
00779	Total Xylenes	1330-20-7	3.0 J	3.0	ug/l	5
Due to dilution of the sample made necessary by the high level of non-target compounds, normal quantitation limits were not attained.						
01861	PAH's in Water					
03280	Naphthalene	91-20-3	755.	8.0	ug/l	10
03281	Acenaphthylene	208-96-8	95.6	0.80	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.80	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.17	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.070	ug/l	1
03285	Anthracene	120-12-7	N.D.	0.030	ug/l	1



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Lancaster Laboratories Sample No. WW 3466798

Collected: 09/27/2000 08:45 by SR

Account Number: 07802

Submitted: 09/28/2000 09:00

Kerr-McGee Corporation

Reported: 10/16/00 at 10:30 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MA3-TG4-1-270900-01 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

19271 SDG#: MOS69-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Dilution Factor
				Method	Units	
03286	Fluoranthene	206-44-0	N.D.	0.030	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.020	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.060	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.038	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.030	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.067	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis		Analyst	Dilution Factor
				Date and Time			
00217	Kjeldahl Nitrogen	EPA 351.2	1	10/03/2000 18:50		Venia M. McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/29/2000 08:33		Mark A. Buckwalter	1
00220	Nitrate Nitrogen	EPA 353.2	1	10/04/2000 17:29		Venia M. McFadden	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/29/2000 08:45		Michele L. Hanby	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/29/2000 04:25		Daniel S. Smith	1
00227	Total Phosphorus as P (water)	EPA 365.1	1	10/03/2000 11:07		Mark A. Buckwalter	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/29/2000 00:10		NICOLE R. BUSHONG	1
00273	Total Organic Carbon	EPA 415.1	1	10/02/2000 09:27		Timothy M. Petree	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	10/03/2000 11:07		Mark A. Buckwalter	1
04001	Chemical Oxygen Demand	EPA 410.4	1	10/10/2000 08:55		Susan A. Engle	1
08213	BTEX (8021)	SW-846 8021B	1	10/01/2000 17:22		Steven J. Stabinger	5
01861	PAH's in Water	SW-846 8310	1	10/03/2000 12:03		Michelle J. Kolodziejski	1
01861	PAH's in Water	SW-846 8310	1	10/04/2000 10:34		Michelle J. Kolodziejski	10
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	10/03/2000 10:05		Patricia J. Weirich	1
03337	PAH Water Extraction	SW-846 3510C	1	10/02/2000 13:00		John M. Becker	1
08263	Total Phos as P Prep (water)	EPA 365.1	1	10/02/2000 12:30		Patricia J. Weirich	1



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Lancaster Laboratories Sample No. WW 3466798

Collected: 09/27/2000 08:45 by SR

Account Number: 07802

Submitted: 09/28/2000 09:00

Kerr-McGee Corporation

Reported: 10/16/00 at 10:30 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MA3-TG4-1-270900-01 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

19271 SDG#: MOS69-01

08264 Total Phos as PO4 Prep  
(water)

EPA 365.1

1 10/02/2000 13:30

Patricia J. Weirich

1



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Lancaster Laboratories Sample No. WW 3466799

Collected: 09/27/2000 08:55 by SR Account Number: 07802

Submitted: 09/28/2000 09:00  
 Reported: 10/16/00 at 10:30 PM  
 Discard: 11/16/00  
 MA3-TG4-2-270900-02 Grab Water Sample  
 Moss American Superfund Site - Milwaukee, WI

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

29272 SDG#: MOS69-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen The quantitation limit for total kjeldahl nitrogen was increased due to the nature of the sample matrix.	7727-37-9	N.D.	3.2	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l	1
00220	Nitrate Nitrogen This sample was preserved to pH <2 with sulfuric acid immediately following the nitrite-nitrogen analysis. This extends the holding time for nitrate-nitrogen analysis to 28 days.	14797-55-8	N.D.	0.030	mg/l	1
00221	Ammonia Nitrogen Sufficient sample volume was not available to perform matrix QC for this analysis. Therefore, an LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.	7664-41-7	1.2	0.15	mg/l	1
00226	Ortho-Phosphate as P	14265-44-2	0.038	0.0056	mg/l	1
00227	Total Phosphorus as P (water)	7723-14-0	0.406	0.040	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	3.6	mg/l	1
00273	Total Organic Carbon The Total Organic Carbon (TOC) result reported above was determined by measuring total carbon by a persulfate digestion/infrared detection method on an acidified sample which has been purged of inorganic carbon using nitrogen. It represents "non-purgeable TOC".	n.a.	9.5	0.40	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	1.25	0.12	mg/l	1
04001	Chemical Oxygen Demand	n.a.	91.	6.4	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	30.7	0.80	ug/l	1
03281	Acenaphthylene	208-96-8	4.04 J	0.80	ug/l	1
03282	Acenaphthene	83-32-9	2.7 J	0.80	ug/l	1
03283	Fluorene	86-73-7	0.23 J	0.17	ug/l	1



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Lancaster Laboratories Sample No. WW 3466799

Collected: 09/27/2000 08:55 by SR

Account Number: 07802

Submitted: 09/28/2000 09:00

Kerr-McGee Corporation

Reported: 10/16/00 at 10:30 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MA3-TG4-2-270900-02 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

29272 SDG#: MOS69-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Dilution Factor
				Method	Units	
03284	Phenanthrene	85-01-8	0.218 J	0.070	ug/l	1
03285	Anthracene	120-12-7	0.49	0.030	ug/l	1
03286	Fluoranthene	206-44-0	0.73	0.030	ug/l	1
03287	Pyrene	129-00-0	0.77 J	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	0.111	0.020	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.060	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	0.123	0.038	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	0.0530 J	0.0100	ug/l	1
03292	Benzo(a)pyrene	50-32-8	0.118	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.030	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	0.171 J	0.100	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	0.138 J	0.067	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
00217	Kjeldahl Nitrogen	EPA 351.2	1	10/03/2000 18:54	Venia M. McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/29/2000 08:34	Mark A. Buckwalter	1
00220	Nitrate Nitrogen	EPA 353.2	1	10/04/2000 17:31	Venia M. McFadden	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/29/2000 08:45	Michele L. Hanby	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/29/2000 04:25	Daniel S. Smith	1
00227	Total Phosphorus as P (water)	EPA 365.1	1	10/03/2000 11:08	Mark A. Buckwalter	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/29/2000 00:10	NICOLE R. BUSHONG	1
00273	Total Organic Carbon	EPA 415.1	1	10/02/2000 09:35	Timothy M. Petree	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	10/03/2000 11:08	Mark A. Buckwalter	1
04001	Chemical Oxygen Demand	EPA 410.4	1	10/10/2000 08:55	Susan A. Engle	1
08213	BTEX (8021)	SW-846 8021B	1	10/01/2000 19:00	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/03/2000 12:24	Michelle J. Kolodziejewski	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	10/03/2000 10:05	Patricia J. Weirich	1
03337	PAH Water Extraction	SW-846 3510C	1	10/02/2000 13:00	John M. Becker	1
08263	Total Phos as P Prep (water)	EPA 365.1	1	10/02/2000 12:30	Patricia J. Weirich	1



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Lancaster Laboratories Sample No. WW 3466799

Collected: 09/27/2000 08:55 by SR

Account Number: 07802

Submitted: 09/28/2000 09:00

Kerr-McGee Corporation

Reported: 10/16/00 at 10:30 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MA3-TG4-2-270900-02 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

29272 SDG#: MOS69-02

08264 Total Phos as PO4 Prep  
(water)

EPA 365.1

1 10/02/2000 13:30

Patricia J. Weirich

1



Lancaster Laboratories Sample No. WW 3466800

Collected: 09/27/2000 09:05 by SR

Account Number: 07802

Submitted: 09/28/2000 09:00

Kerr-McGee Corporation

Reported: 10/16/00 at 10:30 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MA3-TG4-3-270900-03 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

39273 SDG#: MOS69-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen The quantitation limit for total kjeldahl nitrogen was increased due to the nature of the sample matrix.	7727-37-9	N.D.	3.2	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l	1
00220	Nitrate Nitrogen This sample was preserved to pH <2 with sulfuric acid immediately following the nitrite-nitrogen analysis. This extends the holding time for nitrate-nitrogen analysis to 28 days.	14797-55-8	N.D.	0.030	mg/l	1
00221	Ammonia Nitrogen Sufficient sample volume was not available to perform matrix QC for this analysis. Therefore, an LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.	7664-41-7	1.9	0.15	mg/l	1
00226	Ortho-Phosphate as P	14265-44-2	0.033	0.0056	mg/l	1
00227	Total Phosphorus as P (water)	7723-14-0	0.346	0.040	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	4.7	mg/l	1
00273	Total Organic Carbon The Total Organic Carbon (TOC) result reported above was determined by measuring total carbon by a persulfate digestion/infrared detection method on an acidified sample which has been purged of inorganic carbon using nitrogen. It represents "non-purgeable TOC".	n.a.	9.2	0.40	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	1.06	0.12	mg/l	1
04001	Chemical Oxygen Demand	n.a.	56.	6.4	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes 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.	1330-20-7	N.D.	0.60	ug/l	1

01861 PAH's in Water



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Lancaster Laboratories Sample No. WW 3466800

Collected: 09/27/2000 09:05 by SR Account Number: 07802

Submitted: 09/28/2000 09:00  
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 Discard: 11/16/00  
 MA3-TG4-3-270900-03 Grab Water Sample  
 Moss American Superfund Site - Milwaukee, WI

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

39273 SDG#: MOS69-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Dilution Factor
				Method	Units	
03280	Naphthalene	91-20-3	N.D.	Detection Limit 0.79	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.79	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.79	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.17	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.069	ug/l	1
03285	Anthracene	120-12-7	0.083 J	0.029	ug/l	1
03286	Fluoranthene	206-44-0	N.D.	0.029	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.020	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.059	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.037	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.0098	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.029	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.098	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.066	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
00217	Kjeldahl Nitrogen	EPA 351.2	1	10/03/2000 18:55	Venia M. McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/29/2000 08:35	Mark A. Buckwalter	1
00220	Nitrate Nitrogen	EPA 353.2	1	10/04/2000 17:32	Venia M. McFadden	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/29/2000 08:45	Michele L. Hanby	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/29/2000 04:25	Daniel S. Smith	1
00227	Total Phosphorus as P (water)	EPA 365.1	1	10/03/2000 11:09	Mark A. Buckwalter	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/29/2000 00:10	NICOLE R. BUSHONG	1
00273	Total Organic Carbon	EPA 415.1	1	10/02/2000 09:43	Timothy M. Petree	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	10/03/2000 11:09	Mark A. Buckwalter	1
04001	Chemical Oxygen Demand	EPA 410.4	1	10/10/2000 08:55	Susan A. Engle	1
08213	BTEX (8021)	SW-846 8021B	1	10/01/2000 19:33	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/03/2000 12:46	Michelle J. Kolodziejcki	1



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Lancaster Laboratories Sample No. WW 3466800

Collected: 09/27/2000 09:05 by SR

Account Number: 07802

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Discard: 11/16/00

MA3-TG4-3-270900-03 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

Kerr-McGee Corporation

P.O. Box 25861

Oklahoma City OK 73125

39273	SDG#: MOS69-03						
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	10/03/2000 10:05	Patricia J. Weirich	1	
03337	PAH Water Extraction	SW-846 3510C	1	10/02/2000 13:00	John M. Becker	1	
08263	Total Phos as P Prep (water)	EPA 365.1	1	10/02/2000 13:00	Patricia J. Weirich	1	
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	10/02/2000 13:30	Patricia J. Weirich	1	



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Lancaster Laboratories Sample No. WW 3467872

Collected: 09/28/2000 08:25 by SR Account Number: 07802

Submitted: 09/29/2000 10:30  
 Reported: 10/17/00 at 02:12 AM  
 Discard: 11/17/00  
 MA3-TG5-1-280900-01 Grab Water Sample  
 Moss American Superfund Site - Milwaukee, WI

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

19281 SDG#: MOS70-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	N.D.	6.3	mg/l	1
	The quantitation limit for total kjeldahl nitrogen was increased due to the nature of the sample matrix.					
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l	1
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.030	mg/l	1
	This sample was preserved to pH <2 with sulfuric acid immediately following the nitrite-nitrogen analysis. This extends the holding time for nitrate-nitrogen analysis to 28 days.					
00221	Ammonia Nitrogen	7664-41-7	0.95 J	0.15	mg/l	1
00226	Ortho-Phosphate as P	14265-44-2	0.033	0.0056	mg/l	1
00227	Total Phosphorus as P (water)	7723-14-0	0.163	0.040	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	1.7	mg/l	1
00273	Total Organic Carbon	n.a.	6.5	0.40	mg/l	1
	The Total Organic Carbon (TOC) result reported above was determined by measuring total carbon by a persulfate digestion/infrared detection method on an acidified sample which has been purged of inorganic carbon using nitrogen. It represents "non-purgeable TOC".					
00345	Total Phosphorus as PO4 water	14265-44-2	0.50	0.12	mg/l	1
04001	Chemical Oxygen Demand	n.a.	43.3 J	6.4	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	2.44 J	0.80	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.80	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.80	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.17	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.070	ug/l	1
03285	Anthracene	120-12-7	N.D.	0.030	ug/l	1
03286	Fluoranthene	206-44-0	N.D.	0.030	ug/l	1



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Lancaster Laboratories Sample No. WW 3467872

Collected: 09/28/2000 08:25 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:12 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MA3-TG5-1-280900-01 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

19281 SDG#: MOS70-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Dilution Factor
				Method	Units	
03287	Pyrene	129-00-0	N.D.	Detection Limit	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.17	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.020	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.060	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.038	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.0100	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.020	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.030	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.100	ug/l	1
				0.067	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
00217	Kjeldahl Nitrogen	EPA 351.2	1	10/07/2000 10:47	Mark A. Buckwalter	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/30/2000 08:12	Mark A. Buckwalter	1
00220	Nitrate Nitrogen	EPA 353.2	1	10/04/2000 17:49	Venia M. McFadden	1
00221	Ammonia Nitrogen	EPA 350.2	1	10/05/2000 09:45	Debra A. Bryan	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/30/2000 06:50	Michele L. Hanby	1
00227	Total Phosphorus as P (water)	EPA 365.1	1	10/03/2000 11:13	Mark A. Buckwalter	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/30/2000 05:35	Daniel S. Smith	1
00273	Total Organic Carbon	EPA 415.1	1	10/02/2000 14:11	Timothy M. Petree	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	10/03/2000 11:13	Mark A. Buckwalter	1
04001	Chemical Oxygen Demand	EPA 410.4	1	10/12/2000 07:20	Susan A. Engle	1
08213	BTEX (8021)	SW-846 8021B	1	10/02/2000 17:27	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/05/2000 12:25	Michelle J. Kolodziejewski	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	2	10/06/2000 11:50	Venia M. McFadden	1
03337	PAH Water Extraction	SW-846 3510C	1	10/05/2000 01:00	Darin P. Wagner	1
08263	Total Phos as P Prep (water)	EPA 365.1	1	10/02/2000 13:00	Patricia J. Weirich	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	10/02/2000 13:30	Patricia J. Weirich	1



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Lancaster Laboratories Sample No. WW 3467872

Collected: 09/28/2000 08:25 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:12 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MA3-TG5-1-280900-01 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

19281 SDG#: MOS70-01



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Lancaster Laboratories Sample No. WW 3467873

Collected: 09/28/2000 08:35 by SR Account Number: 07802

Submitted: 09/29/2000 10:30  
 Reported: 10/17/00 at 02:13 AM  
 Discard: 11/17/00  
 MA3-TG5-2-280900-02 Grab Water Sample  
 Moss American Superfund Site - Milwaukee, WI

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

29282 SDG#: MOS70-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen The quantitation limit for total kjeldahl nitrogen was increased due to the nature of the sample matrix.	7727-37-9	N.D.	6.3	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l	1
00220	Nitrate Nitrogen This sample was preserved to pH <2 with sulfuric acid immediately following the nitrite-nitrogen analysis. This extends the holding time for nitrate-nitrogen analysis to 28 days.	14797-55-8	N.D.	0.030	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	0.86 J	0.15	mg/l	1
00226	Ortho-Phosphate as P	14265-44-2	0.023	0.0056	mg/l	1
00227	Total Phosphorus as P (water)	7723-14-0	0.113	0.040	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	4.8	mg/l	1
00273	Total Organic Carbon The Total Organic Carbon (TOC) result reported above was determined by measuring total carbon by a persulfate digestion/infrared detection method on an acidified sample which has been purged of inorganic carbon using nitrogen. It represents "non-purgeable TOC".	n.a.	8.9	0.40	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	0.35	0.12	mg/l	1
04001	Chemical Oxygen Demand	n.a.	75.	6.4	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	8.1	ug/l	10
03281	Acenaphthylene	208-96-8	N.D.	8.1	ug/l	10
03282	Acenaphthene	83-32-9	N.D.	8.1	ug/l	10
03283	Fluorene	86-73-7	N.D.	1.7	ug/l	10
03284	Phenanthrene	85-01-8	N.D.	0.71	ug/l	10
03285	Anthracene	120-12-7	N.D.	0.30	ug/l	10
03286	Fluoranthene	206-44-0	0.33 J	0.30	ug/l	10



Lancaster Laboratories Sample No. WW 3467873

Collected: 09/28/2000 08:35 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:13 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MA3-TG5-2-280900-02 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

29282 SDG#: MOS70-02

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method		Dilution Factor
					Detection Limit	Units	
03287	Pyrene	129-00-0	N.D.		1.7	ug/l	10
03288	Benzo(a)anthracene	56-55-3	N.D.		0.20	ug/l	10
03289	Chrysene	218-01-9	N.D.		0.61	ug/l	10
03290	Benzo(b)fluoranthene	205-99-2	0.44	J	0.39	ug/l	10
03291	Benzo(k)fluoranthene	207-08-9	0.12	J	0.10	ug/l	10
03292	Benzo(a)pyrene	50-32-8	0.70	J	0.20	ug/l	10
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.		0.30	ug/l	10
03294	Benzo(g,h,i)perylene	191-24-2	1.3	J	1.0	ug/l	10
03295	Indeno(1,2,3-cd)pyrene	193-39-5	0.98	J	0.68	ug/l	10

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The Limits of Quantitation (LOQ's) were raised accordingly.

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
00217	Kjeldahl Nitrogen	EPA 351.2	1	10/07/2000 10:48	Mark A. Buckwalter	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/30/2000 08:13	Mark A. Buckwalter	1
00220	Nitrate Nitrogen	EPA 353.2	1	10/04/2000 17:51	Venia M. McFadden	1
00221	Ammonia Nitrogen	EPA 350.2	1	10/05/2000 09:45	Debra A. Bryan	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/30/2000 06:50	Michele L. Hanby	1
00227	Total Phosphorus as P (water)	EPA 365.1	1	10/03/2000 11:14	Mark A. Buckwalter	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/30/2000 05:35	Daniel S. Smith	1
00273	Total Organic Carbon	EPA 415.1	1	10/02/2000 14:19	Timothy M. Petree	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	10/03/2000 11:14	Mark A. Buckwalter	1
04001	Chemical Oxygen Demand	EPA 410.4	1	10/12/2000 07:20	Susan A. Engle	1
08213	BTEX (8021)	SW-846 8021B	1	10/02/2000 18:00	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/12/2000 19:30	Michelle J. Kolodziejwski	10
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	2	10/06/2000 11:50	Venia M. McFadden	1
03337	PAH Water Extraction	SW-846 3510C	1	10/05/2000 01:00	Darin P. Wagner	1
08263	Total Phos as P Prep (water)	EPA 365.1	1	10/02/2000 13:00	Patricia J. Weirich	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	10/02/2000 13:30	Patricia J. Weirich	1



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Lancaster Laboratories Sample No. WW 3467873

Collected: 09/28/2000 08:35 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:13 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MA3-TG5-2-280900-02 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

29282 SDG#: MOS70-02



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Lancaster Laboratories Sample No. WW 3467874

Collected: 09/28/2000 08:40

by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:13 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MA3-TG5-3-280900-03 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

39283 SDG#: MOS70-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen The quantitation limit for total kjeldahl nitrogen was increased due to the nature of the sample matrix.	7727-37-9	N.D.	6.3	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	0.016 J	0.015	mg/l	1
00220	Nitrate Nitrogen This sample was preserved to pH <2 with sufuric acid immediately following the nitrite-nitrogen analysis. This extends the holding time for nitrate-nitrogen analysis to 28 days.	14797-55-8	N.D.	0.030	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	0.27 J	0.15	mg/l	1
00226	Ortho-Phosphate as P	14265-44-2	0.087	0.0056	mg/l	1
00227	Total Phosphorus as P (water)	7723-14-0	0.141	0.040	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	4.8	mg/l	1
00273	Total Organic Carbon The Total Organic Carbon (TOC) result reported above was determined by measuring total carbon by a persulfate digestion/infrared detection method on an acidified sample which has been purged of inorganic carbon using nitrogen. It represents "non-purgeable TOC".	n.a.	5.5	0.40	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	0.43	0.12	mg/l	1
04001	Chemical Oxygen Demand	n.a.	37.1 J	6.4	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.79	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.79	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.79	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.17	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.069	ug/l	1
03285	Anthracene	120-12-7	N.D.	0.029	ug/l	1
03286	Fluoranthene	206-44-0	N.D.	0.029	ug/l	1



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Lancaster Laboratories Sample No. WW 3467874

Collected: 09/28/2000 08:40 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:13 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MA3-TG5-3-280900-03 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

39283 SDG#: MOS70-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Dilution Factor
				Method	Units	
03287	Pyrene	129-00-0	N.D.	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.020	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.059	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.037	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.0098	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.029	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.098	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.066	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
00217	Kjeldahl Nitrogen	EPA 351.2	1	10/07/2000 10:49	Mark A. Buckwalter	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/30/2000 08:14	Mark A. Buckwalter	1
00220	Nitrate Nitrogen	EPA 353.2	1	10/04/2000 17:52	Venia M. McFadden	1
00221	Ammonia Nitrogen	EPA 350.2	1	10/05/2000 09:45	Debra A. Bryan	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/30/2000 06:50	Michele L. Hanby	1
00227	Total Phosphorus as P (water)	EPA 365.1	1	10/03/2000 11:14	Mark A. Buckwalter	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/30/2000 05:35	Daniel S. Smith	1
00273	Total Organic Carbon	EPA 415.1	1	10/02/2000 14:27	Timothy M. Petree	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	10/03/2000 11:14	Mark A. Buckwalter	1
04001	Chemical Oxygen Demand	EPA 410.4	1	10/12/2000 07:20	Susan A. Engle	1
08213	BTEX (8021)	SW-846 8021B	1	10/02/2000 18:32	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	<del>10/09/2000</del> 13:55	Michelle J. Kolodziejcki	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	2	10/06/2000 11:50	Venia M. McFadden	1
03337	PAH Water Extraction	SW-846 3510C	1	10/05/2000 01:00	Darin P. Wagner	1
08263	Total Phos as P Prep (water)	EPA 365.1	1	10/02/2000 13:00	Patricia J. Weirich	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	10/02/2000 13:30	Patricia J. Weirich	1



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Lancaster Laboratories Sample No. WW 3467874

Collected: 09/28/2000 08:40 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:13 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MA3-TG5-3-280900-03 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

39283 SDG#: MOS70-03



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Lancaster Laboratories Sample No. WW 3466806

Collected: 09/27/2000 14:40 by SR Account Number: 07802

Submitted: 09/28/2000 09:00  
 Reported: 10/16/00 at 10:30 PM  
 Discard: 11/16/00  
 MA3-TG5-1-270900-04 Grab Water Sample  
 Moss American Superfund Site - Milwaukee, WI

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

19274 SDG#: MOS69-09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen The quantitation limit for total kjeldahl nitrogen was increased due to the nature of the sample matrix.	7727-37-9	N.D.	3.2	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	0.030 J	0.015	mg/l	1
00220	Nitrate Nitrogen This sample was preserved to pH <2 with sulfuric acid immediately following the nitrite-nitrogen analysis. This extends the holding time for nitrate-nitrogen analysis to 28 days.	14797-55-8	N.D.	0.030	mg/l	1
00221	Ammonia Nitrogen Sufficient sample volume was not available to perform matrix QC for this analysis. Therefore, an LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.	7664-41-7	0.48 J	0.15	mg/l	1
00226	Ortho-Phosphate as P	14265-44-2	0.108	0.0056	mg/l	1
00227	Total Phosphorus as P (water)	7723-14-0	1.48	0.040	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	6.6	0.67	mg/l	1
00273	Total Organic Carbon The Total Organic Carbon (TOC) result reported above was determined by measuring total carbon by a persulfate digestion/infrared detection method on an acidified sample which has been purged of inorganic carbon using nitrogen. It represents "non-purgeable TOC".	n.a.	5.7	0.40	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	4.54	0.12	mg/l	1
04001	Chemical Oxygen Demand	n.a.	154.	6.4	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes 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.	1330-20-7	N.D.	0.60	ug/l	1

01861 PAH's in Water



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Lancaster Laboratories Sample No. WW 3466806

Collected: 09/27/2000 14:40 by SR

Account Number: 07802

Submitted: 09/28/2000 09:00

Kerr-McGee Corporation

Reported: 10/16/00 at 10:30 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MA3-TG5-1-270900-04 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

19274 SDG#: MOS69-09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Dilution Factor
				Method	Units	
03280	Naphthalene	91-20-3	N.D.	0.78	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.78	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.78	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.16	ug/l	1
03284	Phenanthrene	85-01-8	0.081 J	0.068	ug/l	1
03285	Anthracene	120-12-7	0.176 J	0.029	ug/l	1
03286	Fluoranthene	206-44-0	0.163 J	0.029	ug/l	1
03287	Pyrene	129-00-0	0.19 J	0.16	ug/l	1
03288	Benzo(a)anthracene	56-55-3	0.044 J	0.019	ug/l	1
03289	Chrysene	218-01-9	0.061 J	0.058	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	0.049 J	0.037	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	0.0202 J	0.0097	ug/l	1
03292	Benzo(a)pyrene	50-32-8	0.044 J	0.019	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.029	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.097	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.065	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
00217	Kjeldahl Nitrogen	EPA 351.2	1	10/03/2000 18:59	Venia M. McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/29/2000 08:37	Mark A. Buckwalter	1
00220	Nitrate Nitrogen	EPA 353.2	1	10/04/2000 17:33	Venia M. McFadden	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/29/2000 08:45	Michele L. Hanby	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/29/2000 04:25	Daniel S. Smith	1
00227	Total Phosphorus as P (water)	EPA 365.1	1	10/03/2000 11:10	Mark A. Buckwalter	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/29/2000 00:10	NICOLE R. BUSHONG	1
00273	Total Organic Carbon	EPA 415.1	1	10/02/2000 09:51	Timothy M. Petree	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	10/03/2000 11:10	Mark A. Buckwalter	1
04001	Chemical Oxygen Demand	EPA 410.4	1	10/10/2000 08:55	Susan A. Engle	1
08213	BTEX (8021)	SW-846 8021B	1	10/01/2000 21:43	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/03/2000 15:16	Michelle J. Kolodziejcki	1



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Lancaster Laboratories Sample No. WW 3466806

Collected: 09/27/2000 14:40 by SR

Account Number: 07802

Submitted: 09/28/2000 09:00

Reported: 10/16/00 at 10:30 PM

Discard: 11/16/00

MA3-TG5-1-270900-04 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

Kerr-McGee Corporation

P.O. Box 25861

Oklahoma City OK 73125

19274	SDG#: MOS69-09					
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	10/03/2000 10:05	Patricia J. Weirich	1
03337	PAH Water Extraction	SW-846 3510C	1	10/02/2000 13:00	John M. Becker	1
08263	Total Phos as P Prep (water)	EPA 365.1	1	10/02/2000 13:00	Patricia J. Weirich	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	10/02/2000 13:30	Patricia J. Weirich	1



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Lancaster Laboratories Sample No. WW 3466807

Collected: 09/27/2000 14:40 by SR

Account Number: 07802

Submitted: 09/28/2000 09:00

Kerr-McGee Corporation

Reported: 10/16/00 at 10:31 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MA3-TG6-1-270900-04 Dup Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

9274D SDG#: MOS69-10FD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
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.						
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.77	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.77	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.77	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.16	ug/l	1
03284	Phenanthrene	85-01-8	0.121 J	0.067	ug/l	1
03285	Anthracene	120-12-7	0.189 J	0.029	ug/l	1
03286	Fluoranthene	206-44-0	0.27	0.029	ug/l	1
03287	Pyrene	129-00-0	0.28 J	0.16	ug/l	1
03288	Benzo(a)anthracene	56-55-3	0.067 J	0.019	ug/l	1
03289	Chrysene	218-01-9	0.072 J	0.058	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	0.071	0.036	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	0.0295 J	0.0096	ug/l	1
03292	Benzo(a)pyrene	50-32-8	0.066 J	0.019	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.029	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.096	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.064	ug/l	1

### Laboratory Chronicle



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Lancaster Laboratories Sample No. WW 3466807

Collected: 09/27/2000 14:40 by SR

Account Number: 07802

Submitted: 09/28/2000 09:00

Kerr-McGee Corporation

Reported: 10/16/00 at 10:31 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MA3-TG5-1-270900-04 Dup Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

9274D SDG#: MOS69-10FD

CAT	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	10/01/2000 22:16	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/03/2000 15:38	Michelle J. Kolodziejski	1
03337	PAH Water Extraction	SW-846 3510C	1	10/02/2000 13:00	John M. Becker	1



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Lancaster Laboratories Sample No. WW 3466808

Collected: 09/27/2000 14:50 by SR

Account Number: 07802

Submitted: 09/28/2000 09:00

Kerr-McGee Corporation

Reported: 10/16/00 at 10:31 PM

P.O. Box 25861

Discard: 11/16/00

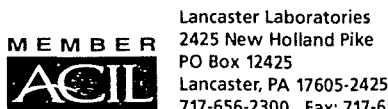
Oklahoma City OK 73125

MA3-TG6-2-270900-05 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

29275 SDG#: MOS69-11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen The quantitation limit for total kjeldahl nitrogen was increased due to the nature of the sample matrix.	7727-37-9	N.D.	1.6	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l	1
00220	Nitrate Nitrogen This sample was preserved to pH <2 with sulfuric acid immediately following the nitrite-nitrogen analysis. This extends the holding time for nitrate-nitrogen analysis to 28 days.	14797-55-8	N.D.	0.030	mg/l	1
00221	Ammonia Nitrogen Sufficient sample volume was not available to perform matrix QC for this analysis. Therefore, an LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.	7664-41-7	0.33 J	0.15	mg/l	1
00226	Ortho-Phosphate as P	14265-44-2	0.100	0.0056	mg/l	1
00227	Total Phosphorus as P (water)	7723-14-0	0.949	0.040	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	5.1	mg/l	1
00273	Total Organic Carbon The Total Organic Carbon (TOC) result reported above was determined by measuring total carbon by a persulfate digestion/infrared detection method on an acidified sample which has been purged of inorganic carbon using nitrogen. It represents "non-purgeable TOC".	n.a.	5.8	0.40	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	2.91	0.12	mg/l	1
04001	Chemical Oxygen Demand	n.a.	137.	6.4	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes 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.	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					



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Lancaster Laboratories Sample No. WW 3466808

Collected: 09/27/2000 14:50 by SR

Account Number: 07802

Submitted: 09/28/2000 09:00  
 Reported: 10/16/00 at 10:31 PM  
 Discard: 11/16/00

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

MA3-TG5-2-270900-05 Grab Water Sample  
 Moss American Superfund Site - Milwaukee, WI

29275 SDG#: MOS69-11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Units	Dilution Factor
				Method	Detection Limit		
03280	Naphthalene	91-20-3	N.D.		0.80	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.		0.80	ug/l	1
03282	Acenaphthene	83-32-9	N.D.		0.80	ug/l	1
03283	Fluorene	86-73-7	N.D.		0.17	ug/l	1
03284	Phenanthrene	85-01-8	N.D.		0.070	ug/l	1
03285	Anthracene	120-12-7	0.20		0.030	ug/l	1
03286	Fluoranthene	206-44-0	0.29		0.030	ug/l	1
03287	Pyrene	129-00-0	0.34 J		0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	0.070 J		0.020	ug/l	1
03289	Chrysene	218-01-9	0.075 J		0.060	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	0.061		0.038	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	0.0269 J		0.0100	ug/l	1
03292	Benzo(a)pyrene	50-32-8	0.068 J		0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.		0.030	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.		0.100	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.067	ug/l	1

Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Analyst	Dilution Factor
			Trial#	Date and Time			
00217	Kjeldahl Nitrogen	EPA 351.2	1	10/13/2000 17:56	Venia M. McFadden	1	
00219	Nitrite Nitrogen	EPA 353.2	1	09/29/2000 08:38	Mark A. Buckwalter	1	
00220	Nitrate Nitrogen	EPA 353.2	1	10/04/2000 17:34	Venia M. McFadden	1	
00221	Ammonia Nitrogen	EPA 350.2	1	09/29/2000 08:45	Michele L. Hanby	1	
00226	Ortho-Phosphate as P	EPA 365.3	1	09/29/2000 04:25	Daniel S. Smith	1	
00227	Total Phosphorus as P (water)	EPA 365.1	1	10/03/2000 11:11	Mark A. Buckwalter	1	
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/29/2000 00:10	NICOLE R. BUSHONG	1	
00273	Total Organic Carbon	EPA 415.1	1	10/02/2000 09:59	Timothy M. Petree	1	
00345	Total Phosphorus as PO4 water	EPA 365.1	1	10/03/2000 11:11	Mark A. Buckwalter	1	
04001	Chemical Oxygen Demand	EPA 410.4	1	10/10/2000 08:55	Susan A. Engle	1	
08213	BTEX (8021)	SW-846 8021B	1	10/01/2000 23:54	Steven J. Stabinger	1	
01861	PAH's in Water	SW-846 8310	1	10/03/2000 15:59	Michelle J. Kolodziejwski	1	



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Lancaster Laboratories Sample No. WW 3466808

Collected: 09/27/2000 14:50 by SR

Account Number: 07802

Submitted: 09/28/2000 09:00

Reported: 10/16/00 at 10:31 PM

Discard: 11/16/00

MA3-TG5-2-270900-05 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

Kerr-McGee Corporation

P.O. Box 25861

Oklahoma City OK 73125

29275	SDG#: MOS69-11					
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	2	10/12/2000 11:50	Patricia J. Weirich	1
03337	PAH Water Extraction	SW-846 3510C	1	10/02/2000 13:00	John M. Becker	1
08263	Total Phos as P Prep (water)	EPA 365.1	1	10/02/2000 13:00	Patricia J. Weirich	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	10/02/2000 13:30	Patricia J. Weirich	1



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Lancaster Laboratories Sample No. WW 3466809

Collected: 09/27/2000 15:00 by SR

Account Number: 07802

Submitted: 09/28/2000 09:00

Kerr-McGee Corporation

Reported: 10/16/00 at 10:31 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MA3-TG~~3~~-270900-06 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

29276 SDG#: MOS69-12

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen The quantitation limit for total kjeldahl nitrogen was increased due to the nature of the sample matrix.	7727-37-9	1.8 J	1.6	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l	1
00220	Nitrate Nitrogen This sample was preserved to pH <2 with sulfuric acid immediately following the nitrite-nitrogen analysis. This extends the holding time for nitrate-nitrogen analysis to 28 days.	14797-55-8	N.D.	0.030	mg/l	1
00221	Ammonia Nitrogen Sufficient sample volume was not available to perform matrix QC for this analysis. Therefore, an LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.	7664-41-7	0.92 J	0.15	mg/l	1
00226	Ortho-Phosphate as P	14265-44-2	0.032	0.0056	mg/l	1
00227	Total Phosphorus as P (water)	7723-14-0	0.477	0.040	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	3.0	mg/l	1
00273	Total Organic Carbon The Total Organic Carbon (TOC) result reported above was determined by measuring total carbon by a persulfate digestion/infrared detection method on an acidified sample which has been purged of inorganic carbon using nitrogen. It represents "non-purgeable TOC".	n.a.	10.8	0.40	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	1.47	0.12	mg/l	1
04001	Chemical Oxygen Demand	n.a.	87.	6.4	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.87	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.87	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.87	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.18	ug/l	1



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Lancaster Laboratories Sample No. WW 3466809

Collected: 09/27/2000 15:00 by SR

Account Number: 07802

Submitted: 09/28/2000 09:00  
 Reported: 10/16/00 at 10:31 PM  
 Discard: 11/16/00

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

MA3-TG5-270900-06 Grab Water Sample  
 Moss American Superfund Site - Milwaukee, WI

29276 SDG#: MOS69-12

CAT No.	Analysis Name	CAS Number	As Received	As Received	Units	Dilution Factor
			Result	Method		
03284	Phenanthrene	85-01-8	N.D.	0.076	ug/l	1
03285	Anthracene	120-12-7	0.063 J	0.033	ug/l	1
03286	Fluoranthene	206-44-0	N.D.	0.033	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.18	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.022	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.065	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.041	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.011	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.022	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.033	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.073	ug/l	1

Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution
			Trial#	Date and Time		Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	10/13/2000 17:57	Venia M. McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/29/2000 08:39	Mark A. Buckwalter	1
00220	Nitrate Nitrogen	EPA 353.2	1	10/04/2000 17:36	Venia M. McFadden	1
00221	Ammonia Nitrogen	EPA 350.2	1	10/04/2000 09:45	Debra A. Bryan	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/29/2000 04:25	Daniel S. Smith	1
00227	Total Phosphorus as P (water)	EPA 365.1	1	10/03/2000 11:12	Mark A. Buckwalter	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/29/2000 00:10	NICOLE R. BUSHONG	1
00273	Total Organic Carbon	EPA 415.1	1	10/02/2000 10:07	Timothy M. Petree	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	10/03/2000 11:12	Mark A. Buckwalter	1
04001	Chemical Oxygen Demand	EPA 410.4	1	10/10/2000 08:55	Susan A. Engle	1
08213	BTEX (8021)	SW-846 8021B	1	09/29/2000 17:27	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/03/2000 16:21	Michelle J. Kolodziejwski	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	2	10/12/2000 11:50	Patricia J. Weirich	1
03337	PAH Water Extraction	SW-846 3510C	1	10/02/2000 13:00	John M. Becker	1
08263	Total Phos as P Prep (water)	EPA 365.1	1	10/02/2000 13:00	Patricia J. Weirich	1



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Lancaster Laboratories Sample No. WW 3466809

Collected: 09/27/2000 15:00 by SR

Account Number: 07802

Submitted: 09/28/2000 09:00

Kerr-McGee Corporation

Reported: 10/16/00 at 10:31 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MA3-TG5-270900-06 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

29276 SDG#: MOS69-12

08264 Total Phos as PO4 Prep (water)

EPA 365.1

1 10/02/2000 13:30 Patricia J. Weirich 1



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Lancaster Laboratories Sample No. WW 3468880

Collected: 09/29/2000 11:30

by JK

Account Number: 07802

Submitted: 09/30/2000 10:00

Reported: 10/17/00 at 10:48 PM

Discard: 11/17/00

MW-3I-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

Kerr-McGee Corporation

P.O. Box 25861

Oklahoma City OK 73125

3-I11 SDG#: MOS71-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.82	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.82	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.82	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.17	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.072	ug/l	1
03285	Anthracene	120-12-7	0.095 J	0.031	ug/l	1
03286	Fluoranthene	206-44-0	N.D.	0.031	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.021	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.062	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.039	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.021	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.031	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.069	ug/l	1

The recoveries for acenaphthylene, acenaphthene, and fluorene are outside the QC limits; therefore the associated samples were reextracted. The reextraction was performed outside the method hold time. These compounds met QC criteria for the LCS associated with the reextraction. Similar results were observed for the original extract and the reextract. The original results were reported.



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Lancaster Laboratories Sample No. WW 3468880

Collected: 09/29/2000 11:30 by JK

Account Number: 07802

Submitted: 09/30/2000 10:00

Kerr-McGee Corporation

Reported: 10/17/00 at 10:48 PM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MW-3I-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

3-I11 SDG#: MOS71-04

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
08213	BTEX (8021)	SW-846 8021B	1	10/03/2000 16:33	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/10/2000 14:58	Michelle J. Kolodziejwski	1
03337	PAH Water Extraction	SW-846 3510C	1	10/05/2000 14:00	John M. Becker	1



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Lancaster Laboratories Sample No. WW 3468881

Collected: 09/29/2000 11:40 by JK Account Number: 07802

Submitted: 09/30/2000 10:00  
 Reported: 10/17/00 at 10:48 PM  
 Discard: 11/17/00  
 MW-4I-11 Grab Water Sample  
 Moss American Superfund Site - Milwaukee, WI

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

4-I11 SDG#: MOS71-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.80	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.80	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.80	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.17	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.070	ug/l	1
03285	Anthracene	120-12-7	N.D.	0.030	ug/l	1
03286	Fluoranthene	206-44-0	N.D.	0.030	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.020	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.060	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.038	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.030	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.067	ug/l	1

The recoveries for acenaphthylene, acenaphthene, and fluorene are outside the QC limits; therefore the associated samples were reextracted. The reextraction was performed outside the method hold time. These compounds met QC criteria for the LCS associated with the reextraction. Similar results were observed for the original extract and the reextract. The original results were reported.



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Lancaster Laboratories Sample No. WW 3468881

Collected: 09/29/2000 11:40 by JK

Account Number: 07802

Submitted: 09/30/2000 10:00

Kerr-McGee Corporation

Reported: 10/17/00 at 10:48 PM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MW-4I-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

4-I11 SDG#: MOS71-05

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
08213	BTEX (8021)	SW-846 8021B	1	10/03/2000 17:06	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/10/2000 15:20	Michelle J. Kolodziejski	1
03337	PAH Water Extraction	SW-846 3510C	1	10/05/2000 14:00	John M. Becker	1



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Lancaster Laboratories Sample No. WW 3466805

Collected: 09/27/2000 11:35 by SR Account Number: 07802

Submitted: 09/28/2000 09:00  
 Reported: 10/16/00 at 10:30 PM  
 Discard: 11/16/00  
 MW-7I-11 Grab Water Sample  
 Moss American Superfund Site - Milwaukee, WI

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

7I011 SDG#: MOS69-08

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
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.						
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.81	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.81	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.81	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.17	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.071	ug/l	1
03285	Anthracene	120-12-7	0.095 J	0.030	ug/l	1
03286	Fluoranthene	206-44-0	N.D.	0.030	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.020	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.061	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.039	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.030	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.068	ug/l	1

## Laboratory Chronicle



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

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Lancaster Laboratories Sample No. WW 3466805

Collected: 09/27/2000 11:35 by SR

Account Number: 07802

Submitted: 09/28/2000 09:00

Kerr-McGee Corporation

Reported: 10/16/00 at 10:30 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MW-7I-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

7I011 SDG#: MOS69-08

CAT	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	10/01/2000 21:11	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/03/2000 14:55	Michelle J. Kolodziejski	1
03337	PAH Water Extraction	SW-846 3510C	1	10/02/2000 13:00	John M. Becker	1





Lancaster Laboratories Sample No. WW 3467878

Collected: 09/28/2000 10:55 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:13 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MW-9I-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

9I-11 SDG#: MOS70-07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Dilution Factor
				Method	Units	
				Detection Limit		
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.80	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.80	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.80	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.17	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.070	ug/l	1
03285	Anthracene	120-12-7	N.D.	0.030	ug/l	1
03286	Fluoranthene	206-44-0	N.D.	0.030	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.020	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.060	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.038	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.030	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.067	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
08213	BTEX (8021)	SW-846 8021B	1	10/02/2000 22:21	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/09/2000 15:58	Michelle J. Kolodziejwski	1
03337	PAH Water Extraction	SW-846 3510C	1	10/05/2000 01:00	Darin P. Wagner	1



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Lancaster Laboratories Sample No. WW 3467878

Collected: 09/28/2000 10:55 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:13 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

MW-9I-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

9I-11 SDG#: MOS70-07



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Lancaster Laboratories Sample No. WW 3466802

Collected: 09/27/2000 10:10 by SR Account Number: 07802

Submitted: 09/28/2000 09:00  
 Reported: 10/16/00 at 10:30 PM  
 Discard: 11/16/00  
 MW-20I-11 Grab Water Sample  
 Moss American Superfund Site - Milwaukee, WI

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

20I11 SDG#: MOS69-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.79	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.79	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.79	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.17	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.069	ug/l	1
03285	Anthracene	120-12-7	N.D.	0.029	ug/l	1
03286	Fluoranthene	206-44-0	N.D.	0.029	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.020	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.059	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.037	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.0098	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.029	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.098	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.066	ug/l	1

### Laboratory Chronicle

JAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
08213	BTEX (8021)	SW-846 8021B	1	10/01/2000 20:38	Steven J. Stabinger	1
11861	PAH's in Water	SW-846 8310	1	10/03/2000 13:29	Michelle J. Kolodziejwski	1
03337	PAH Water Extraction	SW-846 3510C	1	10/02/2000 13:00	John M. Becker	1



Lancaster Laboratories Sample No. WW 3466802

Collected: 09/27/2000 10:10 by SR

Account Number: 07802

Submitted: 09/28/2000 09:00

Kerr-McGee Corporation

Reported: 10/16/00 at 10:30 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

MW-20I-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

20I11 SDG#: MOS69-05



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Lancaster Laboratories Sample No. WW 3466816

Collected: n.a.

Account Number: 07802

Submitted: 09/28/2000 09:00

Kerr-McGee Corporation

Reported: 10/16/00 at 10:31 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

Field Blank 01 Water Sample

Moss American Superfund Site - Milwaukee, WI

27FB1 SDG#: MOS69-17FB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.78	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.78	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.78	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.16	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.068	ug/l	1
03285	Anthracene	120-12-7	0.074 J	0.029	ug/l	1
03286	Fluoranthene	206-44-0	N.D.	0.029	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.16	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.019	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.058	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.037	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.0097	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.019	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.029	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.097	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.065	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/29/2000 13:38	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/03/2000 17:25	Michelle J. Kolodziejski	1
03337	PAH Water Extraction	SW-846 3510C	1	10/02/2000 13:00	John M. Becker	1



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Lancaster Laboratories Sample No. WW 3466816

Collected: n.a.

Account Number: 07802

Submitted: 09/28/2000 09:00

Kerr-McGee Corporation

Reported: 10/16/00 at 10:31 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

Field Blank 01 Water Sample

Moss American Superfund Site - Milwaukee, WI

27FB1 SDG#: MOS69-17FB



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Lancaster Laboratories Sample No. WW 3466817

Collected: n.a.

Account Number: 07802

Submitted: 09/28/2000 09:00

Kerr-McGee Corporation

Reported: 10/16/00 at 10:32 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

Field Blank 02 Water Sample

Moss American Superfund Site - Milwaukee, WI

27FB2 SDG#: MOS69-18FB\*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.81	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.81	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.81	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.17	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.071	ug/l	1
03285	Anthracene	120-12-7	N.D.	0.030	ug/l	1
03286	Fluoranthene	206-44-0	N.D.	0.030	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.020	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.061	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.038	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.030	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.068	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/29/2000 14:11	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/03/2000 18:08	Michelle J. Kolodziejski	1
03337	PAH Water Extraction	SW-846 3510C	1	10/02/2000 13:00	John M. Becker	1



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Lancaster Laboratories Sample No. WW 3466817

Collected: n.a.

Account Number: 07802

Submitted: 09/28/2000 09:00

Kerr-McGee Corporation

Reported: 10/16/00 at 10:32 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

Field Blank 02 Water Sample

Moss American Superfund Site - Milwaukee, WI

27FB2 SDG#: MOS69-18FB\*





Lancaster Laboratories Sample No. WW 3467880

Collected: 09/28/2000 11:30 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:13 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

FB-03 Field Blank Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

XFB03 SDG#: MOS70-09FB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Dilution Factor
				Method	Units	
				Detection Limit		
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.80	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.80	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.80	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.17	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.070	ug/l	1
03285	Anthracene	120-12-7	0.077 J	0.030	ug/l	1
03286	Fluoranthene	206-44-0	N.D.	0.030	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.020	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.060	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.038	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.030	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.067	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
08213	BTEX (8021)	SW-846 8021B	1	10/02/2000 21:49	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/09/2000 16:41	Michelle J. Kolodziejwski	1
03337	PAH Water Extraction	SW-846 3510C	1	10/05/2000 01:00	Darin P. Wagner	1



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Lancaster Laboratories Sample No. WW 3467880

Collected: 09/28/2000 11:30 by SR

Account Number: 07802

Submitted: 09/29/2000 10:30

Reported: 10/17/00 at 02:13 AM

Discard: 11/17/00

FB-03 Field Blank Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

Kerr-McGee Corporation

P.O. Box 25861

Oklahoma City OK 73125

XFB03 SDG#: MOS70-09FB



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Lancaster Laboratories Sample No. WW 3468886

Collected: 09/29/2000 12:00 by JK

Account Number: 07802

Submitted: 09/30/2000 10:00

Kerr-McGee Corporation

Reported: 10/17/00 at 10:48 PM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

FB-04-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

FB411 SDG#: MOS71-08FB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1
01861	PAH's in Water					
03280	Naphthalene	91-20-3	N.D.	0.82	ug/l	1
03281	Acenaphthylene	208-96-8	N.D.	0.82	ug/l	1
03282	Acenaphthene	83-32-9	N.D.	0.82	ug/l	1
03283	Fluorene	86-73-7	N.D.	0.17	ug/l	1
03284	Phenanthrene	85-01-8	N.D.	0.072	ug/l	1
03285	Anthracene	120-12-7	N.D.	0.031	ug/l	1
03286	Fluoranthene	206-44-0	N.D.	0.031	ug/l	1
03287	Pyrene	129-00-0	N.D.	0.17	ug/l	1
03288	Benzo(a)anthracene	56-55-3	N.D.	0.020	ug/l	1
03289	Chrysene	218-01-9	N.D.	0.061	ug/l	1
03290	Benzo(b)fluoranthene	205-99-2	N.D.	0.039	ug/l	1
03291	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	ug/l	1
03292	Benzo(a)pyrene	50-32-8	N.D.	0.020	ug/l	1
03293	Dibenzo(a,h)anthracene	53-70-3	N.D.	0.031	ug/l	1
03294	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
03295	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.069	ug/l	1

The recoveries for acenaphthylene, acenaphthene, and fluorene are outside the QC limits; however, there was insufficient sample amount for a reextraction. The original data was reported.

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
---------	---------------	--------	--------	------------------------	---------	-----------------



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Lancaster Laboratories Sample No. WW 3468886

Collected: 09/29/2000 12:00 by JK

Account Number: 07802

Submitted: 09/30/2000 10:00

Kerr-McGee Corporation

Reported: 10/17/00 at 10:48 PM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

FB-04-11 Grab Water Sample

Moss American Superfund Site - Milwaukee, WI

FB411	SDG#: MOS71-08FB					
08213	BTEX (8021)	SW-846 8021B	1	10/03/2000 23:40	Steven J. Stabinger	1
01861	PAH's in Water	SW-846 8310	1	10/10/2000 16:03	Michelle J. Kolodziejski	1
03337	PAH Water Extraction	SW-846 3510C	1	10/05/2000 14:00	John M. Becker	1



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Lancaster Laboratories Sample No. WW 3465980

Collected: n.a.

Account Number: 07802

Submitted: 09/27/2000 09:30

Kerr-McGee Corporation

Reported: 10/11/00 at 08:30 PM

P.O. Box 25861

Discard: 11/11/00

Oklahoma City OK 73125

Trip Blank Water Sample

Moss American Superfund Site - Milwaukee, WI

TB926 SDG#: MOS68-15TB\*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1

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

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/28/2000 18:33	Steven J. Stabinger	1



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Lancaster Laboratories Sample No. WW 3466815

Collected: n.a.

Account Number: 07802

Submitted: 09/28/2000 09:00

Kerr-McGee Corporation

Reported: 10/16/00 at 10:31 PM

P.O. Box 25861

Discard: 11/16/00

Oklahoma City OK 73125

Trip Blank Water Sample

Moss American Superfund Site - Milwaukee, WI

927TB SDG#: MOS69-16TB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received	Units	Dilution Factor
				Method Detection Limit		
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
08213	BTEX (8021)	SW-846 8021B	1	09/29/2000 13:05	Steven J. Stabinger	1



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Lancaster Laboratories Sample No. WW 3467890

Collected: n.a.

Account Number: 07802

Submitted: 09/29/2000 10:30

Kerr-McGee Corporation

Reported: 10/17/00 at 02:14 AM

P.O. Box 25861

Discard: 11/17/00

Oklahoma City OK 73125

Trip Blank Water Sample

Moss American Superfund Site - Milwaukee, WI

MW-TB SDG#: MOS70-17TB\*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received	Units	Dilution Factor
				Method Detection Limit		
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
08213	BTEX (8021)	SW-846 8021B	1	10/02/2000 15:16	Steven J. Stabinger	1





Lancaster Laboratories Sample No. WW 3468887

Collected: n.a.

by JK

Account Number: 07802

Submitted: 09/30/2000 10:00

Reported: 10/17/00 at 10:49 PM

Discard: 11/17/00

Trip Blank Water Sample

Moss American Superfund Site - Milwaukee, WI

Kerr-McGee Corporation

P.O. Box 25861

Oklahoma City OK 73125

TB411 SDG#: MOS71-09TB\*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.20	ug/l	1
00777	Toluene	108-88-3	N.D.	0.20	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.20	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.60	ug/l	1

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	10/03/2000 14:20	Steven J. Stabinger	1



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## ANALYTICAL RESULTS

Prepared for:

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

Prepared by:

Lancaster Laboratories  
2425 New Holland Pike  
Lancaster, PA 17605-2425

### SAMPLE GROUP

The sample group for this submittal is 732508. Samples arrived at the laboratory on Wednesday, September 27, 2000.

<u>Client Description</u>	<u>Lancaster Labs Number</u>
MA3-TG1-1-260900-01 Grab Water Sample	3465774
MA3-TG1-2-260900-02 Grab Water Sample	3465775
MA3-TG1-3-260900-03 Grab Water Sample	3465776
MA3-TG2-1-260900-04 Grab Water Sample	3465777
MA3-TG2-2-260900-05 Grab Water Sample	3465778
MA3-TG2-3-260900-06 Grab Water Sample	3465779
MW-33S-11 Grab Water Sample	3465780
MW-33S-11 Dup Grab Water Sample	3465781
MW-32S-11 Grab Water Sample	3465782
MA3-TG3-1-260900-07 Grab Water Sample	3465783
MA3-TG3-2-260900-08 Grab Water Sample	3465784
MA3-TG3-3-260900-09 Grab Water Sample	3465785
MW-28S-11 Grab Water Sample	3465786
MW-35S-11 Grab Water Sample	3465787

### METHODOLOGY

The specific methodologies used in obtaining the enclosed analytical results are indicated on the laboratory chronicles.

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

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



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## ANALYTICAL RESULTS

Prepared for:

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

Prepared by:

Lancaster Laboratories  
2425 New Holland Pike  
Lancaster, PA 17605-2425

## SAMPLE GROUP

The sample group for this submittal is 732554. Samples arrived at the laboratory on Wednesday, September 27, 2000.

### Client Description

Trip Blank Water Sample

### Lancaster Labs Number

3465980

## METHODOLOGY

The specific methodologies used in obtaining the enclosed analytical results are indicated on the laboratory chronicles.

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

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

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

Respectfully Submitted,



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## ANALYTICAL RESULTS

Prepared for:

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Oklahoma City OK 73125

Prepared by:

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### SAMPLE GROUP

The sample group for this submittal is 732711. Samples arrived at the laboratory on Thursday, September 28, 2000.

<u>Client Description</u>	<u>Lancaster Labs Number</u>
MA3-TG4-1-270900-01 Grab Water Sample	3466798
MA3-TG4-2-270900-02 Grab Water Sample	3466799
MA3-TG4-3-270900-03 Grab Water Sample	3466800
MW-20S-11 Grab Water Sample	3466801
MW-20I-11 Grab Water Sample	3466802
MW-7S-11 Grab Water Sample	3466803
MW-34S-11 Grab Water Sample	3466804
MW-7I-11 Grab Water Sample	3466805
<del>MA3-TGS-1-270900-04</del> Grab Water Sample	3466806
<del>MA3-TGS-1-270900-04</del> Dup Grab Water Sample	3466807
<del>MA3-TGS-2-270900-07</del> Grab Water Sample	3466808
<del>MA3-TGS-270900-06</del> Grab Water Sample	3466809
MW-37S-11 Unspiked Grab Water Sample	3466810
MW-37S-11 Matrix Spike Grab Water Sample	3466811
MW-37S-11 Matrix Spike Dup/Dup Grab Water Sample	3466812
MW-36S-11 Grab Water Sample	3466813
MW-29S-11 Grab Water Sample	3466814
Trip Blank Water Sample	3466815
Field Blank 01 Water Sample	3466816
Field Blank 02 Water Sample	3466817

### METHODOLOGY

The specific methodologies used in obtaining the enclosed analytical results are indicated on the laboratory chronicles.

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Kerr-McGee Corporation

Attn: Dr. Jeff Ostmeyer



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Roy F. Weston  
Data Package Group

Attn: Mr. Tom Graan

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

Respectfully Submitted,



## ANALYTICAL RESULTS

Prepared for:

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

Prepared by:

Lancaster Laboratories  
2425 New Holland Pike  
Lancaster, PA 17605-2425

### SAMPLE GROUP

The sample group for this submittal is 732915. Samples arrived at the laboratory on Friday, September 29, 2000.

<u>Client Description</u>	<u>Lancaster Labs Number</u>
MA3-TG5-1-280900-01 Grab Water Sample	3467872
MA3-TG5-2-280900-02 Grab Water Sample	3467873
MA3-TG5-3-280900-03 Grab Water Sample	3467874
MW-9S-11 Grab Water Sample	3467875
MW-10S-11 Grab Water Sample	3467876
MW-10S-11-Dup Grab Water Sample	3467877
MW-9I-11 Grab Water Sample	3467878
MW-27S-11 Grab Water Sample	3467879
FB-03 Field Blank Grab Water Sample	3467880
TW-0S-11 Grab Water Sample	3467881
MW-6S-11 Grab Water Sample	3467882
MW-31S-11 Unspiked Grab Water Sample	3467883
MW-31S-11 Matrix Spike Grab Water Sample	3467884
MW-31S-11 Matrix Spike Dup/Dup Grab Water Sample	3467885
MW-13S-11 Grab Water Sample	3467886
MW-13S-11-Dup Grab Water Sample	3467887
MW-25S-11 Grab Water Sample	3467888
MW-26S-11 Grab Water Sample	3467889
Trip Blank Water Sample	3467890

### METHODOLOGY

The specific methodologies used in obtaining the enclosed analytical results are indicated on the laboratory chronicles.

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Kerr-McGee Corporation  
Roy F. Weston

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



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

Respectfully Submitted,

*Kate Rhodes*

---



## ANALYTICAL RESULTS

Prepared for:

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

Prepared by:

Lancaster Laboratories  
2425 New Holland Pike  
Lancaster, PA 17605-2425

### SAMPLE GROUP

The sample group for this submittal is 733086. Samples arrived at the laboratory on Saturday, September 30, 2000.

<u>Client Description</u>	<u>Lancaster Labs Number</u>
MW-5S-11 Grab Water Sample	3468877
MW-30S-11 Grab Water Sample	3468878
MW-3S-11 Grab Water Sample	3468879
MW-3I-11 Grab Water Sample	3468880
MW-4I-11 Grab Water Sample	3468881
MW-4S-11 Unspiked Grab Water Sample	3468882
MW-4S-11 Matrix Spike Grab Water Sample	3468883
MW-4S-11 Matrix Spike Duplicate Grab Water Sample	3468884
MW-3S-11-Dup Grab Water Sample	3468885
FB-04-11 Grab Water Sample	3468886
Trip Blank Water Sample	3468887

### METHODOLOGY

The specific methodologies used in obtaining the enclosed analytical results are indicated on the laboratory chronicles.

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

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



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

Respectfully Submitted,

*Christine Delang*





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## Quality Control Summary

Client Name: Kerr-McGee Corporation  
Reported: 10/11/00 at 08:30 PM

Group Number: 732554

### Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 00272A51	Sample number(s): 3465980							
Benzene	N.D.	.2	ug/l	104	112	79-119	8	30
Toluene	N.D.	.2	ug/l	104	111	81-118	7	30
Ethylbenzene	N.D.	.2	ug/l	102	110	80-118	8	30
Total Xylenes	N.D.	.6	ug/l	104	112	81-118	8	30

### Surrogate Quality Control

Analysis Name: BTEX (8021)  
Batch number: 00272A51  
Trifluorotoluene-P

---

3465980	105
Blank	106
LCS	106
LCSD	106

---

Limits: 69-132

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The background result was more than four times the spike added.



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Quality Control Summary

Client Name: Kerr-McGee Corporation  
Reported: 10/16/00 at 02:29 PM

Group Number: 732508

### Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 00271105101A Nitrite Nitrogen	Sample number(s): 3465774-3465779, 3465783-3465784							
	N.D.	.015	mg/l	98		90-110		
Batch number: 00271105101B Nitrite Nitrogen	Sample number(s): 3465785							
	N.D.	.015	mg/l	98		90-110		
Batch number: 002720000A	Sample number(s): 3465774-3465787							
Naphthalene	N.D.	.8	ug/l	52	58	45-111	12	30
Acenaphthylene	N.D.	.8	ug/l	66	76	59-114	13	30
Acenaphthene	N.D.	.8	ug/l	60	69	50-120	13	30
Fluorene	N.D.	.17	ug/l	75	85	64-117	12	30
Phenanthrene	N.D.	.07	ug/l	87	97	75-114	11	30
Anthracene	N.D.	.03	ug/l	85	92	53-112	8	30
Fluoranthene	N.D.	.03	ug/l	93	104	75-120	11	30
Pyrene	N.D.	.17	ug/l	86	96	74-118	11	30
Benzo(a)anthracene	N.D.	.02	ug/l	86	97	73-117	12	30
Chrysene	N.D.	.06	ug/l	85	96	68-125	11	30
Benzo(b)fluoranthene	N.D.	.038	ug/l	88	99	71-123	12	30
Benzo(k)fluoranthene	N.D.	.01	ug/l	86	97	75-118	12	30
Benzo(a)pyrene	N.D.	.02	ug/l	80	91	61-127	13	30
Dibenzo(a,h)anthracene	N.D.	.03	ug/l	89	100	71-121	11	30
Benzo(g,h,i)perylene	N.D.	.1	ug/l	83	94	70-125	12	30
Indeno(1,2,3-cd)pyrene	N.D.	.067	ug/l	88	99	73-125	13	30
Batch number: 00272022601A Ortho-Phosphate as P	Sample number(s): 3465774-3465779, 3465783-3465785							
				90		50-150		
Batch number: 00272023501A Biochemical Oxygen Demand	Sample number(s): 3465774-3465779, 3465783-3465785							
				98	109	85-115	11*	7
Batch number: 00272106101B Nitrate Nitrogen	Sample number(s): 3465774							
	N.D.	.03	mg/l	105		90-110		
Batch number: 00272106102A Nitrate Nitrogen	Sample number(s): 3465775-3465779, 3465783-3465785							
	N.D.	.03	mg/l	104		90-110		
Batch number: 00272A51	Sample number(s): 3465774-3465787							
Benzene	N.D.	.2	ug/l	104	112	79-119	8	30
Toluene	N.D.	.2	ug/l	104	111	81-118	7	30
Ethylbenzene	N.D.	.2	ug/l	102	110	80-118	8	30
Total Xylenes	N.D.	.6	ug/l	104	112	81-118	8	30
Batch number: 00273011113A Total Organic Carbon	Sample number(s): 3465774-3465779, 3465783-3465785							
	0.40 J	.4	mg/l	99		93-103		
Batch number: 00273022101A Ammonia Nitrogen	Sample number(s): 3465774-3465779, 3465783-3465785							
	N.D.	.15	mg/l	98	98	90-102	0	3
Batch number: 00276109101A Total Phosphorus as P (water)	Sample number(s): 3465774-3465777							
	N.D.	.04	mg/l	97		89-111		

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The background result was more than four times the spike added.





Client Name: Kerr-McGee Corporation  
Reported: 10/16/00 at 02:29 PM

Group Number: 732508

### Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 00276109101B Total Phosphorus as P (water)	N.D.	.04	mg/l	97		89-111		
Batch number: 00277108101A Kjeldahl Nitrogen	N.D.	.63	mg/l	97		90-110		
Batch number: 00285155301A Chemical Oxygen Demand				87		50-150		

### Sample Matrix Quality Control

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>BKG MAX</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 00271105101A Nitrite Nitrogen	60*		90-110			N.D.	0 (1)	6
Batch number: 00271105101B Nitrite Nitrogen	87*		90-110		0.052	N.D.	174* (1)	6
Batch number: 00272022601A Ortho-Phosphate as P	108	107	80-114	0	4	0.035	0.028	23* (1)
Batch number: 00272023501A Biochemical Oxygen Demand	97	92	74-114	5	6	23,700.	23,200.	2
Batch number: 00272106101B Nitrate Nitrogen	91		90-110			N.D.	N.D.	0 (1)
Batch number: 00272106102A Nitrate Nitrogen	96		90-110			N.D.	N.D.	200* (1)
Batch number: 00273011113A Total Organic Carbon	100		73-126			0.68 J	0.64 J	6* (1)
Batch number: 00273022101A Ammonia Nitrogen						24.4	26.0	6
Batch number: 00276109101A Total Phosphorus as P (water)	78*		90-110			7.18	7.18	0
Batch number: 00276109101B Total Phosphorus as P (water)	102		90-110			0.941	0.930	1
Batch number: 00277108101A Kjeldahl Nitrogen	114*		90-110			0.74 J	0.67 J	10* (1)
Batch number: 00285155301A Chemical Oxygen Demand	93	91	74-121	1	6	102.	102.	0

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The background result was more than four times the spike added.



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Quality Control Summary

Client Name: Kerr-McGee Corporation  
Reported: 10/16/00 at 02:29 PM

Group Number: 732508

### Sample Matrix Quality Control

<u>Analysis Name</u>	<u>MS</u>	<u>MSD</u>	<u>MS/MSD</u>	<u>RPD</u>	<u>BKG</u>	<u>DUP</u>	<u>DUP</u>	<u>Dup</u>
	<u>%REC</u>	<u>%REC</u>	<u>Limits</u>	<u>RPD</u>	<u>MAX</u>	<u>Conc</u>	<u>Conc</u>	<u>RPD</u>
								<u>Max</u>

### Surrogate Quality Control

Analysis Name: PAH's in Water  
Batch number: 002720000A

	Nitrobenzene	Triphenylene
3465774	74	92
3465775	71	147*
3465776	70	92
3465777	81	95
3465778	72	90
3465779	73	99
3465780	82	97
3465781	80	95
3465782	81	96
3465783	78	97
3465784	75	92
3465785	69	98
3465786	71	90
3465787	73	92
Blank	82	100
LCS	77	93
LCSD	81	103
<hr/>		
Limits:	29-136	33-139

Analysis Name: BTEX (8021)  
Batch number: 00272A51  
Trifluorotoluene-P

3465774	104
3465775	106
3465776	105
3465777	105
3465778	105
3465779	104
3465780	106
3465781	105
3465782	106
3465783	106
3465784	105
3465785	105
3465786	105
3465787	105
Blank	106
LCS	106
LCSD	106

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The background result was more than four times the spike added.





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### Quality Control Summary

Page 4 of 4

Client Name: Kerr-McGee Corporation  
Reported: 10/16/00 at 02:29 PM

Group Number: 732508

### Surrogate Quality Control

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Limits: 69-132

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The background result was more than four times the spike added.



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## Quality Control Summary

Client Name: Kerr-McGee Corporation

Group Number: 732711

Reported: 10/16/00 at 10:32 PM

### Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 002730007A	Sample number(s): 3466798-3466814, 3466816-3466817							
Naphthalene	N.D.	.8	ug/l	69		45-111		
Acenaphthylene	N.D.	.8	ug/l	85		59-114		
Acenaphthene	N.D.	.8	ug/l	81		50-120		
Fluorene	N.D.	.17	ug/l	94		64-117		
Phenanthrene	N.D.	.07	ug/l	103		75-114		
Anthracene	0.039 J	.03	ug/l	102		53-112		
Fluoranthene	N.D.	.03	ug/l	110		75-120		
Pyrene	N.D.	.17	ug/l	104		74-118		
Benzo(a)anthracene	N.D.	.02	ug/l	103		73-117		
Chrysene	N.D.	.06	ug/l	102		68-125		
Benzo(b)fluoranthene	N.D.	.038	ug/l	102		71-123		
Benzo(k)fluoranthene	N.D.	.01	ug/l	100		75-118		
Benzo(a)pyrene	N.D.	.02	ug/l	104		61-127		
Dibenzo(a,h)anthracene	N.D.	.03	ug/l	105		71-121		
Benzo(g,h,i)perylene	N.D.	.1	ug/l	102		70-125		
Indeno(1,2,3-cd)pyrene	N.D.	.067	ug/l	101		73-125		
Batch number: 00273011113A	Sample number(s): 3466798-3466800, 3466806, 3466808-3466809							
Total Organic Carbon	0.40 J	.4	mg/l	99		93-103		
Batch number: 00273022101A	Sample number(s): 3466798-3466800, 3466806, 3466808							
Ammonia Nitrogen	N.D.	.15	mg/l	98	98	90-102	0	3
Batch number: 00273022601A	Sample number(s): 3466798-3466800, 3466806, 3466808-3466809							
Ortho-Phosphate as P				143		50-150		
Batch number: 00273023501A	Sample number(s): 3466798-3466800, 3466806, 3466808-3466809							
Biochemical Oxygen Demand				95	100	85-115	6	7
Batch number: 00273105101A	Sample number(s): 3466798-3466800, 3466806, 3466808-3466809							
Nitrite Nitrogen	N.D.	.015	mg/l	103		90-110		
Batch number: 00273A51	Sample number(s): 3466798-3466817							
Benzene	N.D.	.2	ug/l	99	104	79-119	5	30
Toluene	N.D.	.2	ug/l	100	104	81-118	4	30
Ethylbenzene	N.D.	.2	ug/l	100	104	80-118	4	30
Total Xylenes	N.D.	.6	ug/l	101	105	81-118	4	30
Batch number: 00276109101B	Sample number(s): 3466798-3466799							
Total Phosphorus as P (water)	N.D.	.04	mg/l	97		89-111		
Batch number: 00276109102A	Sample number(s): 3466800, 3466806, 3466808-3466809							
Total Phosphorus as P (water)	N.D.	.04	mg/l	104		89-111		
Batch number: 00277108101B	Sample number(s): 3466798-3466800, 3466806							
Kjeldahl Nitrogen	N.D.	.63	mg/l	97		90-110		
Batch number: 00278022101A	Sample number(s): 3466809							
Ammonia Nitrogen	N.D.	.15	mg/l	98		90-102		

\*- Outside of specification

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Client Name: Kerr-McGee Corporation  
Reported: 10/16/00 at 10:32 PM

Group Number: 732711

### Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 00278106101A Nitrate Nitrogen	N.D.	.03	mg/l	99	3466798-3466800, 3466806, 3466808-3466809	90-110		
Batch number: 00284400101A Chemical Oxygen Demand				116	3466798-3466800, 3466806, 3466808-3466809	50-150		
Batch number: 00286108101A Kjeldahl Nitrogen	N.D.	.63	mg/l	95	3466808-3466809	90-110		

### Sample Matrix Quality Control

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>BKG MAX</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 002730007A	Sample number(s): 3466798-3466814, 3466816-3466817							
Naphthalene	89	90	59-108	3	30			
Acenaphthylene	94	95	38-134	2	30			
Acenaphthene	90	90	48-127	1	30			
Fluorene	97	97	61-122	1	30			
Phenanthrene	102	101	67-122	1	30			
Anthracene	98	96	61-107	1	30			
Fluoranthene	107	105	64-126	0	30			
Pyrene	100	98	80-125	1	30			
Benzo(a)anthracene	100	98	54-130	0	30			
Chrysene	100	99	49-140	0	30			
Benzo(b)fluoranthene	101	98	59-132	0	30			
Benzo(k)fluoranthene	98	96	72-120	1	30			
Benzo(a)pyrene	102	99	36-147	1	30			
Dibenzo(a,h)anthracene	104	101	69-122	1	30			
Benzo(g,h,i)perylene	101	99	62-131	1	30			
Indeno(1,2,3-cd)pyrene	100	99	71-128	0	30			
Batch number: 00273011113A Total Organic Carbon	100		73-126		0.68 J	0.64 J	6* (1)	3
Batch number: 00273022101A Ammonia Nitrogen					24.4	26.0	6	8
Batch number: 00273022601A Ortho-Phosphate as P	112	110	80-114	2	4	0.032	0.033	3 (1)
Batch number: 00273023501A Biochemical Oxygen Demand	83	81	74-114	3	6	570.	558.	2
Batch number: 00273105101A Nitrite Nitrogen	100		90-110		N.D.	N.D.	82* (1)	6
Batch number: 00273A51 Benzene	109	108	77-129	1	30			

\*- Outside of specification

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## Quality Control Summary

Client Name: Kerr-McGee Corporation  
 Reported: 10/16/00 at 10:32 PM

Group Number: 732711

### Sample Matrix Quality Control

Analysis Name	MS	MSD	MS/MSD	RPD	BKG	DUP	DUP	Dup
	<u>%REC</u>	<u>%REC</u>	<u>Limits</u>	<u>RPD</u>	<u>MAX</u>	<u>Conc</u>	<u>Conc</u>	<u>RPD</u>
								<u>RPD</u>
								<u>Max</u>
Toluene	110	108	77-131	2	30			
Ethylbenzene	109	107	80-130	1	30			
Total Xylenes	109	108	75-133	1	30			
Batch number: 00276109101B	Sample number(s): 3466798-3466799							
Total Phosphorus as P (water)	102		90-110			0.941	0.930	1 6
Batch number: 00276109102A	Sample number(s): 3466800,3466806,3466808-3466809							
Total Phosphorus as P (water)	105		90-110			0.531	0.519	2 6
Batch number: 00277108101B	Sample number(s): 3466798-3466800,3466806							
Kjeldahl Nitrogen	85*		90-110			3.4 J	N.D.	43* (1) 7
Batch number: 00278022101A	Sample number(s): 3466809							
Ammonia Nitrogen	98	92	56-127	6*	5	20.2	20.7	2 8
Batch number: 00278106101A	Sample number(s): 3466798-3466800,3466806,3466808-3466809							
Nitrate Nitrogen	88*		90-110			0.061 J	N.D.	200* (1) 3
Batch number: 00284400101A	Sample number(s): 3466798-3466800,3466806,3466808-3466809							
Chemical Oxygen Demand	102	101	93-106	1	2	406,000.	412,000.	2 4
Batch number: 00286108101A	Sample number(s): 3466808-3466809							
Kjeldahl Nitrogen	106		90-110			N.D.	N.D.	7 (1) 7

### Surrogate Quality Control

Analysis Name: PAH's in Water  
 Batch number: 002730007A

	Nitrobenzene	Triphenylene
3466798	77	93
3466799	81	98
3466800	83	97
3466801	80	97
3466802	87	101
3466803	90	101
3466804	84	112
3466805	83	96
3466806	83	96
3466807	86	101
3466808	81	98
3466809	82	100
3466810	83	102
3466811	86	102
3466812	79	100
3466813	84	100
3466814	82	97

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### Quality Control Summary

Page 4 of 4

Client Name: Kerr-McGee Corporation  
Reported: 10/16/00 at 10:32 PM

Group Number: 732711

#### Surrogate Quality Control

3466816	73	94
3466817	79	99
Blank	86	100
LCS	85	106
MS	86	102
MSD	79	100

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Limits: 29-136 33-139

Analysis Name: BTEX (8021)  
Batch number: 00273A51  
Trifluorotoluene-P

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3466798	105
3466799	106
3466800	107
3466801	106
3466802	106
3466803	106
3466804	106
3466805	105
3466806	105
3466807	106
3466808	105
3466809	106
3466810	104
3466811	105
3466812	104
3466813	104
3466814	107
3466815	106
3466816	104
3466817	103
Blank	106
LCS	105
LCSD	106
MS	105
MSD	104

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Limits: 69-132

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### Quality Control Summary

Client Name: Kerr-McGee Corporation  
 Reported: 10/17/00 at 10:49 PM

Group Number: 733086

### Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 00277A51      Sample number(s): 3468877-3468887								
Benzene	N.D.	.2	ug/l	107	103	79-119	5	30
Toluene	N.D.	.2	ug/l	107	103	81-118	4	30
Ethylbenzene	N.D.	.2	ug/l	105	101	80-118	4	30
Total Xylenes	N.D.	.6	ug/l	106	102	81-118	4	30
Batch number: 002790007A      Sample number(s): 3468877-3468886								
Naphthalene	N.D.	.8	ug/l	50		45-111		
Acenaphthylene	N.D.	.8	ug/l	56*		59-114		
Acenaphthene	N.D.	.8	ug/l	45*		50-120		
Fluorene	N.D.	.17	ug/l	59*		64-117		
Phenanthrene	N.D.	.07	ug/l	85		75-114		
Anthracene	N.D.	.03	ug/l	83		53-112		
Fluoranthene	N.D.	.03	ug/l	101		75-120		
Pyrene	N.D.	.17	ug/l	94		74-118		
Benzo(a)anthracene	N.D.	.02	ug/l	94		73-117		
Chrysene	N.D.	.06	ug/l	94		68-125		
Benzo(b)fluoranthene	N.D.	.038	ug/l	99		71-123		
Benzo(k)fluoranthene	N.D.	.01	ug/l	96		75-118		
Benzo(a)pyrene	N.D.	.02	ug/l	99		61-127		
Dibenzo(a,h)anthracene	N.D.	.03	ug/l	99		71-121		
Benzo(g,h,i)perylene	N.D.	.1	ug/l	97		70-125		
Indeno(1,2,3-cd)pyrene	N.D.	.067	ug/l	100		73-125		

### Sample Matrix Quality Control

Analysis Name	MS	MSD	MS/MSD	RPD	BKG	DUP	DUP	Dup
	%REC	%REC	Limits	RPD	MAX	Conc	Conc	RPD
Batch number: 00277A51      Sample number(s): 3468877-3468887								
Benzene	112	112	77-129	0	30			
Toluene	113	112	77-131	1	30			
Ethylbenzene	114	112	80-130	1	30			
Total Xylenes	114	114	75-133	0	30			
Batch number: 002790007A      Sample number(s): 3468877-3468886								
Naphthalene	(2)	(2)	59-108	7	30			
Acenaphthylene	14*	26*	38-134	14	30			
Acenaphthene	5*	48	48-127	13	30			
Fluorene	(2)	(2)	61-122	12	30			
Phenanthrene	87	63*	67-122	6	30			
Anthracene	(2)	(2)	61-107	4	30			
Fluoranthene	(2)	(2)	64-126	15	30			
Pyrene	193*	118	80-125	15	30			
Benzo(a)anthracene	(2)	(2)	54-130	26	30			
Chrysene	61	-23*	49-140	48*	30			
Benzo(b)fluoranthene	468*	400*	59-132	17	30			
Benzo(k)fluoranthene	127*	89	72-120	15	30			

\*- Outside of specification

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## Quality Control Summary

Client Name: Kerr-McGee Corporation  
 Reported: 10/17/00 at 10:49 PM

Group Number: 733086

### Sample Matrix Quality Control

Analysis Name	MS	MSD	MS/MSD	RPD	BKG	DUP	DUP	Dup
	<u>%REC</u>	<u>%REC</u>	<u>Limits</u>	<u>RPD</u>	<u>MAX</u>	<u>Conc</u>	<u>Conc</u>	<u>RPD</u>
								<u>Max</u>
Benzo(a)pyrene	96	35*	36-147	15	30			
Dibenzo(a,h)anthracene	118	136*	69-122	13	30			
Benzo(g,h,i)perylene	97	89	62-131	9	30			
Indeno(1,2,3-cd)pyrene	123	140*	71-128	11	30			

### Surrogate Quality Control

Analysis Name: BTEX (8021)  
 Batch number: 00277A51  
 Trifluorotoluene-P

3468877	105
3468878	105
3468879	105
3468880	104
3468881	104
3468882	105
3468883	106
3468884	104
3468885	104
3468886	104
3468887	104
Blank	105
LCS	105
LCSD	106
MS	106
MSD	104

Limits: 69-132

Analysis Name: PAH's in Water  
 Batch number: 002790007A  
 Nitrobenzene                      Triphenylene

3468877	75	96
3468878	87	106
3468879	77	99
3468880	80	105
3468881	76	101
3468882	119	327*
3468883	99	362*
3468884	113	328*
3468885	89	106
3468886	88	105
Blank	86	106
LCS	78	105
MS	99	362*
MSD	113	328*

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## Quality Control Summary

Page 3 of 3

Client Name: Kerr-McGee Corporation

Group Number: 733086

Reported: 10/17/00 at 10:49 PM

### Surrogate Quality Control

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Limits:      29-136                      33-139

\*- Outside of specification

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Client Name: Kerr-McGee Corporation  
 Reported: 10/17/00 at 02:14 AM

Group Number: 732915

### Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 00274022601A Ortho-Phosphate as P	Sample number(s): 3467872-3467874			146		50-150		
Batch number: 00274105101A Nitrite Nitrogen	N.D.	.015	mg/l	100		90-110		
Batch number: 00276011111A Total Organic Carbon	N.D.	.4	mg/l	98		93-103		
Batch number: 00276109102A Total Phosphorus as P (water)	N.D.	.04	mg/l	104		89-111		
Batch number: 00276109102B Total Phosphorus as P (water)	N.D.	.04	mg/l	104		89-111		
Batch number: 00276A51	Sample number(s): 3467872-3467890							
Benzene	N.D.	.2	ug/l	105	105	79-119	0	30
Toluene	N.D.	.2	ug/l	106	104	81-118	1	30
Ethylbenzene	N.D.	.2	ug/l	105	104	80-118	0	30
Total Xylenes	N.D.	.6	ug/l	106	105	81-118	1	30
Batch number: 002780012A	Sample number(s): 3467872-3467889							
Naphthalene	N.D.	.8	ug/l	97		45-111		
Acenaphthylene	N.D.	.8	ug/l	96		59-114		
Acenaphthene	N.D.	.8	ug/l	89		50-120		
Fluorene	N.D.	.17	ug/l	99		64-117		
Phenanthrene	N.D.	.07	ug/l	106		75-114		
Anthracene	0.066 J	.03	ug/l	105		53-112		
Fluoranthene	N.D.	.03	ug/l	112		75-120		
Pyrene	N.D.	.17	ug/l	103		74-118		
Benzo(a)anthracene	N.D.	.02	ug/l	103		73-117		
Chrysene	N.D.	.06	ug/l	102		68-125		
Benzo(b)fluoranthene	N.D.	.038	ug/l	105		71-123		
Benzo(k)fluoranthene	N.D.	.01	ug/l	103		75-118		
Benzo(a)pyrene	N.D.	.02	ug/l	106		61-127		
Dibenzo(a,h)anthracene	N.D.	.03	ug/l	109		71-121		
Benzo(g,h,i)perylene	N.D.	.1	ug/l	106		70-125		
Indeno(1,2,3-cd)pyrene	N.D.	.067	ug/l	106		73-125		
Batch number: 00278106101B Nitrate Nitrogen	Sample number(s): 3467872-3467874			99		90-110		
Batch number: 00280108101B Kjeldahl Nitrogen	Sample number(s): 3467872-3467874			103		90-110		
Batch number: 00286400101A Chemical Oxygen Demand	Sample number(s): 3467872-3467874			116		50-150		

### Sample Matrix Quality Control

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

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 See reverse side for explanation of symbols and abbreviations.



## Lancaster Laboratories

*Where quality is a science.*  
Quality Control Summary

Client Name: Kerr-McGee Corporation  
Reported: 10/17/00 at 02:14 AM

Group Number: 732915

<u>Analysis Name</u>	<u>MS</u>	<u>MSD</u>	<u>MS/MSD</u>	<u>RPD</u>	<u>BKG</u>	<u>DUP</u>	<u>DUP</u>	<u>Dup</u>	
<u>%REC</u>	<u>%REC</u>	<u>Limits</u>	<u>RPD</u>	<u>MAX</u>	<u>Conc</u>	<u>Conc</u>	<u>RPD</u>	<u>Max</u>	
Batch number: 00274022601A Ortho-Phosphate as P	Sample number(s): 3467872-3467874 102	102	80-114	0	4	10.7	10.6	1	7
Batch number: 00274105101A Nitrite Nitrogen	Sample number(s): 3467872-3467874 73*		90-110			0.130	0.118	10* (1)	6
Batch number: 00276011111A Total Organic Carbon	Sample number(s): 3467872-3467874 79		73-126			127.	132.	4*	3
Batch number: 00276109102A Total Phosphorus as P (water)	Sample number(s): 3467872-3467873 105		90-110			0.531	0.519	2	6
Batch number: 00276109102B Total Phosphorus as P (water)	Sample number(s): 3467874 72*		90-110			11.9	11.7	2	6
Batch number: 00276A51 Benzene	Sample number(s): 3467872-3467890 108	110	77-129	1	30				
Toluene	109	110	77-131	0	30				
Ethylbenzene	108	109	80-130	1	30				
Total Xylenes	108	110	75-133	1	30				
Batch number: 002780012A Naphthalene	Sample number(s): 3467872-3467889 101	102	59-108	1	30				
Acenaphthylene	100	101	38-134	1	30				
Acenaphthene	92	94	48-127	1	30				
Fluorene	103	103	61-122	0	30				
Phenanthrene	108	108	67-122	0	30				
Anthracene	107	105	61-107	2	30				
Fluoranthene	113	112	64-126	1	30				
Pyrene	104	103	80-125	2	30				
Benzo(a)anthracene	104	104	54-130	0	30				
Chrysene	104	103	49-140	1	30				
Benzo(b)fluoranthene	105	104	59-132	1	30				
Benzo(k)fluoranthene	103	102	72-120	1	30				
Benzo(a)pyrene	105	103	36-147	2	30				
Dibenzo(a,h)anthracene	110	109	69-122	1	30				
Benzo(g,h,i)perylene	105	105	62-131	1	30				
Indeno(1,2,3-cd)pyrene	107	105	71-128	2	30				
Batch number: 00278106101B Nitrate Nitrogen	Sample number(s): 3467872-3467874 74*		90-110			2.11	1.98	6*	3
Batch number: 00280108101B Kjeldahl Nitrogen	Sample number(s): 3467872-3467874 100		90-110			N.D.	N.D.	6 (1)	7
Batch number: 00286400101A Chemical Oxygen Demand	Sample number(s): 3467872-3467874 103	100	93-106	2	2	10,200.	10,500.	2	4

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The background result was more than four times the spike added.



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## Lancaster Laboratories

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Quality Control Summary

Page 3 of 4

Client Name: Kerr-McGee Corporation  
Reported: 10/17/00 at 02:14 AM

Group Number: 732915

### Surrogate Quality Control

Analysis Name: BTEX (8021)  
Batch number: 00276A51  
Trifluorotoluene-P

---

467872	106
467873	105
3467874	105
3467875	106
467876	105
467877	104
467878	105
3467879	107
3467880	105
467881	105
467882	106
3467883	106
3467884	106
467885	106
467886	104
3467887	107
3467888	105
3467889	105
467890	105
Blank	107
LCS	105
LCSD	104
IS	106
ISD	106

---

Limits: 69-132

Analysis Name: PAH's in Water  
Batch number: 002780012A

	Nitrobenzene	Triphenylene
467872	88	109
467873	76	125
3467874	90	109
3467875	89	110
3467876	91	108
467877	96	113
467878	90	112
3467879	89	110
3467880	90	110
3467881	77	171*
467882	89	113
3467883	87	106
3467884	85	110
467885	85	110
467886	91	108
467887	92	108
3467888	92	112
3467889	91	113
Blank	90	108

\*- Outside of specification

- 1) The result for one or both determinations was less than five times the LOQ.
- 2) The background result was more than four times the spike added.



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2216 Rev. 3/23/99



## Lancaster Laboratories

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### Quality Control Summary

Page 4 of 4

Client Name: Kerr-McGee Corporation

Group Number: 732915

Reported: 10/17/00 at 02:14 AM

#### Surrogate Quality Control

LCS	82	110
MS	85	110
MSD	85	110

---

Limits:	29-136	33-139
---------	--------	--------

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The background result was more than four times the spike added.



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2216 Rev. 3/23/99



# Analysis Request, Environmental Services Chain of Custody



For Lancaster Laboratories use only  
 Acct. # 7802 Sample # 3466798-817

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

Client: <u>KERR - MCGEE</u> Acct. #: _____ Project Name/ #: <u>MOSS AMERICAN</u> PWSID #: _____ Project Manager: <u>TOM GRAAN</u> P.O. # _____ Sampler: <u>SARAH RICHARDS / J. KEMP / S. FERRER</u> Quote #: _____ Name of state where samples were collected: <u>WISCONSIN</u>		Matrix <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">4</span> <input type="checkbox"/> Potable (check if applicable) <input type="checkbox"/> NPDES	Total # of Containers	Analyses Requested <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">5</span> TKN, TP, PO4, Tot P NH3 BTEX 8213 O-PO4 NO2, NO3 TOC, CO2, BOD PAHs 8310	For lab use only FSC: _____ SCR #: <u>1143918</u>													
<b>Sample Identification</b>	Date Collected	Time Collected	Grab <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">3</span>	Composite	Soil	Water	Other	Total # of Containers	Remarks	Temperature of samples upon receipt (if requested) <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">6</span>								
<del>MA3-TG4-4-270900-01</del>	<del>9/27/00</del>	<del>0845</del>																
<del>MA3-TG4-4-270900-02</del>	<del>9/27/00</del>	<del>0855</del>																
MA3-TG4-1-270900-01	9/27/00	0845	✓		✓		13	✓	✓	✓	✓	✓	✓	✓	✓	✓	ORIGINAL C.O.C IN COOLER #1	
MA3-TG4-2-270900-02	9/27/00	0855	✓		✓		13	✓	✓	✓	✓	✓	✓	✓	✓	✓	6 COOLERS IN SET	
MA3-TG4-3-270900-03		0905	✓		✓		13	✓	✓	✓	✓	✓	✓	✓	✓	✓	COPIES IN ADDITIONAL COOLERS	
MW-20S-11		1020	✓		✓		5											
MW-20I-11		1010	✓		✓		5											
MW-7S-11		1115	✓		✓		5											
MW-34S-11		1125	✓		✓		5											
Turnaround Time Requested (TAT) (please circle): <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">Normal</span> Rush (Rush TAT is subject to Lancaster Laboratories approval and surcharge.) Date results are needed: <u>STD TAT</u> Rush results requested by (please circle): Phone Fax Phone #: <u>847-918-4000</u> Fax #: <u>847-918-4055</u>		Relinquished by: <u>K. Baker</u> Date: <u>9-21-00</u> Time: <u>1700</u>		Received by: _____ Date: _____ Time: _____														
Data Package Options (please circle if requested) QC Summary Type VI (Raw Data) <u>AS PER QUOTE</u> SDG Complete? Yes <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">No</span> Type I (Tier I) GLP Type II (Tier II) Other Type III (NJ Red. Del.) Type IV (CLP)		Site-specific QC required? Yes No (if yes, indicate QC sample and submit triplicate volume.) Internal Chain of Custody required? Yes No		Relinquished by: _____ Date: _____ Time: _____ Relinquished by: _____ Date: _____ Time: _____ Relinquished by: _____ Date: _____ Time: _____														
				Received by: <u>David W...</u> Date: <u>9/27/00</u> Time: <u>1800</u>														

# Analysis Request/ Environmental Services Chain of Custody



For Lancaster Laboratories use only  
 Acct. # 7802 Sample # 3466798-817

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

Client: <u>Kerr-McLee</u> Acct. #: _____ Project Name/ #: <u>Mass American</u> PWSID #: _____ Project Manager: <u>Tom Green</u> P.O. #: _____ Sampler: <u>S. Richards / J. Klump / B. Schaefer</u> Quote #: _____ Name of state where samples were collected: <u>WISCONSIN</u>		Matrix <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">4</span> <input type="checkbox"/> Potable (check if applicable) <input type="checkbox"/> NPDES Soil _____ Water _____ Other _____	Total # of Containers _____	Analyses Requested <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">5</span> TK, NTP, PO4, Tot P NH3 BTEX 8213 O-PO4 NO2, NO3 TOC, COD, BOD PAHS 8310	For lab use only FSC: _____ SCR #: <u>1143918</u> C.O.C. # <u>2 of 3</u> Temperature of samples upon receipt (if requested) <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">6</span>					
Sample Identification	Date Collected	Time Collected	Grab <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">3</span>	Composite	Soil	Water	Other	Total # of Containers	Remarks	Temperature of samples upon receipt (if requested)
MW-7I-11										
MW-7I-11	9/27/00	11:35						5		
MA3-TG5-1-260900-04		1440						13		
MA3-TG5-1-260900-04 DUP		1440						13	only 12oz + part bottles submitted	
MA3-TG5-2-260900-05		1450						13		
MA3-TG5-270900-06		1500						13		
MW-37S-11		1540						5		
MW-37S-MS-11-MS		1540						5		
MW-37S-MSD-11-MSD	1540	1540						5		
MW-36S-11		1630						5		
Turnaround Time Requested (TAT) (please circle): <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">Normal</span> Rush (Rush TAT is subject to Lancaster Laboratories approval and surcharge.) Date results are needed: <u>STD TAT</u> Rush results requested by (please circle): Phone Fax Phone #: <u>847-918-4000</u> Fax #: <u>847-918-4055</u>			Relinquished by: <u>K. Becker</u> Date: <u>9/21/00</u> Time: <u>1700</u>		Received by: _____ Date: _____ Time: _____					
Date results are needed: <u>STD TAT</u> Rush results requested by (please circle): Phone Fax Phone #: <u>847-918-4000</u> Fax #: <u>847-918-4055</u>			Relinquished by: <u>S. Richards</u> Date: <u>9/27/00</u> Time: <u>1800</u>		Received by: <u>Fed Ex</u> Date: <u>9/27/00</u> Time: <u>1800</u>					
Relinquished by: _____ Date: _____ Time: _____			Relinquished by: _____ Date: _____ Time: _____		Received by: _____ Date: _____ Time: _____					
Relinquished by: _____ Date: _____ Time: _____			Relinquished by: _____ Date: _____ Time: _____		Received by: _____ Date: _____ Time: _____					
Relinquished by: _____ Date: _____ Time: _____			Relinquished by: _____ Date: _____ Time: _____		Received by: <u>[Signature]</u> Date: <u>9/27/00</u> Time: <u>1900</u>					
Data Package Options (please circle if requested) QC Summary Type VI (Raw Data) <u>As Per Quote</u> SDG Complete? Yes <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">No</span> Type I (Tier I) GLP Type II (Tier II) Other Type III (NJ Red. Del.) Type IV (CLP)			Site-specific QC required? Yes No (If yes, indicate QC sample and submit triplicate volume.) Internal Chain of Custody required? Yes No							

# Analysis Request / Environmental Services Chain of Custody



For Lancaster Laboratories use only  
 Acct. # 7802 Sample # 3466798-817

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

1 Client: KERR-McGEE Acct. #: \_\_\_\_\_  
 Project Name/#: MOSS-AMERICAN PWSID #: \_\_\_\_\_  
 Project Manager: TOM GRAAN P.O.# \_\_\_\_\_  
 Sampler: SARAH RICHARDS / S. KEMP / B. SCHULTZ Quote #: \_\_\_\_\_  
 Name of state where samples were collected: WISCONSIN

Sample Identification	Date Collected	Time Collected	Grab Composite		Matrix 4			Total # of Containers	Analyses Requested 5							Remarks	Temperature of samples upon receipt (if requested) 6
			Grab	Composite	Soil	Water	Other		TKN, TPPO4, TO6P	NH3	BTEX B213	O-P04	NO2, NO3	TOC, COD, BOD	PAHS B310		
<del>MA3-T64-1-270900-01</del>																	
<del>MA3-T64-2-270900-02</del>																	
<del>MA3-T64-3-270900-03</del>																	
MW-298-11	9/27/00	1615								✓				✓		ORIGINAL C.O.C. IN COOLER #1 COPIES IN ADDITIONAL COOLERS 6 COOLERS IN SET	

7 Turnaround Time Requested (TAT) (please circle): Normal Rush  
 (Rush TAT is subject to Lancaster Laboratories approval and surcharge.)  
 Date results are needed: STD TAT  
 Rush results requested by (please circle): Phone Fax  
 Phone #: 847-918-4000 Fax #: 847-918-4055

Relinquished by: <u>K. Baker</u>	Date: <u>9/21/00</u>	Time: <u>1700</u>	Received by:	Date:	Time:
Relinquished by: <u>S. Richards</u>	Date: <u>9/27/00</u>	Time: <u>1800</u>	Received by: <u>FED EX</u>	Date: <u>9/27/00</u>	Time: <u>SA 1800</u>
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by: <u>[Signature]</u>	Date: <u>9/27/00</u>	Time: <u>1900</u>

8 Data Package Options (please circle if requested)      SDG Complete? Yes No

QC Summary	Type VI (Raw Data) <u>AS PER QUOTE</u>	Site-specific QC required? Yes No (If yes, indicate QC sample and submit triplicate volume.)
Type I (Tier I)	GLP	
Type II (Tier II)	Other	
Type III (NJ Red. Del.)		
Type IV (CLP)		Internal Chain of Custody required? Yes No

# Analysis Request / Environmental Services Chain of Custody



For Lancaster Laboratories use only  
 Acct. # 7802 Sample # 3467872-90

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

1 Client: <u>LEER-MCGEE</u> Acct. #: _____ Project Name/#: <u>MOSS AMERICAN</u> PWSID #: _____ Project Manager: <u>TOM GRAY</u> P.O.#: _____ Sampler: <u>SARAH RICHARDS</u> Quote #: _____ Name of state where samples were collected: <u>WISCONSIN</u>				4 Matrix <input type="checkbox"/> Potable (check if applicable) <input type="checkbox"/> NPDES Soil _____ Water _____ Other _____		5 Analyses Requested TKNTP P24, TUE P NH <sub>3</sub> BTEX 8213 O-1204 NO <sub>2</sub> , NO <sub>3</sub> TOC, COD, BOD PAHs 8310 _____ _____						For lab use only FSC: _____ SCR #: <u>1143518</u> C.O.C #1 of 2 Temperature of samples upon receipt (if requested) _____				
2 Sample Identification			Date Collected	Time Collected	3 Grab	Composite	Total # of Containers	Remarks						6		
MA3-TGS-1-0280900-01			9/28/02	0825	/		13	✓	✓	✓	✓	✓	✓	✓		
MA3-TG-5-2-0280900-02			↓	0835	/		13	✓	✓	✓	✓	✓	✓	✓	ORIGINAL C.O.C. IN	
MA3-TGS-3-0280900-03				0840	/		13	✓	✓	✓	✓	✓	✓	✓	COOLER #1 COPIES	
MW-9S-11				0940	✓		5			✓			✓		IN ADDITIONAL	
MW-10S-11				1030	✓		5			✓			✓		COOLERS	
MW-10S-11-DUP				1030	/		5			✓			✓		5 COOLERS IN SET	
MW-9I-11				1055	✓		5			✓			✓			
MW-27S-11				1135	/		5			✓			✓			
FB-03				1130	✓		5			✓			✓			
MW-TW-0S-11				1200	✓		5			✓			✓			
7 Turnaround Time Requested (TAT) (please circle): <u>Normal</u> Rush (Rush TAT is subject to Lancaster Laboratories approval and surcharge.) Date results are needed: <u>SID TAT</u> Rush results requested by (please circle): Phone Fax Phone #: <u>847-918-4000</u> Fax #: <u>847-918-4055</u>							Relinquished by: <u>K. Baker</u> Date: <u>9/21/02</u> Time: <u>1700</u>		Received by: _____ Date: _____ Time: _____							
							Relinquished by: <u>L.A. Man</u> Date: <u>11/24/02</u> Time: <u>1800</u>		Received by: <u>FedEx</u> Date: <u>11/24/02</u> Time: <u>1800</u>							
							Relinquished by: _____ Date: _____ Time: _____		Received by: _____ Date: _____ Time: _____							
							Relinquished by: _____ Date: _____ Time: _____		Received by: _____ Date: _____ Time: _____							
							Relinquished by: _____ Date: _____ Time: _____		Received by: _____ Date: _____ Time: _____							
8 Data Package Options (please circle if requested)				SDG Complete?												
QC Summary		Type VI (Raw Data) <u>AS PER QUTE</u>		Yes <u>(No)</u>												
Type I (Tier I)		GLP														
Type II (Tier II)		Other														
Type III (NJ Red. Del.)				Site-specific QC required? Yes No												
Type IV (CLP)				(If yes, indicate QC sample and submit triplicate volume.)												
				Internal Chain of Custody required? Yes No												



# Analysis Request / Environmental Services Chain of Custody



For Lancaster Laboratories use only  
 Acct. # 7802 Sample # 3468877-87

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

Client: <u>KERR MCGEE</u> Project Name/#: <u>MOSS AMERICAN</u> Project Manager: <u>TOM GRANN</u> Sampler: <u>JOE KEMP</u> Name of state where samples were collected: _____	Acct. #: _____ PWSID #: _____ P.O.# _____ Quote #: _____	Matrix <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">4</span>	<input type="checkbox"/> Potable (Check if applicable) <input type="checkbox"/> NPDES Other _____	Total # of Containers _____	Analyses Requested <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">5</span> <u>BTX PAHs</u>	For lab use only FSC: _____ SCR #: <u>1143918</u>
---	---	--	---	-----------------------------	---	---

Sample Identification	Date Collected	Time Collected	Grab <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">3</span>	Composite	Soil	Water	Other	Total # of Containers	Analyses Requested	Remarks	Temperature of samples upon receipt (if requested) <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">6</span>
MW-5S-11	9/29/00	0930	✓			✓		4	✓ ✓		
MW-3S-11	↓	0945	✓			✓		4	✓ ✓	ORIGINAL C.O.C. IN COVER #1 COPIES IN OTHER COVERS IN SET. 2 COVERS IN SET	
MW-3S-11	↓	1000	✓			✓		4	✓ ✓		
MW-3I-11	↓	1130	✓			✓		4	✓ ✓		
MW-4I-11	↓	1140	✓			✓		4	✓ ✓		
MW-4S-11	↓	1145	✓			✓		4	✓ ✓		
MW-4S-11-MS	↓	1145	✓			✓		4	✓ ✓		
MW-4S-11-MSD	↓	1145	✓			✓		4	✓ ✓		
MW-3S-11-DUP	↓	1000	✓			✓		4	✓ ✓		

Turnaround Time Requested (TAT) (please circle): <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">Normal</span> Rush (Rush TAT is subject to Lancaster Laboratories approval and surcharge.) Date results are needed: <u>STD TAT</u> Rush results requested by (please circle): Phone Fax Phone #: <u>847-918-4000</u> Fax #: <u>847-918-4055</u>	Relinquished by: <u>K. Baker</u> Date: <u>9/29/00</u> Time: <u>1700</u>	Received by: _____ Date: _____ Time: _____	Relinquished by: <u>A. Richards</u> Date: <u>9/29/00</u> Time: <u>1330</u>	Received by: <u>F. E. EY</u> Date: <u>9/29/00</u> Time: <u>1330</u>	
Data Package Options (please circle if requested) QC Summary Type VI (Raw Data) Yes <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">No</span> Type I (Tier I) GLP Type II (Tier II) Other Type III (NJ Red. Del.) Type IV (CLP)	SDG Complete? Yes <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">No</span> Site-specific QC required? Yes No (If yes, indicate QC sample and submit triplicate volume.) Internal Chain of Custody required? Yes No	Relinquished by: _____ Date: _____ Time: _____	Received by: _____ Date: _____ Time: _____	Relinquished by: _____ Date: _____ Time: _____	Received by: <u>[Signature]</u> Date: <u>9/30/00</u> Time: <u>1000</u>