Weston Solutions, Inc.
Suite 500
750 East Bunker Court
Vernon Hills, IL 60061-1865
847-918-4000 • Fax 847-918-4055
www.westonsolutions.com

2 March 2006

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

RFW Work Order No. 02687.007.007
KMC Work Order No. 40-50-01-AKW-V

Re: 4th Quarter 2005 Groundwater Monitoring Report
Moss-American Site, Milwaukee, WI

Dear Mr. Hart:

Enclosed is the groundwater monitoring report for the 4th quarter of 2005. Should you have any questions or comments, please contact me at (847) 918-4142 or Keith Watson at (405) 270-3747.

Very truly yours,

WESTON SOLUTIONS, INC.

Thomas P. Graan

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

TPG\tg

cc: T. Wentland, WDNR
K. Watson, KMC

QUARTERLY GROUNDWATER TREATMENT PERFORMANCE MONITORING REPORT Q4 2005 MOSS-AMERICAN SITE MILWAUKEE, WISCONSIN

Prepared for

TRONOX, LLC
123 Robert S. Kerr Avenue
Oklahoma City, OK 73102

Prepared by

WESTON SOLUTIONS, INC.
Suite 500
750 East Bunker Court
Vernon Hills, IL 60061

March 2006

W. O. No. 02687.007.007.0001

TABLE OF CONTENTS

Section	Title	Page
1	INTRODUCTION	1-1
2	ON-SITE GROUNDWATER MONITORING RESULTS	2-1
	2.1 Groundwater Elevation Measurements	2-1
	2.2. Groundwater Sample Analytical Results	2-3
	2.2.1 Field-Measured Parameters	2-3
	2.2.2 Laboratory Analyses	2-6
3	EVALUATION OF PILOT SCALE OPERATIONS	3-1
	3.1 Dissolved Oxygen	3-1
	3.2 Nutrients and pH	3-2
	3.3 Bacterial Populations	3-2
	3.4 Hydrogeology	3-3
	3.5 Site Modifications	3-3
4	REFERENCES	4-1

LIST OF FIGURES

Figure	Title	Page
1-1	Monitoring Well Locations Map	1-4
2-1	Groundwater Elevation Contour Map – 4th Qtr 2005	2-11
2-2	Groundwater Elevation Contour Map – 3rd Qtr 2005	2-12
3-1	Comparison of Degrader Populations in Treatment Gates 1 and 2 Since Q1 2001	3-4

LIST OF TABLES

Table	Title	Page
2-1	Groundwater Elevation Measurements – Shallow and Containment Performance Monitoring Wells	2-13
2-2	Groundwater Elevation Measurements – Treatment Performance Monitoring Wells	2-14
2-3	Groundwater Elevation Measurements – Piezometers and Staff Gauge	2-15
2-4	Groundwater Elevation Measurements – Additional Monitoring Wells	2-16
2-5	Groundwater Sample Analytical Results	2-18
2-6	Concentration Trends in Groundwater Monitoring Wells	2-27
2-7	Groundwater Sample Analytical Results – Treatment Performance Monitoring Wells – Nutrient and Biological Parameters	2-29
3-1	Calculation of Carbon: Nitrogen: Phosphorous Ratios	3-5

LIST OF APPENDICES

Appendix A December 2005 Groundwater Sample Analytical Results

SECTION 1
INTRODUCTION

In accordance with paragraph 4a of the Remedial Design/Remedial Action Statement of Work (RD/RA SOW), Tronox LLC (TRONOX), formerly known as Kerr-McGee Chemical, LLC, is required to implement a groundwater monitoring program capable of detecting changes in chemical concentrations in the groundwater. TRONOX has directed Weston Solutions, Inc. (WESTON®) to perform this work. As previously agreed, the monitoring network currently includes seven shallow groundwater monitoring wells (MW-5S, MW-6S, MW-7S, MW-9S, MW-27S, MW-28S, and MW-29S). Additionally, the quarterly groundwater monitoring program includes sampling of the eight containment performance monitoring wells (MW-30S, MW-31S, MW-32S, MW-33S, MW-34S, MW-35S, MW-36S and MW-37S), which are screened in the shallow groundwater-bearing unit underlying the site. Nine piezometer wells (PZ-01, PZ-02, PZ-03, PZ-04, PZ-05, PZ-06, PZ-07, PZ-09, and PZ-10) and one staff gauge (SG-01) were installed in December 2002 to monitor groundwater movement. The locations of piezometers, the staff gauge, and the groundwater-monitoring wells that are included in the quarterly sampling program are indicated on Figure 1-1.

In addition to the on-site groundwater monitoring wells, four shallow groundwater monitoring wells (MW-A, MW-B, MW-C and MW-D) were installed in September 2003 to monitor groundwater conditions between old and new river channels in the Reach 1. These four wells are sampled annually (during Q3 sampling events) in accordance with the annual groundwater monitoring program for the Reach 1 area.

In December 2004, seven additional shallow groundwater monitoring wells (MW-E, MW-F, MW-G, MW-H, MW-I, MW-J and MW-K) were installed to monitor groundwater conditions between old and new river channels in the Reaches 2 and 3. These seven wells are sampled annually (during Q3 sampling events) in accordance with the annual groundwater monitoring program for the Reaches 2 and 3.

Some wells that were previously part of the groundwater-monitoring network have been removed to facilitate soil remediation activities. TW-09, MW-8S, and MW-8I were removed during excavation activities and installation of the funnel-and-gate groundwater treatment system in 1999. Wells MW-4S and MW-4I were removed during early Q3 2001, and well TW-05 was removed in early Q4 2001 during the "hot spot" soil excavation and treatment process. Wells MW-20S and MW-20I were removed during Q3 2002 when the Little Menomonee River (LMR) diversion work took place.

As discussed in the Q2 2002 Quarterly Groundwater Treatment Performance Monitoring Report, some modifications were made to the sampling program. The first modification was the reduction of performance monitoring well sampling frequency. The treatment performance monitoring wells were originally sampled on a monthly basis, but sample data showed that minimal changes in site conditions were found on a monthly basis. Therefore a change in sampling frequency from monthly to quarterly was recommended. This recommendation was approved by the Wisconsin Department of Natural Resources (WDNR) and the United States Environmental Protection Agency (collectively "Agencies") and the monthly sampling program was discontinued after the October 2002 sampling event. The second modification was the reduction of the groundwater monitoring program scope. It was proposed that some shallow monitoring wells (MW-3S, MW-10S, MW-13S, MW-25S, MW-26S, and MW-20S) and intermediate monitoring wells (MW-3I, MW-7I, MW-9I, and MW-20I) be removed from the groundwater monitoring program due to zero or few sample detections in these wells. The Agencies approved this recommendation, and the sampling of these wells was discontinued after the September (Q3) 2002 sampling event; however, per the Agencies' request, these wells were not abandoned, with the exception of MW-20S and MW-20I abandoned during LMR diversion. Instead these wells are utilized to collect water level measurements for the production of more accurate quarterly groundwater potentiometric maps.

The Quality Assurance Project Plan for Installation of Groundwater Remedial System (QAPP) (WESTON, October 1999) requires TRONOX to implement a groundwater monitoring program capable of indicating groundwater chemistry before, during, and after treatment. In addition, the hydraulic gradient is calculated at each treatment gate and is used to estimate groundwater flow

velocity through the treatment gate remediation system. The monitoring network includes six groundwater treatment gates (TG1 through TG6) with three treatment performance monitoring wells located at each groundwater treatment gate. The treatment 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 The locations of the treatement performance monitoring wells are indicated on Figure 1-1.

In accordance with paragraph 4a (i) of the RD/RA SOW, the quarterly field measurement and analysis of groundwater samples collected from the shallow and containment performance groundwater monitoring wells include groundwater elevation, pH, temperature, turbidity, specific conductance, oxidation-reduction (redox) potential, and dissolved oxygen (DO). Required laboratory analyses include benzene, toluene, ethylbenzene, and xylene (BTEX collectively) and the following 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 Addendum No. 1 to the QAPP (WESTON, May 2001), the quarterly field measurements for samples collected from the treatment performance monitoring wells include groundwater elevation, pH, temperature, turbidity, specific conductance, redox potential, and DO. Quarterly laboratory analyses required for the treatment performance wells include microbial enumeration, nitrate-nitrogen (NO_3-N), nitrite-nitrogen (NO_2-N), total Kjeldahl nitrogen (TKN), ammonia-nitrogen (NH_3-N), total phosphate-phosphorous (PO_4-P), orthophosphate (ORP), biochemical oxygen demand (BOD), chemical oxygen demand (COD), total organic carbon (TOC), BTEX, and the PAHs indicated in the above paragraph.

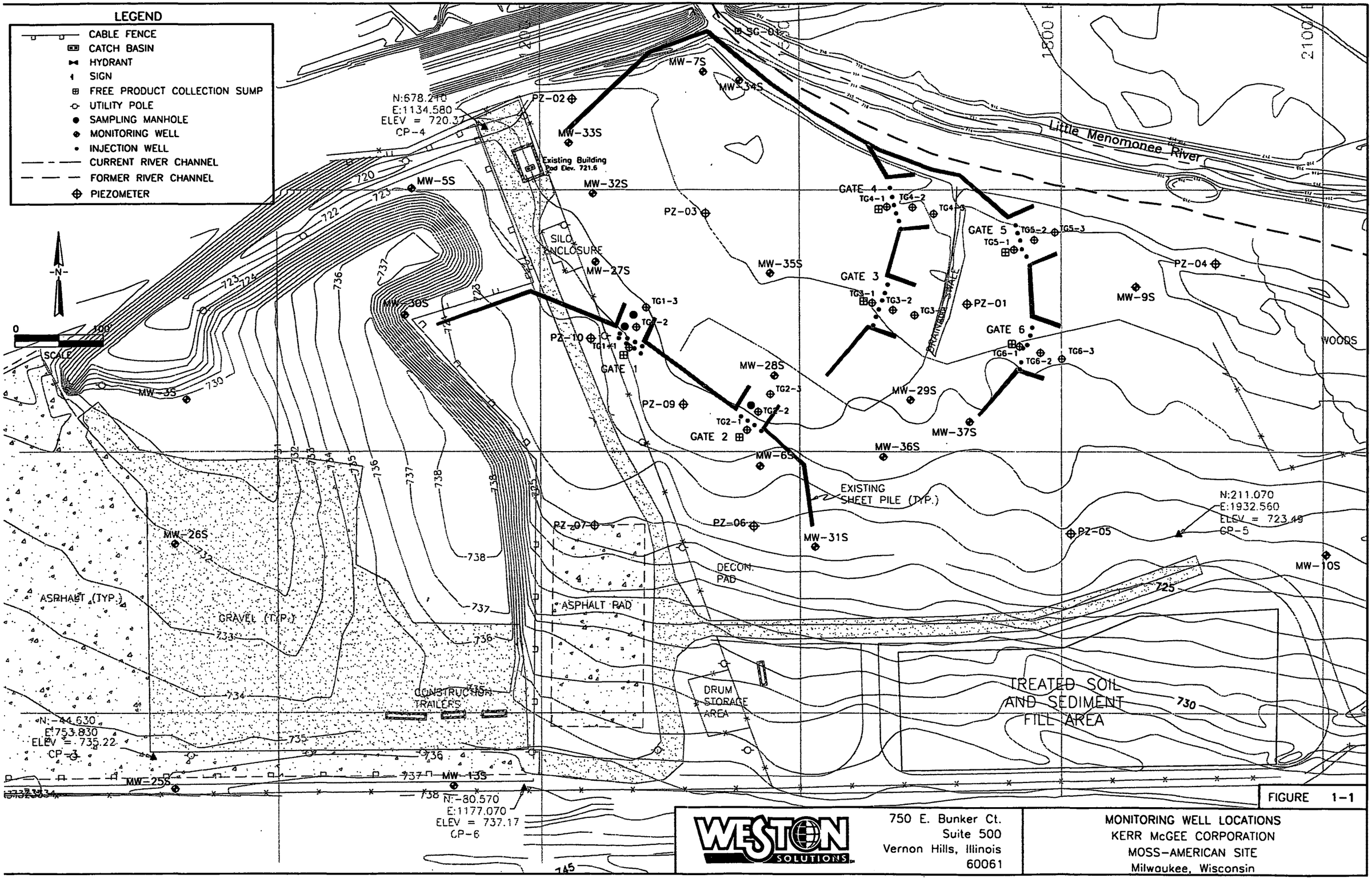


FIGURE 1-1

WESTON SOLUTIONS

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

MONITORING WELL LOCATIONS
KERR McGEE CORPORATION
MOSS-AMERICAN SITE
Milwaukee, Wisconsin

SECTION 2

ON-SITE GROUNDWATER MONITORING RESULTS

The Q4 2005 groundwater-monitoring event at the Moss-American site was completed between 19 and 28 December 2005. Tasks completed during the field effort for this event included the collection of groundwater elevation and DO data from the shallow groundwater monitoring, containment performance monitoring, and treatment performance monitoring wells referenced in Section 1. Following groundwater elevation and DO measurements, groundwater samples were collected from the shallow, containment performance, and treatment performance monitoring wells. The results of the Q4 2005 groundwater sampling event are described in the following subsections.

2.1 GROUNDWATER ELEVATION MEASUREMENTS

Attempts to measure the depth to water in each of the shallow groundwater monitoring, containment performance monitoring, treatment performance monitoring, and piezometers were made on 19 December 2005. Due to frozen well conditions, and plowed snow covering some of the wells, a number of wells could not be measured or accessed. On 27 December 2005, following warmer weather, depth to water measurements were made in most of the wells that were initially frozen. Wells MW-3S, MW-13S, and MW-26S could not be accessed during the entire mobilization effort. These measurements were used to determine the elevation of the potentiometric surface within the shallow groundwater-bearing zone underlying the site. The water level measurements for the shallow groundwater monitoring and containment performance monitoring wells and calculated elevations are presented in Table 2-1. The groundwater level measurements and corresponding groundwater elevations, calculated hydraulic gradients across the treatment gates, and estimated groundwater flow velocities through the treatment gates are presented in Table 2-2. The groundwater levels for the piezometers are presented in Table 2-3. The staff gauge that was damaged between the Q1 and Q2 2005 sampling events is still awaiting repair and was not read in Q4 2005. Figure 2-1 presents a potentiometric surface map of the shallow groundwater-bearing zone, based on the December 2005 data. Figure 2-2 presents the groundwater potentiometric surface elevations during Q3 2005. An evaluation of the Q4 2005 potentiometric surface map is presented below.

As shown in Figure 2-1, the groundwater within the shallow groundwater-bearing zone generally flows northeastward toward the LMR. In the topographically higher (western) portion of the site, the horizontal hydraulic gradient is relatively steep, at approximately 0.02 feet per foot (ft/ft) to the northeast, as measured from the vicinity of MW-25S to PZ-07. The topography of the site levels out near the river, as does the potentiometric surface with a northerly hydraulic gradient of approximately 0.012 ft/ft, as measured from the vicinity of PZ-05 to PZ-04. The estimated hydraulic gradients within the treatment gates ranged from 0.0005 to 0.0064 ft/ft (Table 2-2). The hydraulic gradient is relatively flat within the treatment gate area with an overall hydraulic gradient from TG1 to TG5 of approximately 0.0033 ft/ft in an easterly direction.

The average velocity of groundwater flow within the shallow water-bearing zone can be calculated using the following equation:

$$v = Ki/n$$

where:

v = groundwater velocity

K = hydraulic conductivity (also referred to as the coefficient of permeability)

i = hydraulic gradient

n = porosity

Based on slug tests performed on wells installed during the remedial investigation (RI), the hydraulic conductivity of the deposits located on the topographically higher, western portion of the site were in the range of 1×10^{-5} to 1×10^{-6} centimeters per second (cm/s) (0.03 to 0.003 feet per day [ft/day]). Based on laboratory-performed hydraulic conductivity analyses conducted on material used to backfill areas of the site located along the LMR, the hydraulic conductivity of soils located in the topographically lower portion of the site within the funnel-and-gate remedial system is approximately 1×10^{-3} cm/s (3 ft/day). Using a hydraulic gradient of 0.02 ft/ft, an assumed effective porosity of 0.3, and a hydraulic conductivity of 0.03 ft/day, the groundwater flow velocity in the western portion of the site is calculated to be approximately 0.002 ft/day. Near the river, using a hydraulic gradient of 0.012 ft/ft, a porosity of 0.3, and a hydraulic conductivity of 3 ft/day, the velocity of groundwater flow is calculated to be approximately 0.12

ft/day. The groundwater flow velocities within the treatment gates are estimated to range from 0.0047 ft/day to 0.06 ft/day. The groundwater flow velocity through each treatment gate is presented in Table 2-2.

2.2 GROUNDWATER SAMPLE ANALYTICAL RESULTS

Groundwater samples were collected from a total of 33 shallow monitoring wells screened within the shallow groundwater-bearing unit. The shallow wells sampled include seven shallow groundwater monitoring wells (MW-5S, MW-6S, MW-7S, MW-9S, MW-27S, MW-28S, and MW-29S); 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 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 to the investigative groundwater samples collected, three field sample duplicate, two matrix spike/matrix spike duplicate (MS/MSD), and two field blank (identified by an FB prefix) samples were collected for quality assurance/quality control (QA/QC) purposes. Trip blanks accompanied each cooler of sample containers from the laboratory to the site and were shipped back to the laboratory within each cooler containing volatile organic compound (VOC) samples.

All groundwater samples were field screened and laboratory analyzed for the parameters indicated in Section 1.

2.2.1 Field-Measured Parameters

The groundwater samples were measured in the field for pH, specific conductance, temperature, redox potential, DO, and turbidity. The field parameters were collected using a YSI 556 portable water quality meter and a HS Scientific DRT-15CE turbidimeter. Downhole DO readings were collected from monitoring wells after sampling at a given well was completed. The groundwater pH, redox potential, specific conductance, temperature, and turbidity were monitored during well purging prior to sampling. The final (stabilized) values for these measurements prior to sample collection are presented in Table 2-4. Water quality parameter measurements were not collected

from well TG1-1 and MW-34S due to the presence of sheen or product in the purge water during Q4 2005.

2.2.1.1 pH

The pH of the groundwater samples collected during Q4 2005 ranged from 5.94 to 7.85 pH standard units (S.U.). pH is an important factor in determining the feasibility of bioremediation of contaminants in the site groundwater because biological systems typically function only in narrow pH ranges (typically 6.5 to 8.5 S.U.), and because microbial growth rates are pH dependent.

2.2.1.2 Redox Potential

The redox potentials of the groundwater samples collected at the site during Q4 2005 ranged from -102.5 to 104.7 millivolts (mV). Redox potential indicates the capability of the groundwater to promote chemical oxidation-reduction processes that consume organic matter and ultimately oxidize organic 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. Oxidation-reduction rates in the system are greater as the redox potential increases in magnitude. A positive redox potential typically indicates conditions where oxidized ionic species (i.e., NO_3^-, SO_4^{2-}, and Fe^{3+}) predominate in comparison to their reduced counterparts (NH_4^+, S^{2-}, and Fe^{2+}, respectively). Once DO is removed from water (i.e., via biodegradation of organics), oxidized ionic species become electron acceptors in redox processes. As the processes continue under anaerobic conditions, the reduced ionic species concentration increases, resulting in an overall decrease of the water's oxidation potential.

2.2.1.3 Dissolved Oxygen

DO levels for the groundwater samples collected during Q4 2005 ranged from 0.04 to 6.21 milligrams per liter (mg/L) with three levels above 2.0 mg/L. Overall, the DO readings indicate the presence of low to intermediate levels of oxygen in the water, and the system as a whole is considered to be generally under suboxic conditions. DO promotes the growth of aerobic and facultative bacteria and the production of readily assimilated nutrients. All of these factors are required to facilitate the oxidation reaction responsible for removing the contaminants from the groundwater under aerobic conditions.

2.2.1.4 Specific Conductance

The specific conductance, or conductivity, of the groundwater samples collected during Q4 2005 ranged from 0.511 to 2.214 millimhos per centimeter (mmho/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 (TDS) present in a water sample. As the dissolved solids content of a solution increases, the capacity for the water to transmit electrical current increases. Although conductivity is a measure of the aggregate dissolved solids in the water it may be correlated to the readily available nutrient levels in the water, since TDS includes nitrate, nitrite, ammonium, and phosphate ions.

2.2.1.5 Temperature

Groundwater temperatures ranged from 5.67 to 9.65 degrees Celsius (°C) during Q4 2005. Temperature is an extremely important factor in bioremediation because microbial growth rates are greatly dependent upon temperature.

2.2.1.6 Turbidity

Turbidity ranged from 0.27 to 396 nephelometric turbidity units (NTU) during Q4 2005. Turbidity is a measure of the clarity of water and is used as an indicator of the solids present in a water sample and overall water quality.

2.2.2 Laboratory Analyses

The results of the laboratory analyses performed on the groundwater samples collected during December 2005 are provided in Appendix A. A discussion of the results of the laboratory analyses performed on the groundwater samples are presented in the following subsections.

2.2.2.1 Laboratory Analyses for BTEX and PAH

Each groundwater sample collected during the December 2005 sampling event was analyzed for BTEX and PAH compounds. The results of these analyses are presented and compared to WDNR Preventive Action Limits (PALs) and Enforcement Standards (ESs) in Table 2-5. Table 2-5 identifies parameters detected at concentrations exceeding their respective PALs (shown as bolded values). Parameters with concentrations exceeding both PALs and ESs are presented as shaded and bolded values in Table 2-5. Exceedences are summarized in the following paragraphs.

Groundwater Sample Results

As shown in Table 2-5, benzene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, fluoranthene, fluorene, naphthalene, and pyrene were detected at concentrations exceeding their respective PALs and/or ESs in the groundwater samples collected from the shallow monitoring well network. The results are as follows:

WDNR PAL Exceedences

- Benzene was detected at concentrations exceeding the PAL of 0.5 micrograms per liter (µg/L) in the groundwater samples collected from wells MW-7S and MW-34S.
- Benzo(a)pyrene was detected at concentrations exceeding the PAL of 0.02 µg/L in the groundwater samples collected from wells MW-34S and TG1-1.
- Benzo(b)fluoranthene was detected at concentrations exceeding the PAL of 0.02 µg/L in the groundwater samples collected from wells MW-34S and TG1-1.
- Chrysene was detected at a concentration exceeding the PAL of 0.02 µg/L in the groundwater sample collected from well TG1-1.
- Fluoranthene was detected at a concentration exceeding the PAL of 80 µg/L in the groundwater sample collected from well TG1-1.
- Fluorene was detected at concentrations exceeding the PAL of 80 µg/L in the groundwater samples collected from wells MW-34S and TG1-1.
- Naphthalene was detected at concentrations exceeding the PAL of 8 µg/L in the groundwater samples from wells MW-7S, MW-33S, MW-34S, TG1-1 and TG1-2.
- Pyrene was detected at a concentration exceeding the PAL of 50 µg/L in the groundwater sample collected from wells MW-34S and TG1-1.

WDNR ES Exceedences

- Benzo(a)pyrene was detected at concentrations exceeding the ES of 0.2 µg/L in the groundwater samples collected from wells MW-34S and TG1-1.
- Benzo(b)fluoranthene was detected at concentrations exceeding the ES of 0.2 µg/L in the groundwater samples collected from wells MW-34S and TG1-1.
- Chrysene was detected at a concentration exceeding the ES of 0.2 µg/L in the groundwater samples collected from well TG1-1.
- Fluoranthene was detected at a concentration exceeding the ES of 400 µg/L in the groundwater sample collected from well TG1-1.
- Fluorene was detected at a concentration exceeding the ES of 400 µg/L in the groundwater sample collected from well TG1-1.
- Naphthalene was detected at concentrations exceeding the ES of 40 µg/L in the groundwater samples collected from wells MW-7S, MW-34S, and TG1-1.

- Pyrene was detected at a concentration exceeding the ES of 250 µg/L in the groundwater sample collected from well TG1-1.

The plume boundary is primarily in an area encompassing five shallow monitoring wells (MW-7S, MW-33S, MW-34S, TG1-1, and TG1-2). The majority of PAL and ES exceedances are associated with wells MW-34S and TG1-1 in which free product has historically been observed. In general, PAH concentrations measured in groundwater samples collected from the rest of the site were at relatively low levels with no PAL/ES exceedances. Based on these detected concentrations, the contaminant plume generally demonstrates a northeasterly trend, as indicated in Figure 2-1, similar to the previous 26 quarterly groundwater sampling events. Very low (estimated) detections of PAHs were observed in wells from treatment gates 2, 5, and 6 during the Q3 2005 rounds. However, in Q4 2005, most of these PAHs were no longer detected in these same wells. The only PAH detected in wells from treatment gates 3 through 6 in Q4 2005 was flouranthene at low (estimated) concentrations below the PAL/ES. PAHs were not detected in well from treatment gate 2 in Q4 2005.

A summary of the concentration of contaminants at wells that have regularly exceeded PALs and/or ESs during the last 12 quarters (3 years) is presented in Table 2-6. Levels of benzene, naphthalene, fluorene, and benzo(a)pyrene fluctuate over wide ranges in some of these wells. However, several constituents have shown an overall decreasing trend in monitoring wells MW-32S, MW-33S and MW-35S. Benzene, fluorene, and benzo(a)pyrene concentrations have remained relatively constant in MW-7S; however, naphthalene concentrations show an overall decreasing trend in MW-7S. Well MW-34S has shown overall fluctuating levels in naphthalene, fluorene, and benzo(a)pyrene; however, benzene concentrations have remained relatively consistent in MW34S. During Q4 2005, a trace amount of free product was detected in well MW-34S. Varying levels of free product have been found in MW-34S in the recent past. This correlates with the elevated levels of constituents found in MW-34S. Well TG1-1 has shown fluctuating naphthalene, fluorene, and benzo(a)pyrene concentrations since it was first sampled in Q3 2000. This fluctuating concentration could be due to the presence of free product which has historically been observed in well TG1-1.

2.2.2.2 Laboratory Analyses for Treatment Performance Monitoring

The groundwater samples collected from the treatment performance monitoring wells were analyzed for microbial enumeration, NO_3-N, NO_2-N, TKN, NH_3-N, PO_4-P, ORP, BOD, COD, TOC, BTEX, and PAHs. The analytical results for microbial enumeration, NO_3-N, NO_2-N, TKN, NH_3-N, PO_4-P, ORP, BOD, COD, and TOC are presented in Table 2-7. The analytical results for the treatment performance monitoring well groundwater samples are summarized below. The laboratory reports of nutrient and microbial analyses are also included in Appendix A.

Nitrogen and Phosphorous Compounds

Nitrate results include one detection from TG5-3 at 0.24 mg/L and non-detect results elsewhere. Nitrite results include one detection from TG3-3 at 0.037 mg/L and non-detect results elsewhere. TKN results include five non-detect results and detections with concentrations ranging from 0.62 to 1.7 mg/L. Ammonia results include two non-detect results and detections ranging from 0.12 to 1.9 mg/L. Overall, nitrogen compound concentrations are at relatively low levels; however, previous sample results have indicated that NH_3-N concentrations are typically an order of magnitude greater than NO_3-N concentrations and approximately two orders or magnitude greater than NO_2-N.

PO_4-P was not detected above the detection limits in any of the treatment performance monitoring well samples. ORP results included non-detects and detected concentrations ranging from 0.01 to 0.04 mg/L.

BOD, COD, and TOC

BOD results include non-detect results and five detections with concentrations ranging from 6.0 to 9.8 mg/L. COD concentrations for the samples collected throughout the treatment system ranged from 9.7 to 65.1 mg/L. TOC concentrations for the samples collected throughout the treatment system ranged from 3.8 to 12.0 mg/L. As expected, the treatment gate wells indicate less BOD compared to COD. COD indicates the presence of constituents that exert an oxygen

demand, including carbon compounds such as the site contaminants in the groundwater, and other constituents such as ammonia, sulfurous compounds; and biological material such as humic acids and detritus. A significant portion of oxygen demand exerted by the constituents measured in the COD test may not be readily biodegradable and would typically exert the oxygen demand over an extended time period. The oxygen demand exerted by the constituents the COD analysis detected is catalyzed chemically and thermally. The low BOD indicates low concentrations of material that is readily biodegradable and/or quickly oxidized.

Microbial Enumeration

The total microbial populations for TG1 and TG2 ranged from 3.2×10^2 to 7.0×10^3 colony forming units per milliliter (CFU/mL) during Q4 2005. The total microbial population for TG3 and TG4 ranged from 3.7×10^2 to 4.9×10^3 CFU/mL during Q4 2005. The total microbial populations for TG5 and TG6 ranged from 1.6×10^2 to 1.8×10^3 CFU/mL during Q4 2005.

The result of degrader microbial population analysis for TG1 and TG2 ranged from non-detect to 5.0×10^2 CFU/mL during Q4 2005. The degrader microbial populations for TG3 and TG4 ranged from not detect to 1.0×10^2 CFU/mL during Q4 2005. The degrader microbial populations for TG5 ranged from non-detect to 1.0×10^2 during Q4 2005. The degrader microbial populations for TG6 were all non-detect during Q4 2005.

LEGEND

- CABLE FENCE
- CATCH BASIN
- HYDRANT
- SIGN
- FREE PRODUCT COLLECTION SUMP
- UTILITY POLE
- SAMPLING MANHOLE
- MONITORING WELL
- INJECTION WELL
- STAFF GAUGE
- PIEZOMETER
- CURRENT RIVER CHANNEL
- FORMER RIVER CHANNEL
- DIRECTION OF GROUNDWATER FLOW
- 726 GROUNDWATER ELEVATION CONTOUR DASHED WHERE INFERRED
- ESTIMATED BOUNDARY OF CONTAMINANT PLUME
- NM GROUNDWATER ELEVATION NOT MEASURED
- DEPTH TO WATER COLLECTED 27 DEC. 2005
- LEVEL NOT USED IN CONTOURING

N

0 100' SCALE

Little Menomonee River

MW-7S 717.04*
MW-34S 717.29*
MW-SG-01 NM
PZ-02 715.50
N:678.210 E:1134.580 ELEV = 720.37 CP-4
MW-33S 718.79
Existing Building Pad Elev. 721.6
MW-5S 719.37
MW-32S 717.16
PZ-03 717.34
MW-A NM
GATE 4 TG4-1 717.43 TG4-2 717.15 TG4-3 716.79
GATE 5 TG5-1 716.70 TG5-2 716.75 TG5-3 717.01
717.41 MW-35S
SILO ENCLOSURE
MW-27S 718.57*
GATE 3 TG3-1 717.66 TG3-2 717.52 TG3-3 717.84
PZ-04 716.39
MW-9S 716.76
PZ-01 716.06
723.15 MW-30S
TG1-3 718.14 TG1-2 718.05 TG1-1 718.92
PZ-10 719.92
GATE 1
GATE 6 TG6-1 717.38 TG6-2 714.85** TG6-3 717.31
WOODS
MW-28S 718.27
TG2-3 717.95 TG2-2 718.05 TG2-1 718.43
GATE 2
717.74 MW-29S
PZ-09 720.45
MW-37S 717.81
MW-36S 719.14
MW-6S 721.58*
EXISTING SHEET PILE (TYP.)
N:211.670 E:1932.560 ELEV = 723.49 CP-5
PZ-07 724.73
PZ-06 723.46
MW-31S 722.52*
PZ-05 720.78
MW-10S 720.88
DECON. PAD
ASPHALT PAD
ASPHALT (TYP.)
GRAVEL (TYP.)
CONSTRUCTION TRAILERS
DRUM STORAGE AREA
TREATED SOIL AND SEDIMENT FILL AREA
MW-3S NM
MW-26S NM
N:-44.630 E:753.830 ELEV = 735.22 CP-3
MW-25S 735.07
MW-13S NM
N:-80.570 E:1177.070 ELEV = 737.17 CP-6

NOTE:
WATER LEVELS MEASURED ON 19 DECEMBER 2005.

FIGURE 2-1

WESTON SOLUTIONS

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

GROUNDWATER ELEVATION CONTOUR MAP-4TH QUARTER 2005
KERR McGEE CORPORATION
MOSS-AMERICAN SITE
Milwaukee, Wisconsin

LEGEND

- CABLE FENCE
- CATCH BASIN
- HYDRANT
- SIGN
- FREE PRODUCT COLLECTION SUMP
- UTILITY POLE
- SAMPLING MANHOLE
- MONITORING WELL
- INJECTION WELL
- STAFF GAUGE
- PIEZOMETER
- CURRENT RIVER CHANNEL
- FORMER RIVER CHANNEL
- DIRECTION OF GROUNDWATER FLOW
- 726 GROUNDWATER ELEVATION CONTOUR DASHED WHERE INFERRED
- ESTIMATED BOUNDARY OF CONTAMINANT PLUME
- NM GROUNDWATER ELEVATION NOT MEASURED

N

0 100' SCALE

N:678.210
E:1134.580
ELEV = 720.36
CP-4

Little Menomonee River

Existing Building Pad Elev. 721.6

SILO ENCLOSURE

DRAINAGE SWALE

WOODS

EXISTING SHEET PILE (TYP.)

N:211.070
E:1932.560
ELEV = 723.48
CP-5

DECON. PAD

ASPHALT (TYP.)

GRAVEL (TYP.)

ASPHALT PAD

CONSTRUCTION TRAILERS

DRUM STORAGE AREA

TREATED SOIL AND SEDIMENT FILL AREA

N:-44.630
E:753.830
ELEV = 735.22
CP-3

N:-80.570
E:1177.070
ELEV = 737.17
CP-6

MW-7S 713.57
MW-34S NM
SG-01 NM
PZ-02 713.29
MW-33S 713.50
MW-32S 713.83
MW-5S 717.82
MW-A 711.61
PZ-03 713.56
MW-27S 715.69
MW-10S 721.69
MW-35S 713.46
GATE 4 713.26
TG4-1 713.19
TG4-2
TG4-3 713.61
GATE 5 713.72
TG5-1 713.69
TG5-2
TG5-3 713.91
GATE 3
TG3-1 713.36
TG3-2
TG3-3 713.31
PZ-01 713.81
PZ-04 711.50
MW-9S 713.54
GATE 6
TG6-1 714.63e
TG6-2 714.63
TG6-3 714.58
TG1-3 715.61
TG1-2 715.89
PZ-10 717.73
TG1-1 NM
GATE 1
MW-28S 714.79
TG2-3 714.90
TG2-2 715.69
TG2-1 715.73
GATE 2
PZ-09 715.34
MW-29S 713.50
MW-37S 716.13
MW-36S 714.87
MW-6S 718.88
MW-3S 724.28
PZ-07 720.53
PZ-06 718.26
MW-31S 717.11
PZ-05 716.16
MW-10S 715.05
MW-26S 726.01
MW-25S 732.38
MW-13S 731.23

FIGURE 2-2

WESTON SOLUTIONS

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

GROUNDWATER ELEVATION CONTOUR MAP-3RD QUARTER 2005
KERR McGEE CORPORATION
MOSS-AMERICAN SITE
Milwaukee, Wisconsin

Table 2-1

Groundwater Elevation Measurements
Shallow and Containment Performance Monitoring Wells
Moss-American Site
Milwaukee, Wisconsin
Fourth Quarter 2005

Well ID	Ground Elevation	TOC Elevation	Depth to Water	Groundwater Elevation	Product Thickness
MW-3S	729.71	731.45	NM	NC	None Detected
MW-5S	723.41	724.63	5.26	719.37	
MW-6S	723.11	725.24	3.68 *	721.56	
MW-7S	719.47	721.59	4.55 *	717.04	
MW-9S	719.15	721.66	4.90	716.76	
MW-10S	723.95	726.76	5.88	720.88	
MW-13S	737.73	738.58	NM	NC	
MW-25S	736.95	739.19	4.12	735.07	
MW-26S	732.31	731.87	NM	NC	
MW-27S	720.57	723.10	4.53 *	718.57	
MW-28S	719.64	722.13	3.86	718.27	
MW-29S	719.51	722.17	4.43	717.74	
MW-30S	725.35	727.34	4.19	723.15	
MW-31S	725.29	725.31	2.79 *	722.52	
MW-32S	719.68	722.79	5.63	717.16	
MW-33S	719.25	721.81	5.02	716.79	
MW-34S	718.97	721.52	4.23 *	717.29	Trace
MW-35S	718.14	721.75	4.34	717.41	None Detected
MW-36S	720.41	723.21	4.07	719.14	
MW-37S	721.33	723.30	5.49	717.81	

Notes:

All values in feet.

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

TOC = Top of well casing.

GW = Groundwater.

Depth to groundwater was measured on 19 December 2005

NM= Not measured due to frozen conditions or well was covered by snow and could not be located.

NC= Could not be calculated due to insufficient data

Depth to groundwater was measured on 19 December 2005

* Depth to water (dtw) was not measured on 19 December due to frozen well conditions; dtw was measured on 27 December when wells had thawed.

Table 2-2

Groundwater Elevation Measurements
Treatment Performance Monitoring Wells
Moss-American Site
Milwaukee, Wisconsin
Fourth Quarter 2005

Well ID	Ground Elevation	TOC Elevation	Depth to Water	GW Elevation	Hydraulic Gradient (ft/ft)	Groundwater Velocity (ft/day)	Product Thickness
TG1-1	719.77	723.32	4.40 *	718.92	-0.0009	-0.0085	Trace
TG1-2	720.06	722.81	4.76	718.05			None Detected
TG1-3	719.56	722.53	4.39	718.14			
TG2-1	720.67	723.80	5.37	718.43	0.0048	0.0454	
TG2-2	720.62	723.05	5.00	718.05			
TG2-3	720.06	722.61	4.66	717.95			
TG3-1	719.14	721.05	3.39 *	717.66	0.0025	0.0236	
TG3-2	718.87	720.92	3.40	717.52			
TG3-3	718.35	720.60	3.19	717.41			
TG4-1	718.06	721.14	3.71 *	717.43	0.0064	0.0605	
TG4-2	718.26	720.75	3.60	717.15			
TG4-3	718.01	720.04	3.25 *	716.79			
TG5-1	717.60	721.12	4.42	716.70	-0.0031	-0.0293	
TG5-2	718.18	720.63	3.88	716.75			
TG5-3	718.17	719.99	2.98	717.01			
TG6-1	719.47	721.96	4.60	717.36	0.0005	0.0047	
TG6-2	719.70	722.05	7.20 **	714.85			
TG6-3	719.58	722.47	5.16	717.31			

Notes:

All values in feet.
All elevation measurements are with respect to Mean Sea Level (MSL).
Porosity of soil is assumed to be 0.3.
Hydraulic conductivity of treatment gate material is assumed to be 1E-3 cm/s = 3.0 ft/day.
TOC = Top of the casing.
GW = Groundwater.
ft/day = feet per day.
ft/ft = feet per foot.
NM= Not measured due to frozen conditions or well was covered by snow and could not be located.
NC= Could not be calculated due to insufficient data
A negative value in the groundwater velocity column indicates that the groundwater flow was opposite to the general direction of groundwater flow at the site.
Depth to groundwater was measured on 19 December 2005

* Depth to water (dtw) was not measured on 19 December due to frozen well conditions; dtw was measured on 27 December when wells had thawed.

** The depth to water measurement for TG6-2 appears anomalous and may be an erroneous entry to the field log.

Table 2-3

Groundwater Elevation Measurements
Piezometers and Staff Gauge
Moss-American Site
Milwaukee, Wisconsin
Fourth Quarter 2005

Well ID	Ground Elevation	TOC Elevation	Depth to Water	Groundwater Elevation	Product Thickness
Groundwater					
PZ-01	718.04	721.05	4.39	716.66	None Detected
PZ-02	718.89	721.84	6.34	715.50	
PZ-03	719.00	722.09	4.75	717.34	
PZ-04	717.30	720.22	3.83	716.39	
PZ-05	724.34	727.43	6.65	720.78	
PZ-06	724.62	727.79	4.33	723.46	
PZ-07	725.78	728.72	3.99	724.73	
PZ-09	721.12	724.08	3.63	720.45	
PZ-10	722.04	725.05	5.13	719.92	
Surface Water					
ID	**Top of Staff Gauge Elevation**		**Staff Gauge Reading**	**Water Elevation**	
SG-01	716.22		NM	NC	

Notes:
All values in feet.
All elevation measurements are with respect to Mean Sea Level (MSL).
TOC = Top of well casing.
GW = Groundwater.
NM= Not measured
NC= Could not be calculated due to insufficient data

Depth to groundwater was measured on 19 December 2005

Table 2-4

Field-Measured Parameters
Shallow Groundwater and Containment Performance Monitoring Wells
Moss-American Site
Milwaukee, Wisconsin
Fourth Quarter 2005

Well ID	Dissolved Oxygen (mg/L)	Redox Potential (mV)	pH (Standard Units)	Specific Conductance (mmho/cm)	Temperature (Deg C)	Turbidity (NTU)
MW-5S	0.04	-40.9	7.00	0.853	9.65	2.65
MW-6S	4.75	104.7	6.90	0.511	8.36	8.8
MW-7S	0.04	-40.9	6.89	0.877	9.25	5.13
MW-9S	0.54	-74.0	6.84	0.949	7.92	4.63
MW-27S	0.42	-38.1	6.61	1.273	8.22	0.98
MW-28S	1.49	-59.1	6.84	1.247	7.29	3.14
MW-29S	0.23	7.4	7.15	0.791	7.34	4.50
MW-30S	0.57	-1.87	7.12	2.214	8.99	0.28
MW-31S	1.50	86.0	6.54	0.803	9.12	396
MW-32S	1.68	-61.2	6.63	1.160	8.06	0.65
MW-33S	3.25	-32.1	6.47	1.564	6.52	0.87
MW-34S	NM	NM	NM	NM	NM	NM
MW-35S	0.11	102.4	6.43	1.809	7.83	3.61
MW-36S	6.21	4.5	6.99	0.711	8.71	2.97
MW-37S	0.64	-4.6	6.97	1.083	8.87	0.27

Table 2-4 (Continued)

Field-Measured Parameters
Treatment Performance Monitoring Wells
Moss-American Site
Milwaukee, Wisconsin
Fourth Quarter 2005

Well ID	Dissolved Oxygen (mg/L)	Redox Potential (mV)	pH (Standard Units)	Specific Conductance (mmho/cm)	Temperature (Deg C)	Turbidity (NTU)
TG1-1	NM	NM	NM	NM	NM	NM
TG1-2	0.76	-102.5	5.94	0.964	6.92	15.6
TG1-3	1.26	-92.5	6.97	1.167	7.18	18.3
TG2-1	0.25	-86.7	7.33	1.056	6.31	3.06
TG2-2	0.21	-98.0	7.08	0.810	7.45	3.06
TG2-3	0.63	-85.5	6.71	1.114	7.62	1.80
TG3-1	0.41	-31.5	6.92	0.996	6.97	1.26
TG3-2	0.65	-99.4	7.59	1.193	5.67	NM
TG3-3	0.30	-96.3	7.10	1.068	7.60	NM
TG4-1	0.50	-49.6	7.04	1.404	6.63	5.84
TG4-2	0.51	-46.6	7.62	1.394	6.37	NM
TG4-3	0.40	-44.6	6.94	1.365	7.26	9.33
TG5-1	1.10	-23.0	7.04	1.176	7.36	53.4
TG5-2	0.34	-45.6	7.06	0.975	6.36	8.3
TG5-3	0.8	-31.8	7.82	0.824	8.32	8.16
TG6-1	0.53	-71.2	7.85	1.075	5.88	NM
TG6-2	0.53	-52.5	7.09	1.340	8.49	NM
TG6-3	0.28	-93.7	7.00	1.461	6.99	4.68

Notes:
S - Shallow well.
TG - Treatment gate performance monitoring well.
NM - Not measured due to equipment failure or presence of a sheen or free product in well.
uohm/cm - microhms per centimeter
Deg C - Degrees Celcius
mV - millivolt
mg/L - milligram per liter
NTU - Nephelometric Turbidity unit

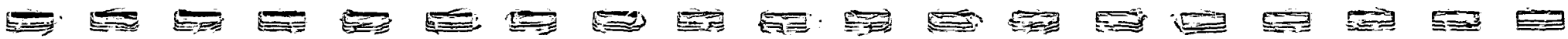


Table 2-5 (Continued)

Groundwater Sample Analytical Results
Containment Monitoring Well Samples
Moss-American Site
Milwaukee, Wisconsin
Fourth Quarter 2005

Sample ID	MA3-MW34S-122705-5	MA3-MW35S-122705-3	MA3-MW36S-122205-1	MA3-MW37S-122205-20	WDNR PAL (ug/L)	WDNR ES (ug/L)
Well ID	MW-34S	MW-35S	MW-36S	MW-37S		
Matrix	Ground Water	Ground Water	Ground Water	Ground Water		
Date	12/27/2005	12/27/2005	12/22/2005	12/22/2005		
Units	ug/l	ug/l	ug/l	ug/l		
VOCs						
Benzene	5.0 J	0.2 U	0.2 U	0.2 U	0.5	5
Ethylbenzene	22	0.2 U	0.2 U	0.2 U	140	700
Toluene	4.0 U	0.2 U	0.2 U	0.2 U	68.6	343
Total Xylenes	54 J	0.6 U	0.6 U	0.6 U	124	650
PAHs						
Acenaphthene	190 J	1.7 U	1.7 U	1.7 U	NA	NA
Acenaphthylene	65 U	1.7 U	1.7 U	1.7 U	NA	NA
Anthracene	10 J	0.042 U	0.043 U	0.044 U	600	3000
Benzo(a)anthracene	1.7 J	0.021 U	0.021 U	0.022 U	NA	NA
Benzo(a)pyrene	[redacted] 0.55 J [redacted]	0.021 U	0.021 U	0.022 U	0.02	0.2
Benzo(b)fluoranthene	[redacted] 0.52 J [redacted]	0.042 U	0.043 U	0.044 U	0.02	0.2
Benzo(g,h,i)perylene	0.30 U	0.10 U	0.11 U	0.11 U	NA	NA
Benzo(k)fluoranthene	0.29 J	0.021 U	0.021 U	0.022 U	NA	NA
Chrysene	3.0 U	0.084 U	0.085 U	0.087 U	0.02	0.2
Dibenz(a,h)anthracene	0.042 U	0.042 U	0.043 U	0.044 U	NA	NA
Fluoranthene	18 J	0.33	0.043 U	0.044 U	80	400
Fluorene	94 J	0.52 U	0.53 U	0.55 U	80	400
Indeno(1,2,3-cd)pyrene	0.14 J	0.084 U	0.085 U	0.087 U	NA	NA
Naphthalene	[redacted] 4400 J [redacted]	1.7 U	1.7 U	1.7 U	8	40
Phenanthrene	110 J	0.084 U	0.085 U	0.087 U	NA	NA
Pyrene	13 J	0.24 J	0.19 U	0.20 U	50	250

U-Constituent not detected. Detection limit indicated.
J-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.
NS-Not sampled due to frozen conditions.
Bolded values indicate concentration exceeding PAL.
Shaded and bolded values indicate concentration exceeding PAL and ES.

Table 2-5 (Continued)

Groundwater Sample Analytical Results
Treatment Performance Monitoring Well Samples
Moss-American Site
Milwaukee, Wisconsin
Fourth Quarter 2005

Sample ID	MA3-TG1-1-122305-5	MA3-TG1-2-122105-15	MA3-TG1-3-122105-14	MA3-TG2-1-122105-6	MA3-TG2-2-122105-7	WDNR PAL (ug/L)	WDNR ES (ug/L)
Well ID	TG1-1	TG1-2	TG1-3	TG2-1	TG2-2		
Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water		
Date	12/28/2005	12/21/2005	12/21/2005	12/21/2005	12/21/2005		
Units	ug/l	ug/l	ug/l	ug/l	ug/l		
VOCs							
Benzene	1.0 U	0.2 U	0.2 U	0.2 U	0.2 U	0.5	5
Ethylbenzene	20	0.2 U	0.2 U	0.2 U	0.2 U	140	700
Toluene	1.1 J	0.2 U	0.2 U	0.2 U	0.2 U	68.6	343
Total Xylenes	32	0.6 U	0.6 U	0.6 U	0.6 U	124	650
PAHs							
Acenaphthene	2700	28	1.8 U	1.9 U	1.8 U	NA	NA
Acenaphthylene	160 U	1.8 U	1.8 U	1.9 U	1.8 U	NA	NA
Anthracene	590	1.0	0.044 U	0.047 U	0.044 U	600	3000
Benzo(a)anthracene	410	0.042 J	0.022 U	0.023 U	0.022 U	NA	NA
Benzo(a)pyrene	180	0.023 U	0.022 U	0.023 U	0.022 U	0.02	0.2
Benzo(b)fluoranthene	180	0.045 U	0.044 U	0.047 U	0.044 U	0.02	0.2
Benzo(g,h,i)perylene	77	0.11 U	0.11 U	0.12 U	0.11 U	NA	NA
Benzo(k)fluoranthene	93	0.023 U	0.022 U	0.023 U	0.022 U	NA	NA
Chrysene	290	0.091 U	0.089 U	0.093 U	0.088 U	0.02	0.2
Dibenz(a,h)anthracene	22	0.045 U	0.044 U	0.047 U	0.044 U	NA	NA
Fluoranthene	2400	1.5	0.095 J	0.047 U	0.044 U	80	400
Fluorene	2100	13	0.55 U	0.58 U	0.55 U	80	400
Indeno(1,2,3-cd)pyrene	89	0.091 U	0.089 U	0.093 U	0.088 U	NA	NA
Naphthalene	4300	34	1.8 U	1.9 U	1.8 U	8	40
Phenanthrene	5100	6.6	0.089 U	0.093 U	0.088 U	NA	NA
Pyrene	1800	1.0	0.20 U	0.21 U	0.20 U	50	250

U-Constituent not detected. Detection limit indicated.
J-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.
NS-Not sampled due to frozen conditions.
Bolded values indicate concentration exceeding PAL.
Shaded and bolded values indicate concentration exceeding PAL and ES.

Table 2-5 (Continued)

Groundwater Sample Analytical Results
Treatment Performance Monitoring Well Samples
Moss-American Site
Milwaukee, Wisconsin
Fourth Quarter 2005

Sample ID	MA3-TG2-3-122105-8	MA3-TG3-1-122305-4	MA3-TG3-2-122005-3	MA3-TG3-3-122005-2	A3-TG3-3-122005-2Du	WDNR PAL (ug/L)	WDNR ES (ug/L)
Well ID	TG2-3	TG3-1	TG3-2	TG3-3	TG3-3		
Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water		
Date	12/21/2005	12/28/2005	12/20/2005	12/20/2005	12/20/2005		
Units	ug/l	ug/l	ug/l	ug/l	ug/l		
VOCs							
Benzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.5	5
Ethylbenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	140	700
Toluene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	68.6	343
Total Xylenes	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	124	650
PAHs							
Acenaphthene	1.8 U	1.8 U	1.8 U	1.7 U	1.7 U	NA	NA
Acenaphthylene	1.8 U	1.8 U	1.8 U	1.7 U	1.7 U	NA	NA
Anthracene	0.045 U	0.044 U	0.046 U	0.043 U	0.043 U	600	3000
Benzo(a)anthracene	0.022 U	0.022 U	0.023 U	0.022 U	0.021 U	NA	NA
Benzo(a)pyrene	0.022 U	0.022 U	0.023 U	0.022 U	0.021 U	0.02	0.2
Benzo(b)fluoranthene	0.045 U	0.044 U	0.046 U	0.043 U	0.043 U	0.02	0.2
Benzo(g,h,i)perylene	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U	NA	NA
Benzo(k)fluoranthene	0.022 U	0.022 U	0.023 U	0.022 U	0.021 U	NA	NA
Chrysene	0.090 U	0.089 U	0.092 U	0.087 U	0.086 U	0.02	0.2
Dibenz(a,h)anthracene	0.045 U	0.044 U	0.046 U	0.043 U	0.043 U	NA	NA
Fluoranthene	0.045 U	0.044 U	0.046 U	0.043 U	0.044 J	80	400
Fluorene	0.56 U	0.55 U	0.58 U	0.54 U	0.54 U	80	400
Indeno(1,2,3-cd)pyrene	0.090 U	0.089 U	0.092 U	0.087 U	0.086 U	NA	NA
Naphthalene	1.8 U	1.8 U	1.8 U	1.7 U	1.7 U	8	40
Phenanthrene	0.090 U	0.089 U	0.092 U	0.087 U	0.086 U	NA	NA
Pyrene	0.20 U	0.20 U	0.21 U	0.20 U	0.19 U	50	250

U-Constituent not detected. Detection limit indicated.
J-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.
NS-Not sampled due to frozen conditions.
Bolded values indicate concentration exceeding PAL.
Shaded and bolded values indicate concentration exceeding PAL and ES.

Table 2-5 (Continued)

Groundwater Sample Analytical Results
Treatment Performance Monitoring Well Samples
Moss-American Site
Milwaukee, Wisconsin
Fourth Quarter 2005

Sample ID	MA3-TG4-1-122305-1	MA3-TG4-2-122005-1	MA3-TG4-3-122305-3	MA3-TG5-1-122105-12	MA3-TG5-2-122105-13	WDNR PAL (ug/L)	WDNR ES (ug/L)
Well ID	TG4-1	TG4-2	TG4-3	TG5-1	TG5-2		
Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water		
Date	12/28/2005	12/20/2005	12/28/2005	12/21/2005	12/21/2005		
Units	ug/l	ug/l	ug/l	ug/l	ug/l		
VOCs							
Benzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.5	5
Ethylbenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	140	700
Toluene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	68.6	343
Total Xylenes	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	124	650
PAHs							
Acenaphthene	1.6 U	1.8 U	2.0 U	2.0 U	1.8 U	NA	NA
Acenaphthylene	1.6 U	1.8 U	2.0 U	2.0 U	1.8 U	NA	NA
Anthracene	0.040 U	0.045 U	0.050 U	0.049 U	0.044 U	600	3000
Benzo(a)anthracene	0.020 U	0.023 U	0.025 U	0.024 U	0.022 U	NA	NA
Benzo(a)pyrene	0.020 U	0.023 U	0.025 U	0.024 U	0.022 U	0.02	0.2
Benzo(b)fluoranthene	0.040 U	0.045 U	0.050 U	0.049 U	0.044 U	0.02	0.2
Benzo(g,h,i)perylene	0.10 U	0.11 U	0.13 U	0.12 U	0.11 U	NA	NA
Benzo(k)fluoranthene	0.020 U	0.023 U	0.025 U	0.024 U	0.022 U	NA	NA
Chrysene	0.081 U	0.090 U	0.10 U	0.098 U	0.089 U	0.02	0.2
Dibenz(a,h)anthracene	0.040 U	0.045 U	0.050 U	0.049 U	0.044 U	NA	NA
Fluoranthene	0.040 U	0.18 J	0.050 U	0.049 U	0.047 J	80	400
Fluorene	0.50 U	0.56 U	0.63 U	0.61 U	0.55 U	80	400
Indeno(1,2,3-cd)pyrene	0.081 U	0.090 U	0.10 U	0.098 U	0.089 U	NA	NA
Naphthalene	1.6 U	1.8 U	2.0 U	2.0 U	1.8 U	8	40
Phenanthrene	0.081 U	0.090 U	0.10 U	0.098 U	0.089 U	NA	NA
Pyrene	0.18 U	0.20 U	0.23 U	0.22 U	0.20 U	50	250

U-Constituent not detected. Detection limit indicated.
J-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.
NS-Not sampled due to frozen conditions.
Bolded values indicate concentration exceeding PAL.
Shaded and bolded values indicate concentration exceeding PAL and ES.

Table 2-5 (Continued)

Groundwater Sample Analytical Results
Treatment Performance Monitoring Well Samples
Moss-American Site
Milwaukee, Wisconsin
Fourth Quarter 2005

Sample ID	MA3-TG5-3-122305-2	MA3-TG6-1-122005-5	MA3-TG6-2-122005-4	MA3-TG6-3-122105-10	WDNR PAL (ug/L)	WDNR ES (ug/L)
Well ID	TG5-3	TG6-1	TG6-2	TG6-3		
Matrix	Ground Water	Ground Water	Ground Water	Ground Water		
Date	12/28/2005	12/20/2005	12/20/2005	12/21/2005		
Units	ug/l	ug/l	ug/l	ug/l		
VOCs						
Benzene	0.2 U	0.2 U	0.2 U	0.2 U	0.5	5
Ethylbenzene	0.2 U	0.2 U	0.2 U	0.2 U	140	700
Toluene	0.2 U	0.2 U	0.2 U	0.2 U	68.6	343
Total Xylenes	0.6 U	0.6 U	0.6 U	0.6 U	124	650
PAHs						
Acenaphthene	1.7 U	1.8 U	2.3 U	1.7 U	NA	NA
Acenaphthylene	1.7 U	1.8 U	2.3 U	1.7 U	NA	NA
Anthracene	0.042 U	0.045 U	0.058 U	0.043 U	600	3000
Benzo(a)anthracene	0.021 U	0.022 U	0.029 U	0.021 U	NA	NA
Benzo(a)pyrene	0.021 U	0.022 U	0.029 U	0.021 U	0.02	0.2
Benzo(b)fluoranthene	0.042 U	0.045 U	0.058 U	0.043 U	0.02	0.2
Benzo(g,h,i)perylene	0.10 U	0.11 U	0.14 U	0.11 U	NA	NA
Benzo(k)fluoranthene	0.021 U	0.022 U	0.029 U	0.021 U	NA	NA
Chrysene	0.083 U	0.089 U	0.12 U	0.086 U	0.02	0.2
Dibenz(a,h)anthracene	0.042 U	0.045 U	0.058 U	0.043 U	NA	NA
Fluoranthene	0.046 J	0.045 U	0.060 J	0.043 U	80	400
Fluorene	0.52 U	0.56 U	0.72 U	0.54 U	80	400
Indeno(1,2,3-cd)pyrene	0.083 U	0.089 U	0.12 U	0.086 U	NA	NA
Naphthalene	1.7 U	1.8 U	2.3 U	1.7 U	8	40
Phenanthrene	0.083 U	0.089 U	0.12 U	0.086 U	NA	NA
Pyrene	0.19 U	0.20 U	0.26 U	0.19 U	50	250

U-Constituent not detected. Detection limit indicated.
J-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.
NS-Not sampled due to frozen conditions.
Bolded values indicate concentration exceeding PAL.
Shaded and bolded values indicate concentration exceeding PAL and ES.

Table 2-5 (Continued)

Groundwater Sample Analytical Results
Field Blank and Trip Blank Samples
Moss-American Site
Milwaukee, Wisconsin
Fourth Quarter 2005

Sample ID	MA3-FB-122205-4	MA3-FB-122805-7	MA3-TB-01-122005-6	Trip_Blank	MA3-TB-3-1222205-3	MA3-TB-4-122705-8	MA3-TB-5-122805-6	MA3-TB-091305-8	WDNR PAL (ug/L)	WDNR ES (ug/L)
Well ID	Field Blank	Field Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank		
Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	WQ		
Date	12/22/2005	12/28/2005	12/20/2005	12/21/2005	12/22/2005	12/27/2005	12/28/2005	9/13/2005		
Units	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l		
VOCs										
Benzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.5	5
Ethylbenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	140	700
Toluene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	68.6	343
Total Xylenes	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	124	650
PAHs										
Acenaphthene	1.8 U	1.7 U	--	--	--	--	--	--	NA	NA
Acenaphthylene	1.8 U	1.7 U	--	--	--	--	--	--	NA	NA
Anthracene	0.045 U	0.042 U	--	--	--	--	--	--	600	3000
Benzo(a)anthracene	0.023 U	0.021 U	--	--	--	--	--	--	NA	NA
Benzo(a)pyrene	0.023 U	0.021 U	--	--	--	--	--	--	0.02	0.2
Benzo(b)fluoranthene	0.045 U	0.042 U	--	--	--	--	--	--	0.02	0.2
Benzo(g,h,i)perylene	0.11 U	0.11 U	--	--	--	--	--	--	NA	NA
Benzo(k)fluoranthene	0.023 U	0.021 U	--	--	--	--	--	--	NA	NA
Chrysene	0.090 U	0.084 U	--	--	--	--	--	--	0.02	0.2
Dibenz(a,h)anthracene	0.045 U	0.042 U	--	--	--	--	--	--	NA	NA
Fluoranthene	0.045 U	0.042 U	--	--	--	--	--	--	80	400
Fluorene	0.56 U	0.53 U	--	--	--	--	--	--	80	400
Indeno(1,2,3-cd)pyrene	0.090 U	0.084 U	--	--	--	--	--	--	NA	NA
Naphthalene	1.8 U	1.7 U	--	--	--	--	--	--	8	40
Phenanthrene	0.090 U	0.084 U	--	--	--	--	--	--	NA	NA
Pyrene	0.20 U	0.19 U	--	--	--	--	--	--	50	250

U-Constituent not detected. Detection limit indicated.
J-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.
NS-Not sampled due to frozen conditions.
Bolded values indicate concentration exceeding PAL.
Shaded and bolded values indicate concentration exceeding PAL and ES.

Table 2-6

Concentration Trends in Groundwater Monitoring Wells
First Quarter 2003 through Fourth Quarter 2005
Moss-American Site
Milwaukee, Wisconsin

	MW-7S	MW-32S	MW-33S	MW-34S	MW-35S	TG1-1
Benzene (ug/L)						
First Quarter (March '03)	2.9 J	0.20 U	1.0 U	6.4 J	0.20 U	2.7 J
Second Quarter (June '03)	2.4 J	0.2 U	2 U	15 J	0.2 U	1.4 J
Third Quarter (September '03)	10 U	0.2 U	0.3 J	10 U	0.2 U	2 U
Fourth Quarter (December '03)	2.3 J	0.2 U	0.2 U	6.6	0.2 U	1 U
First Quarter (March '04)	4 U	0.2 U	4 J	5.7 J	0.2 U	1.5
Second Quarter (June '04)	2 U	0.2 U	1 U	7.8 J	0.2 U	1 U
Third Quarter (September '04)	2.2 J	0.2 U	1 U	7.1 J	0.2 U	2 U
Fourth Quarter (December '04)	8.6	0.2 U	0.2 U	7.2 J	0.2 U	0.5 J
First Quarter (March '05)	2.9 J	0.2 U	0.2 U	6.2 J	0.2 U	1 U
Second Quarter (June '05)	1.6 J	0.2 U	0.2 U	6 J	0.2 U	1 U
Third Quarter (September '05)	1.8	0.2 U	0.2 U	7.3	0.2 U	0.8 J
Fourth Quarter (December '05)	1.7 J	0.2 U	0.2 U	5.0 J	0.2 U	1.0 U
Naphthalene (ug/L)						
First Quarter (March '03)	2,800	1.0 U	2,300	6,100	1.00 U	1,900
Second Quarter (June '03)	3,400	1.2 U	2,500	6,100	1.2 U	1,300 J
Third Quarter (September '03)	3,800	1.3 U	2,600	5,000	1.2 U	5,800
Fourth Quarter (December '03)	3,000	1.4 U	58 J	6,500 J	1.3 U	1,500
First Quarter (March '04)	2,500	1.4 UJ	660 J	7,400	1.4 U	2,200
Second Quarter (June '04)	2,700	1.6 U	600	6,800	1.5 U	1,500
Third Quarter (September '04)	2,700	1.6 U	970	11,000 J	1.7 U	3,200
Fourth Quarter (December '04)	1,600	1.5 U	140	5,700	1.5 U	1,600
First Quarter (March '05)	1,600	1.6 U	170	6,000	1.6 U	5,400
Second Quarter (June '05)	1,700	1.7 U	240	7,600	1.6 U	1,500
Third Quarter (September '05)	1,900	1.7 U	290	6,900	1.7 U	4,000
Fourth Quarter (December '05)	1000	1.8 U	27	4400 J	1.7 U	4300

Table 2-6 (Continued)

Concentration Trends in Groundwater Monitoring Wells
First Quarter 2003 through Fourth Quarter 2005
Moss-American Site
Milwaukee, Wisconsin

	MW-7S	MW-32S	MW-33S	MW-34S	MW-35S	TG1-1
Fluorene (ug/L)						
First Quarter (March '03)	9.5	1.9	62	150	0.20 U	230
Second Quarter (June '03)	8	0.17 U	72	84	0.18 U	170 J
Third Quarter (September '03)	11	0.19 U	88	86	0.18 U	2,400
Fourth Quarter (December '03)	8	0.18 U	0.84 J	180 J	0.17 U	150
First Quarter (March '04)	7	0.18 UJ	13	470	0.21 J	160
Second Quarter (June '04)	6.9	0.17 U	19	280	0.19 J	150
Third Quarter (September '04)	7.8	0.18 U	59	2,100 J	1.3	800
Fourth Quarter (December '04)	7.5	0.17 U	6.9	99	0.39 J	420
First Quarter (March '05)	6.5	0.18	9.1	370	0.18 U	2,500
Second Quarter (June '05)	6.3	0.52 U	48	640	0.5 U	320
Third Quarter (September '05)	5.8	0.53 U	56	440	0.53 U	1,100
Fourth Quarter (December '05)	4.2	0.56 U	3.0	94 J	0.52 U	2100
Benzo(a) pyrene (ug/L)						
First Quarter (March '03)	0.20 U	0.02 U	0.02 U	3.2	0.02 U	15
Second Quarter (June '03)	0.02 U	0.02 U	0.02 U	0.18	0.02 U	7.9 J
Third Quarter (September '03)	0.022 U	0.29 J	0.021 U	0.047 J	0.02 U	190
Fourth Quarter (December '03)	0.019 U	0.02 U	0.02 U	5.9 J	0.028 J	5.9
First Quarter (March '04)	0.019 U	0.02 UJ	0.02 UJ	29	0.02 U	6.2
Second Quarter (June '04)	0.019 U	0.019 U	0.019 U	17	0.022 J	5.1
Third Quarter (September '04)	0.02 U	0.02 U	0.021 U	140 J	0.021 U	56
Fourth Quarter (December '04)	0.019 U	0.019 U	0.02 U	0.15	0.019 U	33
First Quarter (March '05)	0.02 U	0.02 U	0.019 U	21	0.02 U	200
Second Quarter (June '05)	0.024 J	0.021 U	0.021 U	42	0.02 U	21
Third Quarter (September '05)	0.021 U	0.021 U	0.021 U	23	0.021 U	91
Fourth Quarter (December '05)	0.021 U	0.022 U	0.024 U	0.55 J	0.021 U	180

U - Constituent not detected; method detection limit (MDL) of the analysis reported.
J - Estimated concentration.
ug/L - Micrograms per liter.

Table 2-7
Groundwater Sample Analytical Results
Treatment Performance Monitoring Wells- Nutrient and Biological Parameters
Moss-American Site
Milwaukee, Wisconsin
Fourth Quarter 2005

Parameter (mg/L)	Sample Identification					
	TG1-1	TG1-2	TG1-3	TG2-1	TG2-2	TG2-3
Ammonia Nitrogen	1.2	1.3	1.2	0.12 J	0.48 J	0.96
Biochemical oxygen demand	7.5	6.3	5.3	2.6 U	3.9 U	6.0
Chemical oxygen demand	65.1	29.8	27.1	9.7	6.6 J	30.4
Nitrate Nitrogen	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U
Nitrite Nitrogen	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U
Nitrogen (Kjeldahl)	1.4	1.5 UJ	1.1 UJ	0.50 U	0.50 U	1.3 J
Ortho-Phosphate as P	0.010 U	0.030	0.030	0.040	0.031	0.038
Total Organic Carbon	9.9	11.2	12.0	5.2	3.8	12.0
Total Phosphorus as PO4	0.25 U	0.25 UJ	0.25 UJ	0.25 U	0.25 U	0.25 U
Degrader Microbial Population (mean) (cfu/ml)	100	200	500	100 U	100 U	100 U
Total Microbial Population (mean) (cfu/ml)	320	2300	7000	3000 >	400	2100

Parameter (mg/L)	Sample Identification					
	TG3-1	TG3-2	TG3-3	TG4-1	TG4-2	TG4-3
Ammonia Nitrogen	0.43 J	1.1	1.9	0.60	1.3	0.52
Biochemical oxygen demand	3.1 U	4.6 U	9.8	3.3 U	3.6 U	3.7 U
Chemical oxygen demand	21.3	20.6	30.4	20.2	26.8	24.8
Nitrate Nitrogen	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U
Nitrite Nitrogen	0.015 U	0.015 U	0.037 J	0.015 U	0.015 U	0.015 U
Nitrogen (Kjeldahl)	0.62 J	0.92 J	1.7	0.96 J	1.5	1.4
Ortho-Phosphate as P	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 J
Total Organic Carbon	8.5	7.7	11.1	8.3	10.9	10.0
Total Phosphorus as PO4	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Degrader Microbial Population (mean) (cfu/mL)	100	100 U	100 U	100	100 U	100
Total Microbial Population (mean) (cfu/mL)	4900	1300	2100	370	2400	720

Parameter (mg/L)	Sample Identification					
	TG5-1	TG5-2	TG5-3	TG6-1	TG6-2	TG6-3
Ammonia Nitrogen	0.11 U	0.51	0.11 U	1.8	0.67	0.73
Biochemical oxygen demand	2.9 U	3.5 U	3.2 U	4.8 U	3.1 U	3.1 U
Chemical oxygen demand	14.8	19.1	15.5	23.3	16.3	20.2
Nitrate Nitrogen	0.040 U	0.040 U	0.24	0.040 U	0.040 U	0.040 U
Nitrite Nitrogen	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U
Nitrogen (Kjeldahl)	0.50 U	0.94 J	0.69 J	1.7	0.71 J	1.2 J
Ortho-Phosphate as P	0.037	0.028 J	0.014 J	0.010 U	0.010 U	0.029 J
Total Organic Carbon	6.1	6.9	5.8	9.8	6.7	7.9
Total Phosphorus as PO4	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Degrader Microbial Population (mean) (cfu/mL)	100 U	100 U	100	100 U	100 U	100 U
Total Microbial Population (mean) (cfu/mL)	180	1300	620	830	160	1800

U-Constituent not detected. Detection limit indicated.
J-Estimated concentration.
-- Data not available because sample container spilled during shipment.

SECTION 3

EVALUATION OF PILOT SCALE OPERATIONS

Augmentation of the groundwater treatment system was initiated in October 2000 by injecting air at the treatment gates. In late June 2001, nutrient addition was initiated at TG1 using a solution containing potassium nitrate (KNO_3) and potassium phosphate ($KHPO_4$). System modifications were proposed in the Q2 2002 Quarterly Groundwater Treatment Performance Monitoring Report and are discussed in this section. Information regarding system performance is also presented.

3.1 DISSOLVED OXYGEN

During Q4 2005, the DO concentrations in most all of the wells remained below 2.0 mg/L. Three of the readings found DO concentrations above 3.25.

$N\text{-}NO_3$ and $N\text{-}NO_2$ were only detected in one treatment performance well each sampled in Q4 2005. This indicates that nitrogen is primarily present in its reduced state, and a reducing environment exists in the wells. Nitrogen data were not collected for the shallow monitoring wells.

Well packers were installed in the TG5 injection wells in June 2000; however, no discernable change in the DO levels were observed in the TG5 wells until Q1 and Q2 2003. TRONOX/WESTON attempted to install inflatable bladder packers in TG1 and TG2 injection wells in August 2001. However, the packers could not be properly installed due to the injection well configuration.

TRONOX/WESTON will continue to evaluate alternatives for air introduction into the treatment gates.

3.2 NUTRIENTS AND pH

Nutrient injection was discontinued at gate area TG1 as a part of the site modifications recommended in the Q2 2002 Monitoring Report. This took place at the end of October 2002, after the Agencies granted approval. However, nutrient and contaminant levels will continue to be monitored.

Recommended guidelines for bioremediation of contaminants in site groundwater include a pH range of 6.5 to 8.5 S.U. and a minimum carbon-nitrogen-phosphorous (C:N:P) ratio of 100:14:1. The range of pH values measured in the treatment performance monitoring wells (5.94 to 7.85 S.U.) is sufficient to facilitate biological activity.

Table 3-1 contains calculated C:N:P ratios for each of the treatment performance monitoring wells. During Q4 2005, the treatment performance monitoring wells did not exhibit the desired C:N:P ratio of 100:14:1. Nitrogen and phosphorous appear to be the limiting nutrients at the site.

3.3 BACTERIAL POPULATIONS

Total bacterial counts, in general, were found to have decreased from Q3 2005 levels in the performance monitoring wells. Increases in total bacterial counts were found in TG1-1, TG1-3, and TG6-1. The total bacterial count was found to remain the same in performance well TG3-3. Degrader bacterial counts in the performance monitoring wells remained relatively steady with slight increases or decreases in most wells during Q4 2005 when compared to Q3 2005.

Figure 3-1 compares the degrader populations in TG1 and TG2 since Q1 2001. As indicated in Figure 3-1, there was a trend of general decrease in the degrader bacterial population levels in TG1 and TG2 from Q1 2001 to Q2 2004. It is uncertain what the cause of this bacterial decrease at the site was. However, the degrader populations appear to be increasing over the last seven quarters.

3.4 HYDROGEOLOGY

TRONOX/WESTON identified a potential concern associated with the site hydrogeology in the Q2 2001 Monitoring Report. This concern is primarily based on the premise that low flow conditions may cause anoxic conditions and may inhibit TRONOX/WESTON's ability to introduce nutrients and other additives at an optimum level due to poor dispersion from the injection point. Low flow conditions are apparent based on the hydraulic gradient and flow velocities derived. A low flow velocity may be indirectly beneficial as a longer residence time in the treatment gate may allow for more effective biodegradation. No significant change was observed in relation to site hydrogeology during Q4 2005.

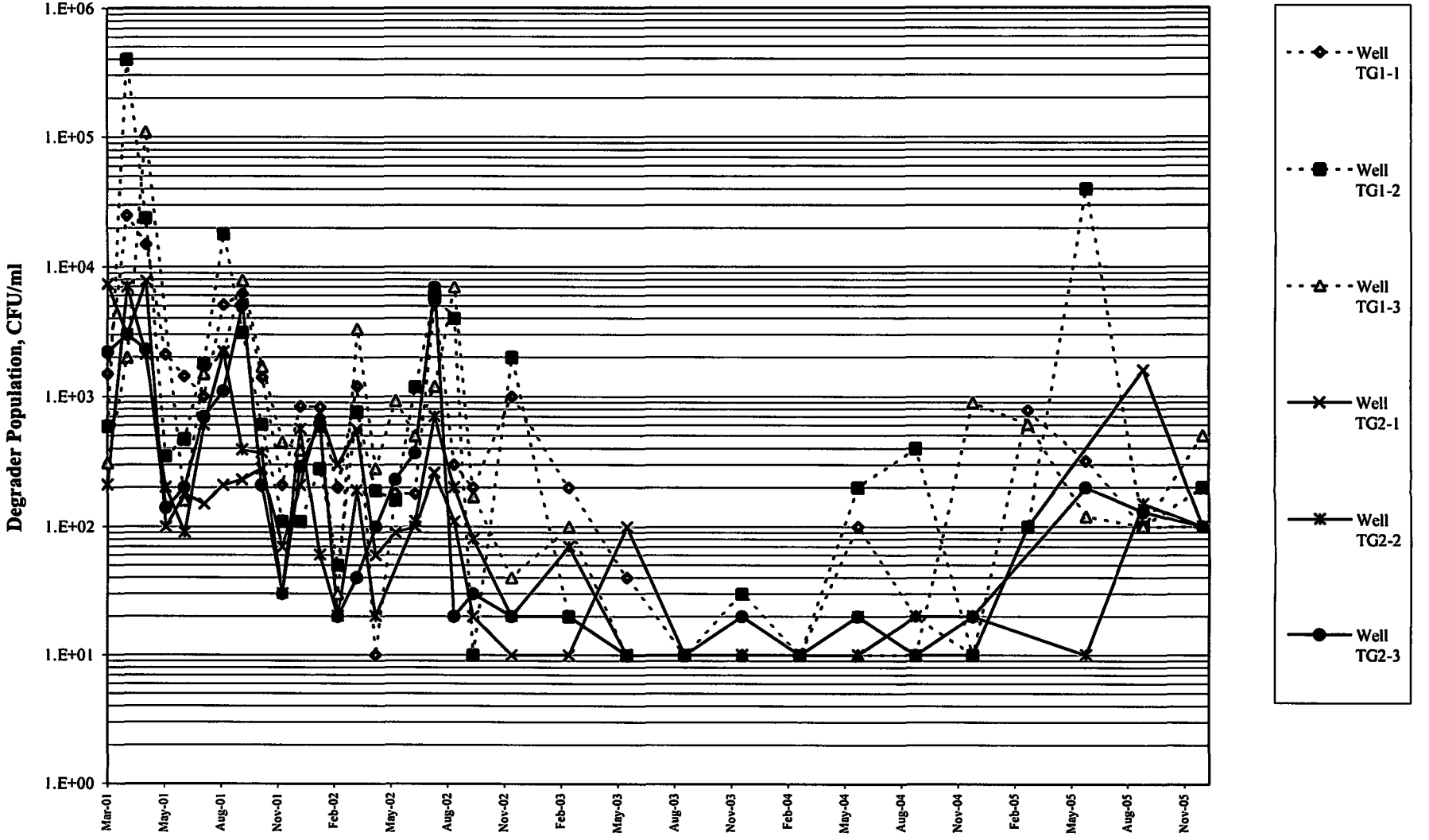
3.5 SITE MODIFICATIONS

Per the Q2 2002 Monitoring Report recommendations, modifications have been made to the system at the site. In October 2002, the performance monitoring well sampling frequency and scope reductions went into effect following the Agencies' approval. Groundwater sampling was revised to a quarterly sampling regime instead of a monthly sampling regime. In addition, shallow monitoring wells MW-3S, MW-10S, MW-13S, MW-20S, MW-25S, and MW-26S, and intermediate wells MW-3I, MW-7I, MW-9I, and MW-20I were removed from the groundwater monitoring program. However, these wells were not abandoned, per WDNR's request, with the exception of MW-20S and MW-20I abandoned during LMR diversion. Water levels will continue to be gathered from these wells on a quarterly basis to assist with the production of the groundwater elevation contour map. Discontinuation of nutrient injection at gate TG1 was also approved and was implemented in October 2002.

The hydrogeologic investigation proposed in the Q2 2002 Monitoring Report took place in December 2002. This work included the installation of nine piezometers (PZ-01 thru PZ-07, PZ-09, and PZ-10) as well as a staff gauge (SG-1). Records were updated with this information, and used to prepare the groundwater elevation contour map for this quarter.

Figure 3-1

Comparison of Degrader Populations in Treament Gates 1 and 2 since Q1 2001
Moss-American Site
Milwaukee, Wisconsin



Note: Laboratory detection limit is shown where degrader population was not detected at or above the detection limit.

Table 3-1

Calculation of Carbon:Nitrogen:Phosphorous Ratios
Treatment Performance Monitoring Wells
Moss-American Site
Milwaukee, Wisconsin
Fourth Quarter 2005

Well	Carbon[1], mg/L	Total Nitrogen[2], mg/L	Phosphorous[3], mg/L	C-N-P Ratio (100-14-1 desired)		
TG1-1	9.9	1.2	ND	100	12	0
TG1-2	11.2	1.3	ND	100	12	0
TG1-3	12	1.2	ND	100	10	0
TG2-1	5.2	0.12	ND	100	2	0
TG2-2	3.8	0.48	ND	100	13	0
TG2-3	12	0.96	ND	100	8	0
TG3-1	8.5	0.43	ND	100	5	0
TG3-2	7.70	1.1	ND	100	14	0
TG3-3	11.1	1.937	ND	100	17	0
TG4-1	8.3	0.6	ND	100	7	0
TG4-2	10.9	1.3	ND	100	12	0
TG4-3	10	0.52	ND	100	5	0
TG5-1	6.10	0	ND	100	0	0
TG5-2	6.9	0.51	ND	100	7	0
TG5-3	5.8	0.24	ND	100	4	0
TG6-1	9.80	1.8	ND	100	18	0
TG6-2	6.7	0.67	ND	100	10	0
TG6-3	7.9	0.73	ND	100	9	0
Site Average	8.54	0.84	ND	100	9.3	0

1 - Carbon measured as Total Organic Carbon (non-purgable).
2 - Nitrogen measured as NH_3-N, NO_2-N, and NO_3-N.
3 - Phosphorous measured as phosphate (PO_4-P).
ND - Constituent not detected.

--- Not available
Shaded values indicate values at or above desired quantity.

SECTION 4

REFERENCES

Weston Solutions, Inc. (WESTON). 1999. *Quality Assurance Project Plan for Installation of Groundwater Remedial System.* October 1999.

WESTON. 2001. *Quality Assurance Project Plan for Installation of Groundwater Remedial System Addendum No.1.* May 2001.

APPENDIX A

December 2005 Groundwater Sample Analytical Results

Microbac

RECEIVED
JAN 19 2006

January 16, 2006

Tom Graan
Weston Solutions, Inc.
750 East Bunker Court
Suite 500
Vernon Hills, IL 60061-1450

Work Order No.: ME0512696

RE: Kerr McGee / Moss American

Dear Tom Graan:

Microbac Laboratories, Inc. received 13 samples on 12/22/2005 12:30:00 PM for the analyses presented in the following report.

The enclosed results were obtained from and are applicable to the sample(s) as received at the laboratory. All sample results are reported on an "as received" basis unless otherwise noted. This report includes the numbered pages as well as the Cooler Inspection Report and Chain of Custody form(s).

All data included in this report have been reviewed and meet the applicable project specific and certification specific requirements, unless otherwise noted. A qualifications page is included in this report and lists the programs under which Microbac maintains certification.

This report shall not be reproduced except in full, without the written approval of Microbac Laboratories.

We appreciate the opportunity to service your analytical needs. If you have any questions, please feel free to contact us.

Sincerely,
Microbac Laboratories, Inc.

Carey A. Gervase
Project Manager

Enclosures

Microbac

Work Order Sample Summary

Date: *Monday, January 16, 2006*

CLIENT: Weston Solutions, Inc.
Project: Kerr McGee / Moss American
Lab Order: ME0512696

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
ME0512696-01A	MA3-TG1-2-122105-15		12/21/2005 4:40:00 PM	12/22/2005
ME0512696-02A	MA3-TG1-3-122105-14		12/21/2005 4:30:00 PM	12/22/2005
ME0512696-03A	MA3-TG2-1-122105-6		12/21/2005 9:10:00 AM	12/22/2005
ME0512696-04A	MA3-TG2-2-122105-7		12/21/2005 9:20:00 AM	12/22/2005
ME0512696-05A	MA3-TG2-3-122105-8		12/21/2005 11:05:00 A	12/22/2005
ME0512696-06A	MA3-TG3-2-122005-3		12/20/2005 12:45:00 PM	12/22/2005
ME0512696-07A	MA3-TG3-3-122005-2		12/20/2005 12:35:00 PM	12/22/2005
ME0512696-08A	MA3-TG4-2-122005-1		12/20/2005 10:22:00 A	12/22/2005
ME0512696-09A	MA3-TG5-1-122105-12		12/21/2005 2:45:00 PM	12/22/2005
ME0512696-10A	MA3-TG5-2-122105-13		12/21/2005 2:55:00 PM	12/22/2005
ME0512696-11A	MA3-TG6-1-122005-5		12/20/2005 4:12:00 PM	12/22/2005
ME0512696-12A	MA3-TG6-2-122005-4		12/20/2005 4:02:00 PM	12/22/2005
ME0512696-13A	MA3-TG6-3-122105-10		12/21/2005 1:00:00 PM	12/22/2005

Microbac

ANALYTICAL RESULTS

Date: *Monday, January 16, 2006*

Client:	Weston Solutions, Inc.	***Work Order:***	ME0512696
Client Project:	Kerr McGee / Moss American	***Received:***	12/22/05 12:30

Analyses	Result	Units	Qual	Analyzed	Tech	Method
01A MA3-TG1-2-122105-15 -						*Collected: 12/21/05 16:40*
Total Aerobic Degrader Bacteria	200	cfu/ml		12/22/05 16:00	NM	9215B MOD
Total Aerobic Bacteria	2300	cfu/ml		12/22/05 16:00	NM	9215B MOD
02A MA3-TG1-3-122105-14 -						*Collected: 12/21/05 16:30*
Total Aerobic Degrader Bacteria	500	cfu/ml		12/22/05 16:00	NM	9215B MOD
Total Aerobic Bacteria	7000	cfu/ml		12/22/05 16:00	NM	9215B MOD
03A MA3-TG2-1-122105-6 -						*Collected: 12/21/05 09:10*
Total Aerobic Degrader Bacteria	< 100	cfu/ml		12/22/05 16:00	NM	9215B MOD
Total Aerobic Bacteria	>3000	cfu/ml		12/22/05 16:00	NM	9215B MOD
04A MA3-TG2-2-122105-7 -						*Collected: 12/21/05 09:20*
Total Aerobic Degrader Bacteria	< 100	cfu/ml		12/22/05 16:00	NM	9215B MOD
Total Aerobic Bacteria	400	cfu/ml		12/22/05 16:00	NM	9215B MOD
05A MA3-TG2-3-122105-8 -						*Collected: 12/21/05 11:05*
Total Aerobic Degrader Bacteria	< 100	cfu/ml		12/22/05 16:00	NM	9215B MOD
Total Aerobic Bacteria	2100	cfu/ml		12/22/05 16:00	NM	9215B MOD
06A MA3-TG3-2-122005-3 -						*Collected: 12/20/05 12:45*
Total Aerobic Degrader Bacteria	< 100	cfu/ml		12/22/05 16:00	NM	9215B MOD
Total Aerobic Bacteria	1300	cfu/ml		12/22/05 16:00	NM	9215B MOD
07A MA3-TG3-3-122005-2 -						*Collected: 12/20/05 12:35*
Total Aerobic Degrader Bacteria	< 100	cfu/ml		12/22/05 16:00	NM	9215B MOD
Total Aerobic Bacteria	2100	cfu/ml		12/22/05 16:00	NM	9215B MOD
08A MA3-TG4-2-122005-1 -						*Collected: 12/20/05 10:22*
Total Aerobic Degrader Bacteria	< 100	cfu/ml		12/22/05 16:00	NM	9215B MOD
Total Aerobic Bacteria	2400	cfu/ml		12/22/05 16:00	NM	9215B MOD
09A MA3-TG5-1-122105-12 -						*Collected: 12/21/05 14:45*
Total Aerobic Degrader Bacteria	< 100	cfu/ml		12/22/05 16:00	NM	9215B MOD
Total Aerobic Bacteria	180	cfu/ml		12/22/05 16:00	NM	9215B MOD
10A MA3-TG5-2-122105-13 -						*Collected: 12/21/05 14:55*
Total Aerobic Degrader Bacteria	< 100	cfu/ml		12/22/05 16:00	NM	9215B MOD
Total Aerobic Bacteria	1300	cfu/ml		12/22/05 16:00	NM	9215B MOD
11A MA3-TG6-1-122005-5 -						*Collected: 12/20/05 16:12*
Total Aerobic Degrader Bacteria	< 100	cfu/ml		12/22/05 16:00	NM	9215B MOD

Microbac

ANALYTICAL RESULTS

Date: *Monday, January 16, 2006*

Client:	Weston Solutions, Inc.	***Work Order:***	ME0512696
Client Project:	Kerr McGee / Moss American	***Received:***	12/22/05 12:30

Analyses	Result	Units	Qual	Analyzed	Tech	Method
Total Aerobic Bacteria	830	cfu/ml		12/22/05 16:00	NM	9215B MOD
12A MA3-TG6-2-122005-4 -						*Collected: 12/20/05 16:02*
Total Aerobic Degrader Bacteria	< 100	cfu/ml		12/22/05 16:00	NM	9215B MOD
Total Aerobic Bacteria	160	cfu/ml		12/22/05 16:00	NM	9215B MOD
13A MA3-TG6-3-122105-10 -						*Collected: 12/21/05 13:00*
Total Aerobic Degrader Bacteria	< 100	cfu/ml		12/22/05 16:00	NM	9215B MOD
Total Aerobic Bacteria	1800	cfu/ml		12/22/05 16:00	NM	9215B MOD

250 West 84th Drive, Merrillville, IN 46410 TEL.800.536.8379 TEL.219.769.8378 FAX 219.769.1664

Microbac

FLAGS, FOOTNOTES AND ABBREVIATIONS (as needed)

NA	=	Not Analyzed	N/A	=	Not Applicable			
ug/L	=	Micrograms per Liter (ppb)	mg/L	=	Milligrams per Liter (ppm)	cfu	=	Colony Forming Unit
ug/Kg	=	Micrograms per Kilogram (ppb)	mg/Kg	=	Milligrams per Kilogram (ppm)	ng/L	=	Nanogram per Liter

U	=	Undetected
J	=	Analyte concentration detected between RL and MDL (Metals / Organics)
B	=	Detected in the associated Method Blank
D	=	Surrogate recoveries are not calculated due to sample dilution
ND	=	Not Detected at the Reporting Limit (or the Method Detection Limit, if listed)
E	=	Value above quantitation range
H	=	Analyte was prepared and/or analyzed outside of the analytical method holding time
I	=	Matrix Interference
R	=	RPD outside accepted recovery limits
S	=	Spike recovery outside recovery limits
Surr	=	Surrogate

DF = Dilution Factor RL = Reporting Limit ST = Sample Type MDL = Method Detection Limit

SAMPLE TYPES

A	=	Analyte
I	=	Internal Standard
S	=	Surrogate
T	=	Tentatively Identified Compound (TIC, concentration estimated)

QC SAMPLE IDENTIFICATIONS

MBLK	=	Method Blank	ICSA	=	Interference Check Standard "A"	OPR	=	Ongoing Precision and Recovery Standard
DUP	=	Method Duplicate	ICSAB	=	Interference Check Standard "AB"			
LCS	=	Laboratory Control Sample	LCSD	=	Laboratory Control Sample Duplicate			
MS	=	Matrix Spike	MSD	=	Matrix Spike Duplicate			
ICB	=	Initial Calibration Blank	CCB	=	Continuing Calibration Blank			
ICV	=	Initial Calibration Verification	ICB	=	Initial Calibration Blank			
PDS	=	Post Digestion Spike	SD	=	Serial Dilution			

CERTIFICATIONS

Below is a list of certifications maintained by the Microbac Merrillville Laboratory. All data included in this report has been reviewed for and meets all project specific and quality control requirements of the applicable accreditation, unless otherwise noted. Complete lists of individual analytes pursuant to each certification below are available upon request.

- Illinois EPA for the analysis wastewater and solid waste in accordance with the requirements of the National Environmental Laboratory Accreditation Program [NELAP] (accreditation #100435)
- Illinois Department of Public Health for the microbiological analysis of drinking water (registry #175458)
- Indiana DEM approved support laboratory for solid waste and wastewater analyses
- Indiana SDH for the chemical analysis of drinking water (lab #C-45-02)
- Indiana SDH for the microbiological analysis of drinking water (lab #M-45-08)
- Kentucky EPPC for the analysis of samples applicable to the Underground Storage Tank program (lab #0061)
- North Carolina DENR for the environmental analysis for NPDES effluent, surface water, groundwater, and pretreatment regulations (certificate #597)
- Wisconsin DNR for the chemical analysis of wastewater and solid waste (lab #998036710)

MICROBAC LOCATIONS

Corporate	-	Wexford, PA	**Camp Hill Division**	-	Camp Hill, PA
Pittsburgh Division	-	Warrendale, PA	**Knoxville Division**	-	Maryville, TN
Erie Division	-	Erie, PA / Wilkes-Barre, PA	**Venice Division**	-	Venice, FL / Fort Myers, FL
New Castle Division	-	New Castle, PA	**South Carolina Division**	-	New Ellenton, SC
Kentucky Testing Division	-	Louisville, KY / Evansville, IN	**Fayetteville Division**	-	Fayetteville, NC
Massachusetts Division	-	Marlboro, MA	**Southern Testing Division**	-	Wilson, NC
Gascoyne Division	-	Baltimore, MD	**Hauser Division**	-	Boulder, CO
Corona Division	-	Corona, CA	**Friend Laboratory**	-	Waverly, NY
South Jersey Division	-	Turnersville, NJ			

250 West 84th Drive, Merrillville, IN 46410 TEL.800.536.8379 TEL.219.769.8378 FAX 219.769.1664

Microbac Laboratories, Inc.
250 W. 84th Drive
Merrillville, IN 46410
(219) 769-8378

COOLER INSPECTION

Thursday, December 22, 2005

Client Name WESTON - VERNON HILLS
Work Order Number ME0512696
Checklist completed by Scott R. McCord (Signature) 12/22/05 (Date)
Date / Time Received: 12/22/2005 12:30:00
Received by: SM
Reviewed by CM (Initials) 12/22/05 (Date)

Carrier name: FedEx

After-Hour Arrival?	Yes ☐	No ☑	
Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody included sufficient client identification?	Yes ☑	No ☐	
Chain of custody included sufficient sample collector information?	Yes ☐	No ☑	
Chain of custody included a sample description?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Chain of custody identified the appropriate matrix?	Yes ☑	No ☐	
Chain of custody included date of collection?	Yes ☑	No ☐	
Chain of custody included time of collection?	Yes ☑	No ☐	
Chain of custody identified the appropriate number of containers?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Chain of custody identified the appropriate preservatives?	Yes ☑	No ☐	
Samples properly preserved?	Yes ☑	No ☐	

If No, adjusted by? _____ Date/Time _____

Chain of custody included the requested analyses?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Samples received on ice?	Yes ☑	No ☐

Container/Temp Blank temperature: Temp: 4 °C

VOA vials have zero headspace? No VOA vials submitted ☑ Yes ☐ No ☐

ANY "NO" EVALUATION (excluding After-Hour Receipt) REQUIRES CLIENT NOTIFICATION.

General Comments:

Sample ID	Client Sample ID	Cont. Lot #	Comments
ME0512696-01A	MA3-TG1-2-122105-15		
ME0512696-02A	MA3-TG1-3-122105-14		
ME0512696-03A	MA3-TG2-1-122105-6		
ME0512696-04A	MA3-TG2-2-122105-7		
ME0512696-05A	MA3-TG2-3-122105-8		
ME0512696-06A	MA3-TG3-2-122005-3		
ME0512696-07A	MA3-TG3-3-122005-2		
ME0512696-08A	MA3-TG4-2-122005-1		
ME0512696-09A	MA3-TG5-1-122105-12		
ME0512696-10A	MA3-TG5-2-122105-13		
ME0512696-11A	MA3-TG6-1-122005-5		

Sample ID	Client Sample ID	Cont. Lot #	Comments
ME0512696-12A	MA3-TG6-2-122005-4		
ME0512696-13A	MA3-TG6-3-122105-10		

Client representative contacted: _____ Date contacted: _____

Contacted by: _____ Regarding: _____

Notes: _____

COC ID: 9

Chain of Custody Record

WESTON SOLUTIONS

Client: Kerr McGee

Site Name: Moss American | Contact Name: Tom Graan

W. O.: 02687.007.007.0001 | Contact Phone No.: 847-918-4142

Lab: MICROBAC LABS | Lab Contact: N. MCDONALD

TAT: PER QUOTE | Lab Phone: 219-932-1770

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	MICROBIAL ENUMERATION N	ME052696								
						Filtered									
						Container	500ml-Sterile Pl								
						Preservative	N/A								
	MA3-TG1-2-122105-15	G		N	12/21/2005 16:40	1	01A								
	MA3-TG1-3-122105-14	G		N	12/21/2005 16:30	1	02A								
	MA3-TG2-1-122105-6	G		N	12/21/2005 09:10	1	3A								
	MA3-TG2-2-122105-7	G		N	12/21/2005 09:20	1	4A								
	MA3-TG2-3-122105-8	G		N	12/21/2005 11:05	1	5A								
	MA3-TG3-2-122005-3	G		N	12/20/2005 12:45	1	6A								
	MA3-TG3-3-122005-2	G		N	12/20/2005 12:35	1	7A								
	MA3-TG4-2-122005-1	G		N	12/20/2005 10:22	1	8A								
	MA3-TG5-1-122105-12	G		N	12/21/2005 14:45	1	9A								
	MA3-TG5-2-122105-13	G		N	12/21/2005 14:55	1	10A								
	MA3-TG6-1-122005-5	G		N	12/20/2005 16:12	1	11A								
	MA3-TG6-2-122005-4	G		N	12/20/2005 16:02	1	12A								
	MA3-TG6-3-122105-10	G		N	12/21/2005 13:00	1	13A								

Remarks/Comments

Sampled By

Lab Use Only

Temp of Cooler when Received, C

1	2	3	4	5
			✓	

COC Tape was present on outer package Y N

COC Tape was unbroken on outer package Y N

COC Tape wa present on sample Y N

COC Tape was unbroken on sample Y N

Received in good condition Y N

Labels indicate Properly Preserved Y N

Received within Holding Time Y N

Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time
[illegible]	12/21/05 18:00	[illegible]				[illegible]	12/22/05 12:30
							4°

Microbac

RECEIVED
JAN 23 2006

January 20, 2006

Tom Graan
Weston Solutions, Inc.
750 East Bunker Court
Suite 500
Vernon Hills, IL 60061-1450

Work Order No.: ME0512801

RE: Kerr McGee/Moss American

Dear Tom Graan:

Microbac Laboratories, Inc. received 5 samples on 12/29/2005 8:55:00 AM for the analyses presented in the following report.

The enclosed results were obtained from and are applicable to the sample(s) as received at the laboratory. All sample results are reported on an "as received" basis unless otherwise noted. This report includes the numbered pages as well as the Cooler Inspection Report and Chain of Custody form(s).

All data included in this report have been reviewed and meet the applicable project specific and certification specific requirements, unless otherwise noted. A qualifications page is included in this report and lists the programs under which Microbac maintains certification.

This report shall not be reproduced except in full, without the written approval of Microbac Laboratories.

We appreciate the opportunity to service your analytical needs. If you have any questions, please feel free to contact us.

Sincerely,
Microbac Laboratories, Inc.

Carey A. Gervase
Project Manager

Enclosures

Microbac

Work Order Sample Summary

Date: *Friday, January 20, 2006*

CLIENT: Weston Solutions, Inc.
Project: Kerr McGee/Moss American
Lab Order: ME0512801

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
ME0512801-01A	MA3-TG1-1-122305-5		12/28/2005 2:33:00 PM	12/29/2005
ME0512801-02A	MA3-TG3-1-122305-4		12/28/2005 2:32:00 PM	12/29/2005
ME0512801-03A	MA3-TG4-1-122305-1		12/28/2005 12:55:00 PM	12/29/2005
ME0512801-04A	MA3-TG4-3-122305-3		12/28/2005 1:15:00 PM	12/29/2005
ME0512801-05A	MA3-TG5-3-122305-2		12/28/2005 1:09:00 PM	12/29/2005

Microbac

ANALYTICAL RESULTS

Date: *Friday, January 20, 2006*

Client:	Weston Solutions, Inc.	***Work Order:***	ME0512801
Client Project:	Kerr McGee/Moss American	***Received:***	12/29/05 08:55

Analyses	Result	Units	Qual	Analyzed	Tech	Method
01A MA3-TG1-1-122305-5 -						*Collected: 12/28/05 14:33*
Total Aerobic Degrader Bacteria	< 100	cfu/ml		12/29/05 20:30	RC	9215B MOD
Total Aerobic Bacteria	320	cfu/ml		12/29/05 20:30	RC	9215B MOD
02A MA3-TG3-1-122305-4 -						*Collected: 12/28/05 14:32*
Total Aerobic Degrader Bacteria	< 100	cfu/ml		12/29/05 20:30	RC	9215B MOD
Total Aerobic Bacteria	4900	cfu/ml		12/29/05 20:30	RC	9215B MOD
03A MA3-TG4-1-122305-1 -						*Collected: 12/28/05 12:55*
Total Aerobic Degrader Bacteria	< 100	cfu/ml		12/29/05 20:30	RC	9215B MOD
Total Aerobic Bacteria	370	cfu/ml		12/29/05 20:30	RC	9215B MOD
04A MA3-TG4-3-122305-3 -						*Collected: 12/28/05 13:15*
Total Aerobic Degrader Bacteria	< 100	cfu/ml		12/29/05 20:30	RC	9215B MOD
Total Aerobic Bacteria	720	cfu/ml		12/29/05 20:30	RC	9215B MOD
05A MA3-TG5-3-122305-2 -						*Collected: 12/28/05 13:09*
Total Aerobic Degrader Bacteria	< 100	cfu/ml		12/29/05 20:30	RC	9215B MOD
Total Aerobic Bacteria	620	cfu/ml		12/29/05 20:30	RC	9215B MOD

Microbac

FLAGS, FOOTNOTES AND ABBREVIATIONS (as needed)

NA	=	Not Analyzed	N/A	=	Not Applicable			
ug/L	=	Micrograms per Liter (ppb)	mg/L	=	Milligrams per Liter (ppm)	cfu	=	Colony Forming Unit
ug/Kg	=	Micrograms per Kilogram (ppb)	mg/Kg	=	Milligrams per Kilogram (ppm)	ng/L	=	Nanogram per Liter

U	=	Undetected
J	=	Analyte concentration detected between RL and MDL (Metals / Organics)
B	=	Detected in the associated Method Blank
D	=	Surrogate recoveries are not calculated due to sample dilution
ND	=	Not Detected at the Reporting Limit (or the Method Detection Limit, if listed)
E	=	Value above quantitation range
H	=	Analyte was prepared and/or analyzed outside of the analytical method holding time
I	=	Matrix Interference
R	=	RPD outside accepted recovery limits
S	=	Spike recovery outside recovery limits
Surr	=	Surrogate

DF = Dilution Factor RL = Reporting Limit ST = Sample Type MDL = Method Detection Limit

SAMPLE TYPES

A	=	Analyte
I	=	Internal Standard
S	=	Surrogate
T	=	Tentatively Identified Compound (TIC, concentration estimated)

QC SAMPLE IDENTIFICATIONS

MBLK	=	Method Blank	ICSA	=	Interference Check Standard "A"	OPR	=	Ongoing Precision and Recovery Standard
DUP	=	Method Duplicate	ICSAB	=	Interference Check Standard "AB"			
LCS	=	Laboratory Control Sample	LCSD	=	Laboratory Control Sample Duplicate			
MS	=	Matrix Spike	MSD	=	Matrix Spike Duplicate			
ICB	=	Initial Calibration Blank	CCB	=	Continuing Calibration Blank			
ICV	=	Initial Calibration Verification	ICB	=	Initial Calibration Blank			
PDS	=	Post Digestion Spike	SD	=	Serial Dilution			

CERTIFICATIONS

Below is a list of certifications maintained by the Microbac Merrillville Laboratory. All data included in this report has been reviewed for and meets all project specific and quality control requirements of the applicable accreditation, unless otherwise noted. Complete lists of individual analytes pursuant to each certification below are available upon request.

- Illinois EPA for the analysis wastewater and solid waste in accordance with the requirements of the National Environmental Laboratory Accreditation Program [NELAP] (accreditation #100435)
- Illinois Department of Public Health for the microbiological analysis of drinking water (registry #175458)
- Indiana DEM approved support laboratory for solid waste and wastewater analyses
- Indiana SDH for the chemical analysis of drinking water (lab #C-45-02)
- Indiana SDH for the microbiological analysis of drinking water (lab #M-45-08)
- Kentucky EPPC for the analysis of samples applicable to the Underground Storage Tank program (lab #0061)
- North Carolina DENR for the environmental analysis for NPDES effluent, surface water, groundwater, and pretreatment regulations (certificate #597)
- Wisconsin DNR for the chemical analysis of wastewater and solid waste (lab #998036710)

MICROBAC LOCATIONS

Corporate	-	Wexford, PA	**Camp Hill Division**	-	Camp Hill, PA
Pittsburgh Division	-	Warrendale, PA	**Knoxville Division**	-	Maryville, TN
Erie Division	-	Erie, PA / Wilkes-Barre, PA	**Venice Division**	-	Venice, FL / Fort Myers, FL
New Castle Division	-	New Castle, PA	**South Carolina Division**	-	New Ellenton, SC
Kentucky Testing Division	-	Louisville, KY / Evansville, IN	**Fayetteville Division**	-	Fayetteville, NC
Massachusetts Division	-	Marlboro, MA	**Southern Testing Division**	-	Wilson, NC
Gascoyne Division	-	Baltimore, MD	**Hauser Division**	-	Boulder, CO
Corona Division	-	Corona, CA	**Friend Laboratory**	-	Waverly, NY
South Jersey Division	-	Turnersville, NJ			

250 West 84th Drive, Merrillville, IN 46410 TEL.800.536.8379 TEL.219.769.8378 FAX 219.769.1664

Microbac Laboratories, Inc.
250 W. 84th Drive
Merrillville, IN 46410
(219) 769-8378

COOLER INSPECTION

Thursday, December 29, 2005

Client Name **WESTON - VERNON HILLS** Date / Time Received: **12/29/2005 8:55:00 AM**

Work Order Number **ME0512801** Received by **KRS**

Checklist completed by _____ 12/29/05 (Signature / Date) Reviewed by _____ 12/29/05 (Initials / Date)

Carrier name FedEx

After-Hour Arrival?	Yes ☐	No ☑	
Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody included sufficient client identification?	Yes ☑	No ☐	
Chain of custody included sufficient sample collector information?	Yes ☑	No ☐	
Chain of custody included a sample description?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Chain of custody identified the appropriate matrix?	Yes ☑	No ☐	
Chain of custody included date of collection?	Yes ☑	No ☐	
Chain of custody included time of collection?	Yes ☑	No ☐	
Chain of custody identified the appropriate number of containers?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Chain of custody identified the appropriate preservatives?	Yes ☑	No ☐	
Samples properly preserved?	Yes ☑	No ☐	

If No, adjusted by? _____ Date/Time _____

Chain of custody included the requested analyses?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Samples received on ice?	Yes ☑	No ☐

Container/Temp Blank temperature Temp: 3 °C

VOA vials have zero headspace? No VOA vials submitted ☑ Yes ☐ No ☐

ANY "NO" EVALUATION (excluding After-Hour Receipt) REQUIRES CLIENT NOTIFICATION.

General Comments:

Sample ID	Client Sample ID	Cont. Lot #	Comments
ME0512801-01A	MA3-TG1-1-122305-5		
ME0512801-02A	MA3-TG3-1-122305-4		
ME0512801-03A	MA3-TG4-1-122305-1		
ME0512801-04A	MA3-TG4-3-122305-3		
ME0512801-05A	MA3-TG5-3-122305-2		

Sample ID	Client Sample ID	Cont. Lot #	Comments

Client representative contacted: _____ Date contacted: _____

Contacted by: _____ Regarding _____

Notes: _____

COC ID: 19

Chain of Custody Record

WESTON SOLUTIONS

Client: Kerr McGee
Site Name: Moss American
W. O.: 02687.007.007.0001
Lab: MICROBAC LABS
TAT: PER QUOTE

Contact Name: Tom Grean
Contact Phone No.: 847-918-4142
Lab Contact: N. MCDONALD
Lab Phone: 219-932-1770

05-12801

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	MICROBIAL ENUMERATION N								
						Filtered								
						Container	100ml-Sterile Pl							
						Preservative	N/A							
01A	MA3-TG1-1-122305-5	G		N	12/28/2005 14:33	1								
02	MA3-TG3-1-122305-4	G		N	12/28/2005 14:32	1								
03	MA3-TG4-1-122305-1	G		N	12/28/2005 12:55	1								
04	MA3-TG4-3-122305-3	G		N	12/28/2005 13:15	1								
05	MA3-TG5-3-122305-2	G		N	12/28/2005 13:09	1								

Remarks/Comments
Date in Sample ID Should be 122805

Sampled By: [signature]

Lab Use Only
Temp of Cooler when Received, C: 1 | 2 | 3 ✓ | 4 | 5

COC Tape was present on outer package (Y) N
COC Tape was unbroken on outer package (Y) N
COC Tape ws present on sample Y (N)
COC Tape was unbroken on sample Y N

Received in good condition (Y) N
Labels indicate Properly Preserved (Y) N
Received within Holding Time Y N

Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time
[signature]	122805 1855	[signature]	12/29/05 0855				

Inter-Office Memorandum

TO: Tom Graan

FROM: Tania Shammo **DATE:** January 23, 2006

SUBJECT: Data Validation: SDG#: KMA76
Moss American Superfund Site

I have reviewed the analytical data for Kerr-McGee Corporation (Moss American Site-Groundwater) water samples collected on 12/20/05 and 12/21/05, which were provided by Lancaster Laboratories. The samples were analyzed for Polynuclear Aromatic Hydrocarbons PAHs, Petroleum analyses (BETX), Kjeldahl Nitrogen, Nitrite Nitrogen, Nitrate Nitrogen, Ammonia Nitrogen, Ortho-Phosphate, Biochemical Oxygen Demand, Total Organic Carbon, Total Phosphorus, Chemical Oxygen Demand.

Polynuclear Aromatic Hydrocarbons (PAHs by HPLC, U.S. EPA Method 8310)
Moss American Site
SDG # KMA76

1. Samples:

Client Sample Description:	Lab Sample Number	Matrix	Date Collected	Date Extracted	Date Analyzed
MA3-TG3-2-122005-3	4675632	Ground water	12/20/05	12/22/05	12/27/05
MA3-TG3-3-122005-2	4675633	Ground water	12/20/05	12/22/05	12/28/05
MA3-TG3-3-122005-2-DP	4675634	Ground water	12/20/05	12/22/05	12/28/05
MA3-TG4-2-122005-1	4675635	Ground water	12/20/05	12/22/05	12/28/05
MA3-TG6-1-122005-5	4675636	Ground water	12/20/05	12/22/05	12/28/05
MA3-TG6-2-122005-4	4675637	Ground water	12/20/05	12/22/05	12/28/05
MA3-MW28S-122105-9	4676885	Ground water	12/21/05	12/27/05	12/28/05
MA3-MW9S-122105-11	4676886	Ground water	12/21/05	12/27/05	12/28/05
MA3-TG1-3-122105-14	4676888	Ground water	12/21/05	12/27/05	12/28/05
MA3-TG2-1-122105-6-BKG	4676889	Ground water	12/21/05	12/27/05	12/28/05
MA3-TG2-1-122105-6-MS	4676890	Ground water	12/21/05	12/28/05	12/28/05
MA3-TG2-1-122105-6-MSD	4676891	Ground water	12/21/05	12/28/05	12/28/05
MA3-TG2-2-122105-7	4676892	Ground water	12/21/05	12/27/05	12/28/05
MA3-TG2-3-122105-8	4676893	Ground water	12/21/05	12/27/05	12/28/05
MA3-TG5-1-122105-12	4676894	Ground water	12/21/05	12/27/05	12/28/05
MA3-TG2-2-122105-13	4676895	Ground water	12/21/05	12/27/05	12/28/05
MA3-TG6-3-122105-10	4676896	Ground water	12/21/05	12/27/05	12/28/05

2. Holding Times:
The samples were extracted and analyzed within the required holding times.

3. Method Blank:
The method blank SBLKWE3562 was analyzed on 12/27/05 with samples 4675632 thru 4675637 and the results were free of contamination.

The method blank SBLKWC3582 was analyzed on 12/28/05 with samples 4676885, 4676886, 4676889 thru 4676896 and the results were free of contamination.

4. Surrogate:
The method blanks and the investigated samples had surrogate recoveries within the required quality control limit.

5. Matrix Spike/Matrix Spike Duplicate Recovery:
Sufficient sample volume was not available to perform a MS/MSD for the analysis; therefore, LCS/LCSD was performed to demonstrate precision and accuracy at a batch level and was associated with samples 4675632 thru 4675637

The matrix spike was performed on sample 4676889 associated with samples 4676885, 4676886, 4676889 thru 4676896. The MS/MSD recoveries were within the control limits. Also, the RPDs values were acceptable.

6. Laboratory Control Sample:
The laboratories control sample/laboratories control sample duplicate associated with samples 4675632 thru 4675637 recoveries were within the quality control limits. Also, the RPD values were acceptable.

The laboratories control sample associated with samples 4676885, 4676886, 4676889 thru 4676896 recoveries were within the quality control limits.

7. Retention Time:
All the retention time results were acceptable.

8. Initial and Continuing Calibration:
The associated initial calibration results showed that the percent relative standard deviations (%RSD) were less or equal to (+/-30.0%) criteria and the standard relative response factor (RRFs) were equal or greater than 0.05 for the requested compounds.

The associated continuing calibrations showed the percent relative standard deviations (%RSD) less or equal to (+/-25.0%) criteria for the requested compounds.

However, the retention time, initial and continuing calibration results were used in the calculation from two detectors: nitrobenzene (surrogate), naphthalene, acenaphthylene, 1-methylnaphthalene, 2-methylnaphthalene, fluorene, phenanthrene, and anthracene were taken from ultraviolet detector. Acenaphthene, fluoranthene, pyrene, benzo (a) anthracene, chrysene, benzo (b) fluoranthene, benzo (k) fluoranthene, benzo (a) pyrene, dibenzo (a, h) anthracene, benzo (g, h, i) perylene, indeno (1, 2, 3-cd) pyrene and triphenylene (surrogate) were taken from fluorescence detector.

BETX (U.S. EPA Method 8021B)
SDG # MMA76

1.Samples:

Client Sample Description:	Lab Sample Number	Matrix	Date Collected	Date Prepared	Date Analyzed
MA3-TB-01-122005-6	4675631	Ground water	12/20/05	12/22/05	12/22/05
MA3-TG3-2-122005-3	4675632	Ground water	12/20/05	12/22/05	12/22/05
MA3-TG3-3-122005-2	4675633	Ground water	12/20/05	12/22/05	12/22/05
MA3-TG3-3-122005-2-DP	4675634	Ground water	12/20/05	12/22/05	12/22/05
MA3-TG4-2-122005-1	4675635	Ground water	12/20/05	12/22/05	12/22/05
MA3-TG6-1-122005-5	4675636	Ground water	12/20/05	12/22/05	12/22/05
MA3-TG6-2-122005-4	4675637	Ground water	12/20/05	12/22/05	12/22/05
MA3-MW28S-122105-9	4676885	Ground water	12/21/05	12/27/05	12/27/05
MA3-MW9S-122105-11	4676886	Ground water	12/21/05	12/27/05	12/27/05
MA3-TG1-2-122105-15	4676887	Ground water	12/21/05	12/27/05	12/27/05
MA3-TG1-3-122105-14	4676888	Ground water	12/21/05	12/27/05	12/27/05
MA3-TG2-1-122105-6-BKG	4676889	Ground water	12/21/05	12/27/05	12/27/05
MA3-TG2-1-122105-6-MS	4676890	Ground water	12/21/05	12/28/05	12/27/05
MA3-TG2-1-122105-6-MSD	4676891	Ground water	12/21/05	12/28/05	12/27/05
MA3-TG2-2-122105-7	4676892	Ground water	12/21/05	12/27/05	12/27/05
MA3-TG2-3-122105-8	4676893	Ground water	12/21/05	12/27/05	12/27/05
MA3-TG5-1-122105-12	4676894	Ground water	12/21/05	12/27/05	12/27/05
MA3-TG2-2-122105-13	4676895	Ground water	12/21/05	12/27/05	12/27/05
MA3-TG6-3-122105-10	4676896	Ground water	12/21/05	12/27/05	12/27/05
Trip_Blank Water	4676897	Ground water	12/21/05	12/27/05	12/27/05

2. Holding Times:
The samples were prepared and analyzed within the required holding time.

3. Method Blank:
Four methods blanks were associated with this SDG. The method blank **BLK5335** was analyzed on 12/20/05 with LCS/LCSD and results were free of contamination.

The method blank **BLK5347** was analyzed on 12/22/05 with samples 4675631 thru 4675637 and 4674814MS/MSD (from different SDG). The method blank results were free of contamination.

The method blank **BLK5349** was analyzed on 12/27/05 with samples 4676885 thru 4676889 4676892 thru 46768942 and 4676897 results were free of contamination.

The method blank **BLK5350** was analyzed on 12/27/05 with samples 4676895, 4676896 and 4676890MS/4676891MSD results were free of contamination.

4. Matrix Spike/Matrix Spike Duplicate :
Sufficient sample volume was not available to perform a MS/MSD for the analysis; therefore, the laboratory performed matrix spike on sample 4674814 from different SDG associated with samples 4675631 thru 4675637 to demonstrate precision and accuracy at a batch level. The MS recoveries were within the quality control limits.

The matrix spike was performed on sample 4676889 associated with samples 4676885 thru 4676897. The MS/MSD recoveries were within the control limits. Also, the RPDs values were acceptable.

5. Laboratory control Sample:
The associated laboratories control samples/laboratories control samples duplicates associated with samples 4676885 thru 4676897 recoveries were within the control limits. Also, the RPD% values were acceptable.

The associated laboratories control samples/laboratories control samples duplicates associated with samples 4675631 thru 4675637 recoveries were within the control limits. Also, the RPD% values were acceptable.

6. Surrogate:
The method blanks and the investigated samples had surrogate recoveries within the required quality control limit.

7. Initial and Continuing Calibration:
All the initial calibration and continuing calibration results were within the quality control limit.

WET CHEMISTRY ANALYSIS
SDG # KMA76

Kjeldahl Nitrogen Analysis (TKN) EPA 351.2:
1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Digested	Date Analyzed
MA3-TG3-2-122005-3	4675632	Ground water	12/20/05	12/28/05	12/29/05
MA3-TG3-3-122005-2	4675633	Ground water	12/20/05	12/28/05	12/29/05
MA3-TG4-2-122005-1	4675635	Ground water	12/20/05	12/28/05	12/29/05
MA3-TG6-1-122005-5	4675636	Ground water	12/20/05	12/28/05	12/29/05
MA3-TG6-2-122005-4	4675637	Ground water	12/20/05	12/28/05	12/29/05
MA3-TG2-1-122105-6-BKG	4676889	Ground water	12/21/05	12/28/05	12/29/05
MA3-TG2-2-122105-7	4676892	Ground water	12/21/05	12/28/05	12/29/05
MA3-TG2-3-122105-8	4676893	Ground water	12/21/05	12/28/05	12/29/05
MA3-TG5-1-122105-12	4676894	Ground water	12/21/05	12/28/05	12/29/05
MA3-TG2-2-122105-13	4676895	Ground water	12/21/05	12/28/05	12/29/05
MA3-TG6-3-122105-10	4676896	Ground water	12/21/05	12/28/05	12/29/05

2. Holding Times:
All samples were digested and analyzed within the required holding times.

3. Method Blank:
The two method blanks results were free of contamination.

4. Matrix Spike Recovery:
Three matrix spikes were performed on 4675635, 4676889 and 4676895. The 4675635MS and 4676889MS recoveries were within the quality control limits (90-110%). The 4676895MS recoveries was (123%) outside the upper control limits (90-110%). Therefore, qualify the detected results for samples 4676893 thru 4676896 as estimated (J).

5. Duplicate Recovery:
The three duplicates samples 4675635, 4676889 and 4676895 recoveries were acceptable.

6. Laboratory Control Sample Recovery:
The two laboratories control samples recoveries were within the quality control limits.

7. Initial and Continuing Verification Calibration:
The initial and continuing calibration results were all within the quality control limits.

8. Initial and Continuing Calibration Blank:
The initial and continuing calibration blanks results were free of contamination.

Total Phosphorus as (PO4) EPA 365.1:

1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Extracted	Date Analyzed
MA3-TG3-2-122005-3	4675632	Ground water	12/20/05	12/22/05	12/27/05
MA3-TG3-3-122005-2	4675633	Ground water	12/20/05	12/22/05	12/27/05
MA3-TG3-3-122005-2-DP	4675634	Ground water	12/20/05	12/22/05	12/27/05
MA3-TG4-2-122005-1	4675635	Ground water	12/20/05	12/22/05	12/27/05
MA3-TG6-1-122005-5	4675636	Ground water	12/20/05	12/22/05	12/27/05
MA3-TG6-2-122005-4	4675637	Ground water	12/20/05	12/22/05	12/27/05
MA3-TG2-1-122105-6-BKG	4676889	Ground water	12/21/05	12/23/05	12/27/05
MA3-TG2-2-122105-7	4676892	Ground water	12/21/05	12/23/05	12/27/05
MA3-TG2-3-122105-8	4676893	Ground water	12/21/05	12/23/05	12/27/05
MA3-TG5-1-122105-12	4676894	Ground water	12/21/05	12/23/05	12/27/05
MA3-TG2-2-122105-13	4676895	Ground water	12/21/05	12/23/05	12/27/05
MA3-TG6-3-122105-10	4676896	Ground water	12/21/05	12/23/05	12/27/05

2. Holding Times:

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

3. Method Blank:

The two associated method blanks results were free of contamination.

4. Matrix Spike Recovery:

The two matrix spikes were performed on 4675632 and 4676889. The 4675632MS and 4676889MS recoveries were within the quality control limits (90-110%).

5. Duplicate Recovery:

The two duplicate samples 4675632 and 4676889 recoveries were acceptable.

6. Laboratory Control Sample Recovery:

The two laboratories control samples recoveries were within the quality control limits.

7. Initial and Continuing Verification Calibration:

The initial and continuing calibration results were all within the quality control limits.

8. Initial and Continuing Calibration Blank:

The initial and continuing calibration blanks results were free of contamination.

Ammonia Nitrogen Analysis EPA 350.2:

1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Analyzed
MA3-TG3-2-122005-3	4675632	Ground water	12/20/05	12/23/05
MA3-TG3-3-122005-2	4675633	Ground water	12/20/05	12/23/05
MA3-TG4-2-122005-1	4675635	Ground water	12/20/05	12/23/05
MA3-TG6-1-122005-5	4675636	Ground water	12/20/05	12/23/05
MA3-TG6-2-122005-4	4675637	Ground water	12/20/05	12/23/05
MA3-MW28S-122105-9	4676885	Ground water	12/21/05	12/29/05
MA3-MW9S-122105-11	4676886	Ground water	12/21/05	12/29/05
MA3-TG1-2-122105-15	4676887	Ground water	12/21/05	12/29/05
MA3-TG1-3-122105-14	4676888	Ground water	12/21/05	12/29/05
MA3-TG2-1-122105-6-BKG	4676889	Ground water	12/21/05	12/28/05
MA3-TG2-2-122105-7	4676892	Ground water	12/21/05	12/28/05
MA3-TG2-3-122105-8	4676893	Ground water	12/21/05	12/28/05
MA3-TG5-1-122105-12	4676894	Ground water	12/21/05	12/28/05
MA3-TG2-2-122105-13	4676895	Ground water	12/21/05	12/28/05
MA3-TG6-3-122105-10	4676896	Ground water	12/21/05	12/28/05

2. Holding Times:

All samples were analyzed within the required holding time.

3. Method Blank:

The three method blanks results were free of contamination.

4. Duplicate Recovery:

The three duplicate samples P676209, P676211 and P676908 results were acceptable.

5. Laboratory Control Sample Recovery:

The three laboratories control samples/ laboratories control samples duplicates recoveries were within the quality control limits. Also, the RPD values were acceptable.

6. Matrix Spike Recovery:

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

Ortho-Phosphate as P Analysis EPA 365.3:

1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Analyzed
MA3-TG3-2-122005-3	4675632	Ground water	12/20/05	12/21/05
MA3-TG3-3-122005-2	4675633	Ground water	12/20/05	12/21/05
MA3-TG4-2-122005-1	4675635	Ground water	12/20/05	12/21/05
MA3-TG6-1-122005-5	4675636	Ground water	12/20/05	12/21/05
MA3-TG6-2-122005-4	4675637	Ground water	12/20/05	12/21/05
MA3-MW28S-122105-9	4676885	Ground water	12/21/05	12/23/05
MA3-MW9S-122105-11	4676886	Ground water	12/21/05	12/23/05
MA3-TG1-2-122105-15	4676887	Ground water	12/21/05	12/23/05
MA3-TG1-3-122105-14	4676888	Ground water	12/21/05	12/23/05
MA3-TG2-1-122105-6-BKG	4676889	Ground water	12/21/05	12/23/05
MA3-TG2-2-122105-7	4676892	Ground water	12/21/05	12/23/05
MA3-TG2-3-122105-8	4676893	Ground water	12/21/05	12/23/05
MA3-TG5-1-122105-12	4676894	Ground water	12/21/05	12/23/05
MA3-TG2-2-122105-13	4676895	Ground water	12/21/05	12/23/05
MA3-TG6-3-122105-10	4676896	Ground water	12/21/05	12/23/05

2. Holding Times:

All samples were analyzed within the required holding times.

3. Method Blank:

The two method blanks results were free of contamination.

4. Matrix Spike Recovery:

Two matrix spikes were associated with this SDG. The two matrix spike/matrix spike duplicates for samples 4675636 and 4676896 recoveries were within the quality control limits. Also, the RPDs values were acceptable.

5. Duplicate Recovery:

The duplicate samples results were acceptable.

6. Laboratory Control Sample Recovery:

The two laboratories control samples recoveries were within the quality control limits.

Chemical Oxygen Demand Analysis (COD) EPA 410.2:

1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Analyzed
MA3-TG3-2-122005-3	4675632	Ground water	12/20/05	01/03/06
MA3-TG3-3-122005-2	4675633	Ground water	12/20/05	01/03/06
MA3-TG4-2-122005-1	4675635	Ground water	12/20/05	01/03/06
MA3-TG6-1-122005-5	4675636	Ground water	12/20/05	01/03/06
MA3-TG6-2-122005-4	4675637	Ground water	12/20/05	01/03/06
MA3-TG2-1-122105-6-BKG	4676889	Ground water	12/21/05	01/03/06
MA3-TG2-2-122105-7	4676892	Ground water	12/21/05	01/03/06
MA3-TG2-3-122105-8	4676893	Ground water	12/21/05	01/03/06
MA3-TG5-1-122105-12	4676894	Ground water	12/21/05	01/03/06
MA3-TG2-2-122105-13	4676895	Ground water	12/21/05	01/03/06
MA3-TG6-3-122105-10	4676896	Ground water	12/21/05	01/03/06

2. Holding Times:

All samples were analyzed within the required holding time.

3. Matrix Spike Recovery:

A matrix spike was performed on 4675633. The matrix spike/matrix spike duplicate recoveries were within the quality control limits. Also, the RPD value was acceptable.

4. Duplicate Recovery:

The duplicate sample 4675633 recovery was acceptable.

5. Laboratory Control Sample Recovery:

The laboratory control sample recovery was within the quality control limits.

Nitrite Nitrogen Analysis EPA 353.2:

1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Analyzed
MA3-TG3-2-122005-3	4675632	Ground water	12/20/05	12/22/05
MA3-TG3-3-122005-2	4675633	Ground water	12/20/05	12/22/05
MA3-TG4-2-122005-1	4675635	Ground water	12/20/05	12/22/05
MA3-TG6-1-122005-5	4675636	Ground water	12/20/05	12/22/05
MA3-TG6-2-122005-4	4675637	Ground water	12/20/05	12/22/05
MA3-MW28S-122105-9	4676885	Ground water	12/21/05	12/23/05
MA3-MW9S-122105-11	4676886	Ground water	12/21/05	12/23/05
MA3-TG1-2-122105-15	4676887	Ground water	12/21/05	12/23/05
MA3-TG1-3-122105-14	4676888	Ground water	12/21/05	12/23/05
MA3-TG2-1-122105-6-BKG	4676889	Ground water	12/21/05	12/23/05
MA3-TG2-2-122105-7	4676892	Ground water	12/21/05	12/23/05
MA3-TG2-3-122105-8	4676893	Ground water	12/21/05	12/23/05
MA3-TG5-1-122105-12	4676894	Ground water	12/21/05	12/23/05
MA3-TG2-2-122105-13	4676895	Ground water	12/21/05	12/23/05
MA3-TG6-3-122105-10	4676896	Ground water	12/21/05	12/23/05

2. Holding Time:
All samples were analyzed within the required holding time.

3. Method Blank:
The two associated method blanks results were free of contamination.

4. Matrix Spike Recovery:
Three matrix spikes were performed on 4675636, 4676889 and 4676987. The 4675635MS and 4676889MS and 4676987MS recoveries were within the quality control limits (90-110%).

5. Laboratory Control Sample Recovery:
The two laboratories control samples recoveries were within the control limits.

6. Duplicate Recovery:
The three duplicates samples results were acceptable.

7. Initial and Continuing Verification Calibration:
The initial and continuing calibration results were all within the quality control limits.

8. Initial and Continuing Calibration Blank:
The initial and continuing calibration blanks results were free of contamination.

Nitrate Nitrogen Analysis EPA 353.2:

1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Analyzed
MA3-TG3-2-122005-3	4675632	Ground water	12/20/05	12/30/05
MA3-TG3-3-122005-2	4675633	Ground water	12/20/05	12/30/05
MA3-TG4-2-122005-1	4675635	Ground water	12/20/05	12/30/05
MA3-TG6-1-122005-5	4675636	Ground water	12/20/05	12/30/05
MA3-TG6-2-122005-4	4675637	Ground water	12/20/05	12/30/05
MA3-MW28S-122105-9	4676885	Ground water	12/21/05	01/05/06
MA3-MW9S-122105-11	4676886	Ground water	12/21/05	01/05/06
MA3-TG1-2-122105-15	4676887	Ground water	12/21/05	01/05/06
MA3-TG1-3-122105-14	4676888	Ground water	12/21/05	01/05/06
MA3-TG2-1-122105-6-BKG	4676889	Ground water	12/21/05	01/05/06
MA3-TG2-2-122105-7	4676892	Ground water	12/21/05	01/05/06
MA3-TG2-3-122105-8	4676893	Ground water	12/21/05	01/05/06
MA3-TG5-1-122105-12	4676894	Ground water	12/21/05	01/05/06
MA3-TG2-2-122105-13	4676895	Ground water	12/21/05	01/05/06
MA3-TG6-3-122105-10	4676896	Ground water	12/21/05	01/05/06

2. Holding Time:

All samples were analyzed within the required holding time.

3. Method Blank:

The two associated methods blanks results were free of contamination.

4. Matrix Spike Recovery:

Three matrix spikes were performed on 4675632, 4675633 and 4676889. The 4675632MS and 4675633MS and 4676889MS recoveries were within the quality control limits (90-110%).

5. Duplicate Recovery:

The three duplicates samples 4675632, 4675633 and 4676889 results were acceptable.

6. Laboratory Control Sample Recovery:

The two laboratories control samples recoveries were within the quality control limit.

7. Initial and Continuing Verification Calibration:

The initial and continuing calibration results were all within the quality control limit.

8. Initial and Continuing Calibration Blank:

The initial and continuing calibration blanks results were free of contamination.

Biochemical Oxygen Demand (BOD) Method EPA 405.1:

1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Analyzed
MA3-TG3-2-122005-3	4675632	Ground water	12/20/05	12/21/05
MA3-TG3-3-122005-2	4675633	Ground water	12/20/05	12/21/05
MA3-TG4-2-122005-1	4675635	Ground water	12/20/05	12/21/05
MA3-TG6-1-122005-5	4675636	Ground water	12/20/05	12/21/05
MA3-TG6-2-122005-4	4675637	Ground water	12/20/05	12/21/05
MA3-MW28S-122105-9	4676885	Ground water	12/21/05	12/22/05
MA3-MW9S-122105-11	4676886	Ground water	12/21/05	12/22/05
MA3-TG1-2-122105-15	4676887	Ground water	12/21/05	12/22/05
MA3-TG1-3-122105-14	4676888	Ground water	12/21/05	12/22/05
MA3-TG2-1-122105-6-BKG	4676889	Ground water	12/21/05	12/22/05
MA3-TG2-2-122105-7	4676892	Ground water	12/21/05	12/22/05
MA3-TG2-3-122105-8	4676893	Ground water	12/21/05	12/22/05
MA3-TG5-1-122105-12	4676894	Ground water	12/21/05	12/22/05
MA3-TG2-2-122105-13	4676895	Ground water	12/21/05	12/22/05
MA3-TG6-3-122105-10	4676896	Ground water	12/21/05	12/22/05

2. Holding Time:

All samples were analyzed within the required holding time.

3. Matrix Spike Recovery:

A matrix spike was performed on 4676889. The matrix spike/matrix spike duplicate recoveries were within the quality control limits. Also, the RPD value was acceptable.

Another matrix spike was performed on P675983 from different SDG. The matrix spike/matrix spike duplicate recoveries were within the quality control limits. Also, the RPD value was acceptable.

4. Laboratory Control Sample Recovery:

The two laboratories control samples/laboratories control samples duplicates recoveries were within the quality control limits. Also, the RPD values were acceptable.

5. Duplicate Recovery:

The two duplicate samples results were acceptable.

Total Organic Carbon (TOC) Method EPA 415.1:

1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Analyzed
MA3-TG3-2-122005-3	4675632	Ground water	12/20/05	12/28/05
MA3-TG3-3-122005-2	4675633	Ground water	12/20/05	12/28/05
MA3-TG4-2-122005-1	4675635	Ground water	12/20/05	12/28/05
MA3-TG6-1-122005-5	4675636	Ground water	12/20/05	12/28/05
MA3-TG6-2-122005-4	4675637	Ground water	12/20/05	12/28/05
MA3-MW28S-122105-9	4676885	Ground water	12/21/05	12/29/05
MA3-MW9S-122105-11	4676886	Ground water	12/21/05	12/29/05
MA3-TG1-2-122105-15	4676887	Ground water	12/21/05	12/29/05
MA3-TG1-3-122105-14	4676888	Ground water	12/21/05	12/29/05
MA3-TG2-1-122105-6-BKG	4676889	Ground water	12/21/05	12/29/05
MA3-TG2-2-122105-7	4676892	Ground water	12/21/05	12/29/05
MA3-TG2-3-122105-8	4676893	Ground water	12/21/05	12/29/05
MA3-TG5-1-122105-12	4676894	Ground water	12/21/05	12/29/05
MA3-TG2-2-122105-13	4676895	Ground water	12/21/05	12/29/05
MA3-TG6-3-122105-10	4676896	Ground water	12/21/05	12/29/05

2. Holding Time:

All samples were analyzed within the required holding time.

3. Method Blank:

The associated method blank batch 05362113012 associated with samples 4675632, 4675633, 4675635, 4675636 and 4675637 results contained 0.826 mg/L. The presence of TOC in the method blank had no affect on the samples because TOC result in the samples 4675632, 4675633, 4675635, 4675636 and 4675637 was not-detected. Therefore, no action was taken.

The associated method blank batch 05363049512 associated with samples 4676887, 4676888, 4676889 and 4676892 thru 4676895 result was free of contamination.

4. Matrix Spike Recovery:

The three matrix spikes were performed on samples (P675310, P676789) from different SDG and sample 4676889. The three MS recoveries were within the quality control limits (67-130%).

5. Duplicate Recovery:

The three duplicate samples P675310, P676789 and 4676889 results were acceptable.

6. Laboratory Control Sample Recovery:

The two laboratories control samples recoveries were within the acceptance QC control limit.

7. Initial and Continuing Verification Calibration:

All the initial and continuing calibrations results were all within the quality control limit.

Summary

Results of this review:

1. All sample results in this sample group are considered usable.
2. The detected results for samples 4676893 thru 4676896 were qualified as estimated (J) due to unacceptable 4676895MS recovery.

Data Reviewed by: Tania Shammo Date: 01/20/06

Lancaster Laboratories

ANALYTICAL RESULTS

Prepared for:

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

734-367-7900

Prepared by:

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

SAMPLE GROUP

The sample group for this submittal is 971972. Samples arrived at the laboratory on Wednesday, December 21, 2005. The PO# for this group is ZAKW1KEOK0A90089.

Client Description		Lancaster Labs Number
MA3-TB-01-122005-6	Groundwater	4675631
MA3-TG3-2-122005-3	Groundwater	4675632
MA3-TG3-3-122005-2	Groundwater	4675633
MA3-TG3-3-122005-2-DP	Groundwater	4675634
MA3-TG4-2-122005-1	Groundwater	4675635
MA3-TG6-1-122005-5	Groundwater	4675636
MA3-TG6-2-122005-4	Groundwater	4675637

METHODOLOGY

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

1 COPY TO	Weston Solutions, Inc.	Attn: Tom Graan
1 COPY TO	Tronox LLC	Attn: Roy Widmann
1 COPY TO	Data Package Group	

Lancaster Laboratories

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

Respectfully Submitted,

Michele J. Smith
Michele J. Smith
Group Leader

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

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4675631

MA3-TB-01-122005-6 Groundwater
122005-1 02687.007.007.0001
Moss American
Collected:12/20/2005 17:00

Account Number: 07802

Submitted: 12/21/2005 10:40
Reported: 01/04/2006 at 11:20
Discard: 03/06/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOSTB SDG#: KMA76-01TB

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.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	12/22/2005 11:40	Martha L Seidel	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/22/2005 11:40	Martha L Seidel	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4675632

MA3-TG3-2-122005-3 Groundwater
122005-1,2,3 02687.007.007.0001
Moss American
Collected:12/20/2005 12:45

Account Number: 07802

Submitted: 12/21/2005 10:40
Reported: 01/04/2006 at 11:20
Discard: 03/06/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOS32 SDG#: KMA76-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	0.92 J	0.50	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l	1
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	1.1	0.11	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	N.D.	0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	4.6	mg/l	1
00273	Total Organic Carbon	n.a.	7.7	0.50	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	N.D.	0.25	mg/l	1
01553	Chemical Oxygen Demand	n.a.	20.6	2.1	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.8	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.8	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	1.8	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.58	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.092	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.046	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.046	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.21	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.023	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.046	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.023	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.046	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.092	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.12	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.092	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.023	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4675632

MA3-TG3-2-122005-3 Groundwater
122005-1,2,3 02687.007.007.0001
Moss American
Collected:12/20/2005 12:45 Account Number: 07802

Submitted: 12/21/2005 10:40 Kerr-McGee Corporation
Reported: 01/04/2006 at 11:20 PO Box 3048
Discard: 03/06/2006 Livonia MI 48150

MOS32 SDG#: KMA76-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	12/29/2005 18:54	Venia B McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	12/22/2005 10:19	Nicole M Kepley	1
00220	Nitrate Nitrogen	EPA 353.2	1	12/30/2005 11:30	William L Hamaker Jr	1
00221	Ammonia Nitrogen	EPA 350.2	1	12/23/2005 13:00	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	12/21/2005 23:10	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	12/21/2005 22:12	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	12/28/2005 18:23	James S Mathiot	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	12/27/2005 09:53	William L Hamaker Jr	1
01553	Chemical Oxygen Demand	EPA 410.2	1	01/03/2006 07:50	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	12/22/2005 12:43	Martha L Seidel	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/27/2005 23:47	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/22/2005 12:43	Martha L Seidel	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	12/28/2005 08:20	Choon Y Tian	1
03337	PAH Water Extraction	SW-846 3510C	1	12/22/2005 16:45	Desiree J Wann	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	12/22/2005 09:25	Choon Y Tian	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4675633

MA3-TG3-3-122005-2 Groundwater
122005-1,2 02687.007.007.0001
Moss American
Collected:12/20/2005 12:35

Account Number: 07802

Submitted: 12/21/2005 10:40
Reported: 01/04/2006 at 11:20
Discard: 03/06/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOS33 SDG#: KMA76-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	1.7	0.50	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	0.037 J	0.015	mg/l	1
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	1.9	0.11	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	N.D.	0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	9.8	0.80	mg/l	1
00273	Total Organic Carbon	n.a.	11.1	0.50	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	N.D.	0.25	mg/l	1
01553	Chemical Oxygen Demand	n.a.	30.4	2.1	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.7	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.7	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	1.7	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.54	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.087	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.043	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.043	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.20	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.022	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.043	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.022	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.043	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.087	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.087	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.022	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4675633

MA3-TG3-3-122005-2 Groundwater
122005-1,2 02687.007.007.0001
Moss American
Collected:12/20/2005 12:35

Account Number: 07802

Submitted: 12/21/2005 10:40
Reported: 01/04/2006 at 11:20
Discard: 03/06/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOS33 SDG#: KMA76-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	12/29/2005 18:55	Venia B McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	12/22/2005 10:23	Nicole M Kepley	1
00220	Nitrate Nitrogen	EPA 353.2	1	12/30/2005 11:37	William L Hamaker Jr	1
00221	Ammonia Nitrogen	EPA 350.2	1	12/23/2005 13:00	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	12/21/2005 23:10	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	12/21/2005 22:12	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	12/28/2005 18:31	James S Mathiot	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	12/27/2005 09:57	William L Hamaker Jr	1
01553	Chemical Oxygen Demand	EPA 410.2	1	01/03/2006 07:50	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	12/22/2005 13:14	Martha L Seidel	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/28/2005 00:25	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/22/2005 13:14	Martha L Seidel	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	12/28/2005 08:20	Choon Y Tian	1
03337	PAH Water Extraction	SW-846 3510C	1	12/22/2005 16:45	Desiree J Wann	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	12/22/2005 09:25	Choon Y Tian	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4675634

MA3-TG3-3-122005-2-DP Groundwater
122005-1,3 02687.007.007.0001
Moss American
Collected:12/20/2005 12:35

Account Number: 07802

Submitted: 12/21/2005 10:40
Reported: 01/04/2006 at 11:21
Discard: 03/06/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOSFD SDG#: KMA76-04

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.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.7	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.7	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	1.7	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.54	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.086	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.043	ug/l	1
00807	Fluoranthene	206-44-0	0.044 J	0.043	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.021	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.043	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.021	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.043	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.086	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.086	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.021	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

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

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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4675634

MA3-TG3-3-122005-2-DP Groundwater
122005-1,3 02687.007.007.0001
Moss American
Collected:12/20/2005 12:35

Account Number: 07802

Submitted: 12/21/2005 10:40
Reported: 01/04/2006 at 11:21
Discard: 03/06/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOSFD SDG#: KMA76-04

08213	BTEX (8021)	SW-846 8021B	1	12/22/2005 13:45	Martha L Seidel	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/28/2005 01:04	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/22/2005 13:45	Martha L Seidel	1
03337	PAH Water Extraction	SW-846 3510C	1	12/22/2005 16:45	Desiree J Wann	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4675635

MA3-TG4-2-122005-1 Groundwater
122005-1,2,3 02687.007.007.0001
Moss American
Collected:12/20/2005 10:22 Account Number: 07802

Submitted: 12/21/2005 10:40 Kerr-McGee Corporation
Reported: 01/04/2006 at 11:21 PO Box 3048
Discard: 03/06/2006 Livonia MI 48150

MOS42 SDG#: KMA76-05

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	1.5		0.50	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	N.D.		0.015	mg/l	1
00220	Nitrate Nitrogen	14797-55-8	N.D.		0.040	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	1.3		0.11	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	N.D.		0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.		3.6	mg/l	1
00273	Total Organic Carbon	n.a.	10.9		0.50	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	N.D.		0.25	mg/l	1
01553	Chemical Oxygen Demand	n.a.	26.8		2.1	mg/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	N.D.		0.2	ug/l	1
00777	Toluene	108-88-3	N.D.		0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.		0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.		0.6	ug/l	1
00774	PAH's in Water by HPLC						
00775	Naphthalene	91-20-3	N.D.		1.8	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.		1.8	ug/l	1
00783	Acenaphthene	83-32-9	N.D.		1.8	ug/l	1
00784	Fluorene	86-73-7	N.D.		0.56	ug/l	1
00785	Phenanthrene	85-01-8	N.D.		0.090	ug/l	1
00789	Anthracene	120-12-7	N.D.		0.045	ug/l	1
00807	Fluoranthene	206-44-0	0.18	J	0.045	ug/l	1
00811	Pyrene	129-00-0	N.D.		0.20	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.		0.023	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.		0.045	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.		0.023	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.		0.045	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.090	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.		0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.		0.090	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.		0.023	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4675635

MA3-TG4-2-122005-1 Groundwater
122005-1,2,3 02687.007.007.0001
Moss American
Collected:12/20/2005 10:22

Account Number: 07802

Submitted: 12/21/2005 10:40
Reported: 01/04/2006 at 11:21
Discard: 03/06/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOS42 SDG#: KMA76-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	12/29/2005 18:57	Venia B McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	12/22/2005 10:18	Nicole M Kepley	1
00220	Nitrate Nitrogen	EPA 353.2	1	12/30/2005 11:40	William L Hamaker Jr	1
00221	Ammonia Nitrogen	EPA 350.2	1	12/23/2005 13:00	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	12/21/2005 23:10	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	12/21/2005 22:12	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	12/28/2005 18:39	James S Mathiot	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	12/27/2005 09:58	William L Hamaker Jr	1
01553	Chemical Oxygen Demand	EPA 410.2	1	01/03/2006 07:50	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	12/22/2005 14:17	Martha L Seidel	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/28/2005 01:42	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/22/2005 14:17	Martha L Seidel	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	12/28/2005 08:20	Choon Y Tian	1
03337	PAH Water Extraction	SW-846 3510C	1	12/22/2005 16:45	Desiree J Wann	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	12/22/2005 09:25	Choon Y Tian	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4675636

MA3-TG6-1-122005-5 Groundwater
122005-1,2,3 02687.007.007.0001
Moss American
Collected:12/20/2005 16:12

Account Number: 07802

Submitted: 12/21/2005 10:40
Reported: 01/04/2006 at 11:21
Discard: 03/06/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOS61 SDG#: KMA76-06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	1.7	0.50	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l	1
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	1.8	0.11	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	N.D.	0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	4.8	mg/l	1
00273	Total Organic Carbon	n.a.	9.8	0.50	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	N.D.	0.25	mg/l	1
01553	Chemical Oxygen Demand	n.a.	23.3	2.1	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.8	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.8	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	1.8	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.56	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.089	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.045	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.045	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.20	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.022	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.045	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.022	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.045	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.089	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.089	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.022	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4675636

MA3-TG6-1-122005-5 Groundwater
122005-1,2,3 02687.007.007.0001
Moss American
Collected:12/20/2005 16:12

Account Number: 07802

Submitted: 12/21/2005 10:40
Reported: 01/04/2006 at 11:21
Discard: 03/06/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOS61 SDG#: KMA76-06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	12/29/2005 19:00	Venia B McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	12/22/2005 10:24	Nicole M Kepley	1
00220	Nitrate Nitrogen	EPA 353.2	1	12/30/2005 11:42	William L Hamaker Jr	1
00221	Ammonia Nitrogen	EPA 350.2	1	12/23/2005 13:00	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	12/21/2005 23:10	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	12/21/2005 22:12	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	12/28/2005 18:47	James S Mathiot	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	12/27/2005 09:59	William L Hamaker Jr	1
01553	Chemical Oxygen Demand	EPA 410.2	1	01/03/2006 07:50	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	12/22/2005 14:48	Martha L Seidel	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/28/2005 02:21	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/22/2005 14:48	Martha L Seidel	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	12/28/2005 08:20	Choon Y Tian	1
03337	PAH Water Extraction	SW-846 3510C	1	12/22/2005 16:45	Desiree J Wann	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	12/22/2005 09:25	Choon Y Tian	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4675637

MA3-TG6-2-122005-4 Groundwater
122005-1,2,3 02687.007.007.0001
Moss American
Collected:12/20/2005 16:02 Account Number: 07802

Submitted: 12/21/2005 10:40 Kerr-McGee Corporation
Reported: 01/04/2006 at 11:21 PO Box 3048
Discard: 03/06/2006 Livonia MI 48150

MOS62 SDG#: KMA76-07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	0.71 J	0.50	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l	1
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	0.67	0.11	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	N.D.	0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	3.1	mg/l	1
00273	Total Organic Carbon	n.a.	6.7	0.50	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	N.D.	0.25	mg/l	1
01553	Chemical Oxygen Demand	n.a.	16.3	2.1	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	2.3	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	2.3	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	2.3	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.72	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.12	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.058	ug/l	1
00807	Fluoranthene	206-44-0	0.060 J	0.058	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.26	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.029	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.058	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.029	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.058	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.12	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.14	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.12	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.029	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4675637

MA3-TG6-2-122005-4 Groundwater
122005-1,2,3 02687.007.007.0001
Moss American
Collected:12/20/2005 16:02

Account Number: 07802

Submitted: 12/21/2005 10:40
Reported: 01/04/2006 at 11:21
Discard: 03/06/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOS62 SDG#: KMA76-07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	12/29/2005 19:02	Venia B McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	12/22/2005 10:25	Nicole M Kepley	1
00220	Nitrate Nitrogen	EPA 353.2	1	12/30/2005 11:43	William L Hamaker Jr	1
00221	Ammonia Nitrogen	EPA 350.2	1	12/23/2005 13:00	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	12/21/2005 23:10	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	12/21/2005 22:12	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	12/28/2005 18:56	James S Mathiot	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	12/27/2005 10:02	William L Hamaker Jr	1
01553	Chemical Oxygen Demand	EPA 410.2	1	01/03/2006 07:50	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	12/22/2005 15:20	Martha L Seidel	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/28/2005 02:59	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/22/2005 15:20	Martha L Seidel	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	12/28/2005 08:20	Choon Y Tian	1
03337	PAH Water Extraction	SW-846 3510C	1	12/22/2005 16:45	Desiree J Wann	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	12/22/2005 09:25	Choon Y Tian	1

Lancaster Laboratories

Quality Control Summary

Client Name: Kerr-McGee Corporation
Reported: 01/04/06 at 11:21 AM

Group Number: 971972

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 05354A53B	Sample number(s): 4675631-4675637							
Benzene	N.D.	0.2	ug/l	91	90	86-119	1	30
Toluene	N.D.	0.2	ug/l	95	93	82-119	2	30
Ethylbenzene	N.D.	0.2	ug/l	92	93	81-119	1	30
Total Xylenes	N.D.	0.6	ug/l	92	94	82-120	2	30
Batch number: 05355022601A	Sample number(s): 4675632-4675633,4675635-4675637							
Ortho-Phosphate as P	N.D.	0.010	mg/l	99		95-105		
Batch number: 05355023501A	Sample number(s): 4675632-4675633,4675635-4675637							
Biochemical Oxygen Demand				104	101	85-115	3	8
Batch number: 05355105101B	Sample number(s): 4675632-4675633,4675635-4675637							
Nitrite Nitrogen	N.D.	0.015	mg/l	99		90-110		
Batch number: 05356110101A	Sample number(s): 4675632-4675633,4675635-4675637							
Total Phosphorus as PO4 water	N.D.	0.25	mg/l	99		89-110		
Batch number: 05356WAE026	Sample number(s): 4675632-4675637							
Naphthalene	N.D.	1.6	ug/l	68	68	57-109	0	30
Acenaphthylene	N.D.	1.6	ug/l	69	69	67-99	0	30
Acenaphthene	N.D.	1.6	ug/l	73	73	60-116	0	30
Fluorene	N.D.	0.50	ug/l	72	72	61-116	0	30
Phenanthrene	N.D.	0.080	ug/l	74	74	67-115	0	30
Anthracene	N.D.	0.040	ug/l	73	72	68-113	1	30
Fluoranthene	N.D.	0.040	ug/l	76	76	70-112	0	30
Pyrene	N.D.	0.18	ug/l	74	76	69-113	2	30
Benzo(a)anthracene	N.D.	0.020	ug/l	83	78	73-114	7	30
Benzo(b)fluoranthene	N.D.	0.040	ug/l	83	77	72-113	8	30
Benzo(a)pyrene	N.D.	0.020	ug/l	83	77	68-112	8	30
Dibenz(a,h)anthracene	N.D.	0.040	ug/l	73	78	19-129	6	30
Indeno(1,2,3-cd)pyrene	N.D.	0.080	ug/l	68	74	67-106	8	30
Benzo(g,h,i)perylene	N.D.	0.10	ug/l	61	74	7-126	18	30
Chrysene	N.D.	0.080	ug/l	75	74	70-111	2	30
Benzo(k)fluoranthene	N.D.	0.020	ug/l	85	77	72-119	10	30
Batch number: 05357022101A	Sample number(s): 4675632-4675633,4675635-4675637							

*- 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.

Lancaster Laboratories

Quality Control Summary

Client Name: Kerr-McGee Corporation Group Number: 971972
Reported: 01/04/06 at 11:21 AM

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Ammonia Nitrogen	N.D.	0.11	mg/l	97	97	91-100	1	1
Batch number: 05362108101A	Sample number(s): 4675632-4675633,4675635-4675637							
Kjeldahl Nitrogen	N.D.	0.50	mg/l	104		90-110		
Batch number: 05362113012A	Sample number(s): 4675632-4675633,4675635-4675637							
Total Organic Carbon	0.83 J	0.50	mg/l	91		83-115		
Batch number: 05364106102A	Sample number(s): 4675632							
Nitrate Nitrogen	N.D.	0.040	mg/l	101		89-110		
Batch number: 05364106102B	Sample number(s): 4675633,4675635-4675637							
Nitrate Nitrogen	N.D.	0.040	mg/l	101		89-110		
Batch number: 06003155301A	Sample number(s): 4675632-4675633,4675635-4675637							
Chemical Oxygen Demand				96		87-102		

Sample Matrix Quality Control

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 05354A53B	Sample number(s): 4675631-4675637								
Benzene	90		78-131						
Toluene	99		78-129						
Ethylbenzene	100		75-133						
Total Xylenes	101		80-134						
Batch number: 05355022601A	Sample number(s): 4675632-4675633,4675635-4675637								
Ortho-Phosphate as P	103	103	88-113	0	5	N.D.	0.011 J	200* (1)	8
Batch number: 05355023501A	Sample number(s): 4675632-4675633,4675635-4675637								
Biochemical Oxygen Demand	107	108	67-144	2	9	1,590.	1,530.	4	9
Batch number: 05355105101B	Sample number(s): 4675632-4675633,4675635-4675637								
Nitrite Nitrogen	104		90-110			N.D.	N.D.	116* (1)	20
Batch number: 05356110101A	Sample number(s): 4675632-4675633,4675635-4675637								
Total Phosphorus as PO4 water	107		90-110			N.D.	N.D.	200* (1)	3
Batch number: 05357022101A	Sample number(s): 4675632-4675633,4675635-4675637								
Ammonia Nitrogen						39.3	39.7	1	2
Batch number: 05362108101A	Sample number(s): 4675632-4675633,4675635-4675637								
Kjeldahl Nitrogen	110		90-110			1.5	1.4	7 (1)	7

*- 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.

Lancaster Laboratories

Quality Control Summary

Client Name: Kerr-McGee Corporation Group Number: 971972
Reported: 01/04/06 at 11:21 AM

Sample Matrix Quality Control

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 05362113012A	Sample number(s): 4675632-4675633,4675635-4675637								
Total Organic Carbon	99		67-130			4.5	4.6	3 (1)	4
Batch number: 05364106102A	Sample number(s): 4675632								
Nitrate Nitrogen	101		90-110			N.D.	N.D.	0 (1)	2
Batch number: 05364106102B	Sample number(s): 4675633,4675635-4675637								
Nitrate Nitrogen	88*		90-110			N.D.	N.D.	200* (1)	2
Batch number: 06003155301A	Sample number(s): 4675632-4675633,4675635-4675637								
Chemical Oxygen Demand	89	89	60-129	0	5	30.4	29.6	3 (1)	8

Surrogate Quality Control

Analysis Name: BTEX (8021)
Batch number: 05354A53B

	Trifluorotoluene-P
4675631	107
4675632	111
4675633	113
4675634	114
4675635	106
4675636	110
4675637	110
Blank	108
LCS	99
LCSD	100
MS	97
Limits:	69-129

Analysis Name: PAH's in Water by HPLC
Batch number: 05356WAE026

	Nitrobenzene	Triphenylene
4675632	92	77
4675633	96	79
4675634	92	79
4675635	102	84
4675636	97	79
4675637	100	86
Blank	102	82

*- 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.

Lancaster Laboratories

Quality Control Summary

Client Name: Kerr-McGee Corporation
Group Number: 971972
Reported: 01/04/06 at 11:21 AM

Surrogate Quality Control

LCS	97	78
LCSD	95	81
Limits:	63-154	55-130

*- 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.

Account#07802 Group#971972 Sample#4675631-37

RECEIVED
JAN 09 2006

COC ID: 1

Chain of Custody Record

WESTON SOLUTIONS

Client: Kerr McGee
Site Name: Moss American
W. O.: 02687.007.007.0001
Lab: LANCASTER LABS
TAT: PER QUOTE

Contact Name: Tom Graan
Contact Phone No.: 847-918-4142
Lab Contact: C. SWEIGART
Lab Phone: 717-656-2308 X1527

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	353.2-NO2	353.2-NO3	365.3-OP,405.1-BOD	415.1-TOC	8021B-BTEX	8021B-BTEX	8310-PAHS			
						Filtered									
						0ml-Glass Vi	ml-Glass Vi	000ml-Plastic	ml-Round Am	0ml-Glass Vi	0ml-Glass Vi	mL Amber G			
						Container									
						N/A	H2SO4	N/A	H3PO4	HCl	N/A	N/A			
						Preservative									
	MA3-TB-01-122005-6	G		N	12/20/2005 17:00						2				
	MA3-TG3-2-122005-3	G		N	12/20/2005 12:45	1	1	1	1	3					
	MA3-TG3-3-122005-2	G		N	12/20/2005 12:35	1	1	1	1	3		2			
	MA3-TG3-3-122005-2-DP	G		N	12/20/2005 12:35					3					
	MA3-TG4-2-122005-1	G		N	12/20/2005 10:22	1	1	1	1	3					
	MA3-TG5-1-122005-5	G		N	12/20/2005 16:12	1	1	1	1	3					
	MA3-TG5-2-122005-4	G		N	12/20/2005 16:02	1	1	1	1	3					

Remarks/Comments

Lab Use Only

Temp of Cooler when Received, C: 1 | 2 ✓ | 3 | 4 | 5

COC Tape was present on outer package Y N
COC Tape was unbroken on outer package Y N
COC Tape was present on sample Y N
COC Tape was unbroken on sample Y N

Received in good condition (Y) N
Labels indicate Properly Preserved Y N
Received within Holding Time Y N

Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time
[signature]	12/20/05 1535	FED EX	12/21/05 10:00				
						[signature]	12/21/05 0900

Sampled By: [signature]

Account# 07802 Group# 971972 Sample# 4675631-37

COC ID: 2

Chain of Custody Record

WESTON

Page 1 of 1

Client: Kerr McGee
Site Name: Moss American
W. O.: 02687.007.007.0001
Lab: LANCASTER LABS
TAT: PER QUOTE

Contact Name: Tom Graan
Contact Phone No.: 847-918-4142
Lab Contact: C. SWEIGART
Lab Phone: 717-656-2308 X1527

						350.2-NH3	351.2-TKN,365.1-TP,410.2-COD
					Filtered		
					Container	0ml-Round G	0ml-Round G
					Preservative	H2SO4	H2SO4
Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected		
	MA3-TG3-2-122005-3	G		N	12/20/2005 12:45	1	1
	MA3-TG3-3-122005-2	G		N	12/20/2005 12:35	1	1
	MA3-TG4-2-122005-1	G		N	12/20/2005 10:22	1	1
	MA3-TG6-1-122005-5	G		N	12/20/2005 16:12	1	1
	MA3-TG6-2-122005-4	G		N	12/20/2005 16:02	1	1

Remarks/Comments

Lab Use Only

Temp of Cooler when Received, C

1 ✓	2	3	4	5

COC Tape was present on outer package Y N
COC Tape was unbroken on outer package Y N
COC Tape ws present on sample Y N
COC Tape was unbroken on sample Y N

Received in good condition (Y) N
Labels indicate Properly Preserved Y N
Received within Holding Time Y N

Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time
[signature]	12/20/05 1835					[signature]	12/21/05 @1010

Sampled By [signature]

Account# 07802 Group# 971972 Sample# 4675631-37

Chain of Custody Record

WESTON

COC ID: 3

Page 1 of 1

Client: Kerr McGee
Site Name: Moss American
W. O.: 02687.007.007.0001
Lab: LANCASTER LABS
TAT: PER QUOTE

Contact Name: Tom Green
Contact Phone No.: 847-918-4142
Lab Contact: C. SWEIGART
Lab Phone: 717-656-2308 X1527

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	8310-PAHS
					Filtered	
					Container	mL Amber G
					Preservative	N/A
	MA3-TG3-2-122005-3	G		N	12/20/2005 12:45	2
	MA3-TG3-3-122005-2-DP	G		N	12/20/2005 12:35	2
	MA3-TG4-2-122005-1	G		N	12/20/2005 10:22	2
	MA3-TG6-1-122005-5	G		N	12/20/2005 16:12	2
	MA3-TG6-2-122005-4	G		N	12/20/2005 16:02	2

Remarks/Comments

Lab Use Only

Temp of Cooler when Received, C: 1 | 2 | 3 | 4 ✓ | 5

COC Tape was present on outer package Y N
COC Tape was unbroken on outer package Y N
COC Tape was present on sample Y N
COC Tape was unbroken on sample Y N

Received in good condition (Y) N
Labels indicate Properly Preserved Y N
Received within Holding Time Y N

Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time
[signature]	12/20/05 1843					[signature]	12/21/05 @ 1040

Sampled By: [signature]

Lancaster Laboratories

ANALYTICAL RESULTS

Prepared for:

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

734-367-7900

Prepared by:

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

SAMPLE GROUP

The sample group for this submittal is 972196. Samples arrived at the laboratory on Thursday, December 22, 2005. The PO# for this group is ZAKW1KEOK0A90089.

Client Description	Lancaster Labs Number
MA3-MW28S-122105-9 Groundwater	4676885
MA3-MW9S-122105-11 Groundwater	4676886
MA3-TG1-2-122105-15 Groundwater	4676887
MA3-TG1-3-122105-14 Groundwater	4676888
MA3-TG2-1-122105-6-BKG Groundwater	4676889
MA3-TG2-1-122105-6-MS Groundwater	4676890
MA3-TG2-1-122105-6-MSD Groundwater	4676891
MA3-TG2-2-122105-7 Groundwater	4676892
MA3-TG2-3-122105-8 Groundwater	4676893
MA3-TG5-1-122105-12 Groundwater	4676894
MA3-TG5-2-122105-13 Groundwater	4676895
MA3-TG6-3-122105-10 Groundwater	4676896
Trip_Blank Water	4676897

METHODOLOGY

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

1 COPY TO	Weston Solutions, Inc.	Attn: Tom Graan
1 COPY TO	Tronox LLC	Attn: Roy Widmann
1 COPY TO	Data Package Group	

Lancaster Laboratories

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

Respectfully Submitted,

Elizabeth A. Smith
Senior Specialist

MEMBER ACIL
Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676885

MA3-MW28S-122105-9 Groundwater
122105-4,8 02687.007.007.0001
Moss American
Collected:12/21/2005 11:15

Account Number: 07802

Submitted: 12/22/2005 10:40
Reported: 01/05/2006 at 15:09
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

105-9 SDG#: KMA76-08

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.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.8	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.8	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	1.8	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.56	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.090	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.045	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.045	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.20	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.023	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.045	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.023	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.045	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.090	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.090	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.023	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676885

MA3-MW28S-122105-9 Groundwater
122105-4,8 02687.007.007.0001
Moss American
Collected:12/21/2005 11:15

Account Number: 07802

Submitted: 12/22/2005 10:40
Reported: 01/05/2006 at 15:09
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

105-9 SDG#: KMA76-08

08213	BTEX (8021)	SW-846 8021B	1	12/27/2005 18:03	Martha L Seidel	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/28/2005 19:15	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/27/2005 18:03	Martha L Seidel	1
03337	PAH Water Extraction	SW-846 3510C	1	12/27/2005 08:00	Danette S Cavalier	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676886

MA3-MW9S-122105-11 Groundwater
122105-4,8 02687.007.007.0001
Moss American
Collected:12/21/2005 13:03

Account Number: 07802

Submitted: 12/22/2005 10:40
Reported: 01/05/2006 at 15:09
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

10511 SDG#: KMA76-09

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.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.8	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.8	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	1.8	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.55	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.089	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.044	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.044	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.20	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.022	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.044	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.022	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.044	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.089	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.089	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.022	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676886

MA3-MW9S-122105-11 Groundwater
122105-4,8 02687.007.007.0001
Moss American
Collected:12/21/2005 13:03

Account Number: 07802

Submitted: 12/22/2005 10:40
Reported: 01/05/2006 at 15:09
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

10511 SDG#: KMA76-09

08213	BTEX (8021)	SW-846 8021B	1	12/27/2005 18:35	Martha L Seidel	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/28/2005 19:54	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/27/2005 18:35	Martha L Seidel	1
03337	PAH Water Extraction	SW-846 3510C	1	12/27/2005 08:00	Danette S Cavalier	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676887

MA3-TG1-2-122105-15 Groundwater
122105-4 02687.007.007.0001
Moss American
Collected:12/21/2005 16:40

Account Number: 07802

Submitted: 12/22/2005 10:40
Reported: 01/05/2006 at 15:09
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

10515 SDG#: KMA76-10

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l	1
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	1.3	0.22	mg/l	2
00226	Ortho-Phosphate as P	7723-14-0	0.030	0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	6.3	0.80	mg/l	1
00273	Total Organic Carbon	n.a.	11.2	1.0	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1

State of Wisconsin Lab Certification No. EN 748

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676887

MA3-TG1-2-122105-15 Groundwater
122105-4 02687.007.007.0001
Moss American
Collected:12/21/2005 16:40 Account Number: 07802

Submitted: 12/22/2005 10:40 Kerr-McGee Corporation
Reported: 01/05/2006 at 15:09 PO Box 3048
Discard: 03/07/2006 Livonia MI 48150

10515 SDG#: KMA76-10

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00219	Nitrite Nitrogen	EPA 353.2	1	12/23/2005 09:06	Tonya M Beck	1
00220	Nitrate Nitrogen	EPA 353.2	1	01/05/2006 12:08	Nicole M Kepley	1
00221	Ammonia Nitrogen	EPA 350.2	1	12/29/2005 18:30	Luz M Groff	2
00226	Ortho-Phosphate as P	EPA 365.3	1	12/23/2005 03:00	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	12/22/2005 21:45	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	12/29/2005 14:48	James S Mathiot	1
08213	BTEX (8021)	SW-846 8021B	1	12/27/2005 19:06	Martha L Seidel	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/27/2005 19:06	Martha L Seidel	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676888

MA3-TG1-3-122105-14 Groundwater
122105-4,6 02687.007.007.0001
Moss American
Collected:12/21/2005 16:30

Account Number: 07802

Submitted: 12/22/2005 10:40
Reported: 01/05/2006 at 15:09
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

10514 SDG#: KMA76-11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l	1
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	0.96 J	0.22	mg/l	2
	The reporting limit for ammonia nitrogen was increased due to insufficient sample volume.					
00226	Ortho-Phosphate as P	7723-14-0	0.030	0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	5.3	0.80	mg/l	1
00273	Total Organic Carbon	n.a.	12.0	1.0	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.8	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.8	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	1.8	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.55	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.089	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.044	ug/l	1
00807	Fluoranthene	206-44-0	0.095 J	0.044	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.20	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.022	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.044	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.022	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.044	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.089	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.089	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.022	ug/l	1
	Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.					

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676888

MA3-TG1-3-122105-14 Groundwater
122105-4,6 02687.007.007.0001
Moss American
Collected:12/21/2005 16:30 Account Number: 07802

Submitted: 12/22/2005 10:40 Kerr-McGee Corporation
Reported: 01/05/2006 at 15:09 PO Box 3048
Discard: 03/07/2006 Livonia MI 48150

10514 SDG#: KMA76-11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor

State of Wisconsin Lab Certification No. EN 748

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilut Factor
00219	Nitrite Nitrogen	EPA 353.2	1	12/23/2005 09:07	Tonya M Beck	1
00220	Nitrate Nitrogen	EPA 353.2	1	01/05/2006 12:09	Nicole M Kepley	1
00221	Ammonia Nitrogen	EPA 350.2	1	12/29/2005 18:30	Luz M Groff	2
00226	Ortho-Phosphate as P	EPA 365.3	1	12/23/2005 03:00	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	12/22/2005 21:45	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	12/29/2005 14:56	James S Mathiot	1
08213	BTEX (8021)	SW-846 8021B	1	12/27/2005 19:38	Martha L Seidel	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/28/2005 20:32	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/27/2005 19:38	Martha L Seidel	1
03337	PAH Water Extraction	SW-846 3510C	1	12/27/2005 08:00	Danette S Cavalier	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676888

MA3-TG1-3-122105-14 Groundwater
122105-4,6 02687.007.007.0001
Moss American
Collected:12/21/2005 16:30

Account Number: 07802

Submitted: 12/22/2005 10:40
Reported: 01/05/2006 at 15:09
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

10514 SDG#: KMA76-11

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676889

MA3-TG2-1-122105-6-BKG Groundwater
122105-4,5,7 02687.007.007.0001
Moss American
Collected:12/21/2005 09:10

Account Number: 07802

Submitted: 12/22/2005 10:40
Reported: 01/05/2006 at 15:10
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MA356 SDG#: KMA76-12BKG

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.	0.50	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l	1
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	0.12 J	0.11	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	0.040	0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	2.6	mg/l	1
00273	Total Organic Carbon	n.a.	5.2	1.0	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	N.D.	0.25	mg/l	1
01553	Chemical Oxygen Demand	n.a.	9.7	2.1	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.9	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.9	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	1.9	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.58	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.093	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.047	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.047	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.21	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.023	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.047	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.023	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.047	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.093	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.12	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.093	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.023	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676889

MA3-TG2-1-122105-6-BKG Groundwater
122105-4,5,7 02687.007.007.0001
Moss American
Collected:12/21/2005 09:10

Account Number: 07802

Submitted: 12/22/2005 10:40
Reported: 01/05/2006 at 15:10
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MA356 SDG#: KMA76-12BKG

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	12/29/2005 19:40	Venia B McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	12/23/2005 08:57	Tonya M Beck	1
00220	Nitrate Nitrogen	EPA 353.2	1	01/05/2006 12:10	Nicole M Kepley	1
00221	Ammonia Nitrogen	EPA 350.2	1	12/28/2005 17:30	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	12/23/2005 03:00	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	12/22/2005 21:45	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	12/29/2005 15:04	James S Mathiot	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	12/27/2005 11:19	William L Hamaker Jr	1
01553	Chemical Oxygen Demand	EPA 410.2	1	01/03/2006 07:50	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	12/27/2005 20:10	Martha L Seidel	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676889

MA3-TG2-1-122105-6-BKG Groundwater
122105-4,5,7 02687.007.007.0001
Moss American
Collected:12/21/2005 09:10

Account Number: 07802

Submitted: 12/22/2005 10:40
Reported: 01/05/2006 at 15:10
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MA356 SDG#: KMA76-12BKG

00774	PAH's in Water by HPLC	SW-846 8310	1	12/28/2005 17:20	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/27/2005 20:10	Martha L Seidel	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	12/28/2005 08:45	Choon Y Tian	1
03337	PAH Water Extraction	SW-846 3510C	1	12/27/2005 08:00	Danette S Cavalier	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	12/23/2005 10:20	Nancy J Shoop	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676890

MA3-TG2-1-122105-6-MS Groundwater
122105-4,7 02687.007.007.0001
Moss American
Collected:12/21/2005 09:10

Account Number: 07802

Submitted: 12/22/2005 10:40
Reported: 01/05/2006 at 15:10
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MA356 SDG#: KMA76-12MS

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	20.	0.2	ug/l	1
00777	Toluene	108-88-3	22.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	22.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	65.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	170.	1.9	ug/l	1
00782	Acenaphthylene	208-96-8	170.	1.9	ug/l	1
00783	Acenaphthene	83-32-9	180.	1.9	ug/l	1
00784	Fluorene	86-73-7	18.	0.58	ug/l	1
00785	Phenanthrene	85-01-8	5.5	0.093	ug/l	1
00789	Anthracene	120-12-7	2.7	0.047	ug/l	1
00807	Fluoranthene	206-44-0	2.8	0.047	ug/l	1
00811	Pyrene	129-00-0	18.	0.21	ug/l	1
00812	Benzo(a)anthracene	56-55-3	1.4	0.023	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	1.1	0.047	ug/l	1
00823	Benzo(a)pyrene	50-32-8	1.4	0.023	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	2.9	0.047	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	5.5	0.093	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	11.	0.12	ug/l	1
07409	Chrysene	218-01-9	5.4	0.093	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	1.1	0.023	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676890

MA3-TG2-1-122105-6-MS Groundwater
122105-4,7 02687.007.007.0001
Moss American
Collected:12/21/2005 09:10 Account Number: 07802

Submitted: 12/22/2005 10:40 Kerr-McGee Corporation
Reported: 01/05/2006 at 15:10 PO Box 3048
Discard: 03/07/2006 Livonia MI 48150

MA356 SDG#: KMA76-12MS

08213	BTEX (8021)	SW-846 8021B	1	12/28/2005 04:04	Martha L Seidel	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/28/2005 17:58	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/28/2005 04:04	Martha L Seidel	1
03337	PAH Water Extraction	SW-846 3510C	1	12/27/2005 08:00	Danette S Cavalier	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676891

MA3-TG2-1-122105-6-MSD Groundwater
122105-4,7 02687.007.007.0001
Moss American
Collected:12/21/2005 09:10

Account Number: 07802

Submitted: 12/22/2005 10:40
Reported: 01/05/2006 at 15:10
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MA356 SDG#: KMA76-12MSD

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	20.	0.2	ug/l	1
00777	Toluene	108-88-3	22.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	21.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	62.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	160.	1.9	ug/l	1
00782	Acenaphthylene	208-96-8	170.	1.9	ug/l	1
00783	Acenaphthene	83-32-9	170.	1.9	ug/l	1
00784	Fluorene	86-73-7	18.	0.58	ug/l	1
00785	Phenanthrene	85-01-8	5.4	0.093	ug/l	1
00789	Anthracene	120-12-7	2.7	0.047	ug/l	1
00807	Fluoranthene	206-44-0	2.8	0.047	ug/l	1
00811	Pyrene	129-00-0	18.	0.21	ug/l	1
00812	Benzo(a)anthracene	56-55-3	1.4	0.023	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	1.1	0.047	ug/l	1
00823	Benzo(a)pyrene	50-32-8	1.4	0.023	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	2.9	0.047	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	5.4	0.093	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	11.	0.12	ug/l	1
07409	Chrysene	218-01-9	5.4	0.093	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	1.1	0.023	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676891

MA3-TG2-1-122105-6-MSD Groundwater
122105-4,7 02687.007.007.0001
Moss American
Collected:12/21/2005 09:10

Account Number: 07802

Submitted: 12/22/2005 10:40
Reported: 01/05/2006 at 15:10
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MA356 SDG#: KMA76-12MSD

08213	BTEX (8021)	SW-846 8021B	1	12/28/2005 04:36	Martha L Seidel	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/28/2005 18:37	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/28/2005 04:36	Martha L Seidel	1
03337	PAH Water Extraction	SW-846 3510C	1	12/27/2005 08:00	Danette S Cavalier	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676892

MA3-TG2-2-122105-7 Groundwater
122105-4,,5 02687.007.007.0001
Moss American
Collected:12/21/2005 09:20

Account Number: 07802

Submitted: 12/22/2005 10:40
Reported: 01/05/2006 at 15:10
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MA057 SDG#: KMA76-13

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.	0.50	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l	1
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	0.48 J	0.11	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	0.031	0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	3.9	mg/l	1
00273	Total Organic Carbon	n.a.	3.8	1.0	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	N.D.	0.25	mg/l	1
01553	Chemical Oxygen Demand	n.a.	6.6 J	2.1	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.8	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.8	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	1.8	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.55	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.088	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.044	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.044	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.20	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.022	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.044	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.022	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.044	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.088	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.088	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.022	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676892

MA3-TG2-2-122105-7 Groundwater
122105-4,,5 02687.007.007.0001
Moss American
Collected:12/21/2005 09:20

Account Number: 07802

Submitted: 12/22/2005 10:40
Reported: 01/05/2006 at 15:10
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MA057 SDG#: KMA76-13

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor

State of Wisconsin Lab Certification No. EN 748

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	12/29/2005 19:44	Venia B McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	12/23/2005 08:59	Tonya M Beck	1
00220	Nitrate Nitrogen	EPA 353.2	1	01/05/2006 12:14	Nicole M Kepley	1
00221	Ammonia Nitrogen	EPA 350.2	1	12/28/2005 17:30	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	12/23/2005 03:00	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	12/22/2005 21:45	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	12/29/2005 15:28	James S Mathiot	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	12/27/2005 11:25	William L Hamaker Jr	1
01553	Chemical Oxygen Demand	EPA 410.2	1	01/03/2006 07:50	Susan A Engle	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676892

MA3-TG2-2-122105-7 Groundwater
122105-4,,5 02687.007.007.0001
Moss American
Collected:12/21/2005 09:20 Account Number: 07802

Submitted: 12/22/2005 10:40 Kerr-McGee Corporation
Reported: 01/05/2006 at 15:10 PO Box 3048
Discard: 03/07/2006 Livonia MI 48150

MA057 SDG#: KMA76-13

08213	BTEX (8021)	SW-846 8021B	1	12/27/2005 20:42	Martha L Seidel	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/28/2005 21:11	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/27/2005 20:42	Martha L Seidel	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	12/28/2005 08:45	Choon Y Tian	1
03337	PAH Water Extraction	SW-846 3510C	1	12/27/2005 08:00	Danette S Cavalier	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	12/23/2005 10:20	Nancy J Shoop	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676893

MA3-TG2-3-122105-8 Groundwater
122105-4,7,8 02687.007.007.0001
Moss American
Collected:12/21/2005 11:05

Account Number: 07802

Submitted: 12/22/2005 10:40
Reported: 01/05/2006 at 15:10
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

TG258 SDG#: KMA76-14

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	1.3	0.50	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l	1
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	0.96	0.11	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	0.038	0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	6.0	0.80	mg/l	1
00273	Total Organic Carbon	n.a.	12.0	1.0	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	N.D.	0.25	mg/l	1
01553	Chemical Oxygen Demand	n.a.	30.4	2.1	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.8	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.8	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	1.8	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.56	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.090	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.045	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.045	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.20	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.022	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.045	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.022	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.045	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.090	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.090	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.022	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676893

MA3-TG2-3-122105-8 Groundwater
122105-4,7,8 02687.007.007.0001
Moss American
Collected:12/21/2005 11:05 Account Number: 07802

Submitted: 12/22/2005 10:40 Kerr-McGee Corporation
Reported: 01/05/2006 at 15:10 PO Box 3048
Discard: 03/07/2006 Livonia MI 48150

TG258 SDG#: KMA76-14

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor

State of Wisconsin Lab Certification No. EN 748

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	12/29/2005 19:45	Venia B McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	12/23/2005 09:09	Tonya M Beck	1
00220	Nitrate Nitrogen	EPA 353.2	1	01/05/2006 12:15	Nicole M Kepley	1
00221	Ammonia Nitrogen	EPA 350.2	1	12/28/2005 17:30	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	12/23/2005 03:00	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	12/22/2005 21:45	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	12/29/2005 15:36	James S Mathiot	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	12/27/2005 11:26	William L Hamaker Jr	1
01553	Chemical Oxygen Demand	EPA 410.2	1	01/03/2006 07:50	Susan A Engle	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676893

MA3-TG2-3-122105-8 Groundwater
122105-4,7,8 02687.007.007.0001
Moss American
Collected:12/21/2005 11:05

Account Number: 07802

Submitted: 12/22/2005 10:40
Reported: 01/05/2006 at 15:10
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

TG258 SDG#: KMA76-14

08213	BTEX (8021)	SW-846 8021B	1	12/27/2005 21:13	Martha L Seidel	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/28/2005 21:50	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/27/2005 21:13	Martha L Seidel	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	12/28/2005 08:45	Choon Y Tian	1
03337	PAH Water Extraction	SW-846 3510C	1	12/27/2005 08:00	Danette S Cavalier	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	12/23/2005 10:20	Nancy J Shoop	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676894

MA3-TG5-1-122105-12 Groundwater
122105-4,6 02687.007.007.0001
Moss American
Collected:12/21/2005 14:45

Account Number: 07802

Submitted: 12/22/2005 10:40
Reported: 01/05/2006 at 15:10
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

512MA SDG#: KMA76-15

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.	0.50	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l	1
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	N.D.	0.11	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	0.037	0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	2.9	mg/l	1
00273	Total Organic Carbon	n.a.	6.1	1.0	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	N.D.	0.25	mg/l	1
01553	Chemical Oxygen Demand	n.a.	14.8	2.1	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	2.0	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	2.0	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	2.0	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.61	ug/l	1
)0785	Phenanthrene	85-01-8	N.D.	0.098	ug/l	1
)0789	Anthracene	120-12-7	N.D.	0.049	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.049	ug/l	1
^0811	Pyrene	129-00-0	N.D.	0.22	ug/l	1
0812	Benzo(a)anthracene	56-55-3	N.D.	0.024	ug/l	1
0818	Benzo(b)fluoranthene	205-99-2	N.D.	0.049	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.024	ug/l	1
^)895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.049	ug/l	1
)898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.098	ug/l	1
J907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.12	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.098	ug/l	1
410	Benzo(k)fluoranthene	207-08-9	N.D.	0.024	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676894

MA3-TG5-1-122105-12 Groundwater
122105-4,6 02687.007.007.0001
Moss American
Collected:12/21/2005 14:45

Account Number: 07802

Submitted: 12/22/2005 10:40
Reported: 01/05/2006 at 15:10
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

512MA SDG#: KMA76-15

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor

State of Wisconsin Lab Certification No. EN 748

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	12/29/2005 19:46	Venia B McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	12/23/2005 09:12	Tonya M Beck	1
00220	Nitrate Nitrogen	EPA 353.2	1	01/05/2006 12:17	Nicole M Kepley	1
00221	Ammonia Nitrogen	EPA 350.2	1	12/28/2005 17:30	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	12/23/2005 03:00	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	12/22/2005 21:45	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	12/29/2005 15:44	James S Mathiot	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	12/27/2005 11:27	William L Hamaker Jr	1
01553	Chemical Oxygen Demand	EPA 410.2	1	01/03/2006 07:50	Susan A Engle	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676894

MA3-TG5-1-122105-12 Groundwater
122105-4,6 02687.007.007.0001
Moss American
Collected:12/21/2005 14:45 Account Number: 07802

Submitted: 12/22/2005 10:40
Reported: 01/05/2006 at 15:10
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

512MA SDG#: KMA76-15

08213	BTEX (8021)	SW-846 8021B	1	12/27/2005 21:45	Martha L Seidel	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/28/2005 23:07	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/27/2005 21:45	Martha L Seidel	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	12/28/2005 08:45	Choon Y Tian	1
03337	PAH Water Extraction	SW-846 3510C	1	12/27/2005 08:00	Danette S Cavalier	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	12/23/2005 10:20	Nancy J Shoop	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676895

MA3-TG5-2-122105-13 Groundwater
122105-4,5,6 02687.007.007.0001
Moss American
Collected:12/21/2005 14:55

Account Number: 07802

Submitted: 12/22/2005 10:40
Reported: 01/05/2006 at 15:10
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

513MA SDG#: KMA76-16

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	0.94 J	0.50	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l	1
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	0.51	0.11	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	0.028 J	0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	3.5	mg/l	1
00273	Total Organic Carbon	n.a.	6.9	1.0	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	N.D.	0.25	mg/l	1
01553	Chemical Oxygen Demand	n.a.	19.1	2.1	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.8	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.8	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	1.8	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.55	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.089	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.044	ug/l	1
00807	Fluoranthene	206-44-0	0.047 J	0.044	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.20	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.022	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.044	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.022	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.044	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.089	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.089	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.022	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676895

MA3-TG5-2-122105-13 Groundwater
122105-4,5,6 02687.007.007.0001
Moss American
Collected:12/21/2005 14:55

Account Number: 07802

Submitted: 12/22/2005 10:40
Reported: 01/05/2006 at 15:10
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

513MA SDG#: KMA76-16

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor

State of Wisconsin Lab Certification No. EN 748

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	12/29/2005 19:48	Venia B McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	12/23/2005 09:14	Tonya M Beck	1
00220	Nitrate Nitrogen	EPA 353.2	1	01/05/2006 12:20	Nicole M Kepley	1
00221	Ammonia Nitrogen	EPA 350.2	1	12/28/2005 17:30	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	12/23/2005 03:00	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	12/22/2005 21:45	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	12/30/2005 15:20	Nicole M Kepley	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	12/27/2005 11:29	William L Hamaker Jr	1
01553	Chemical Oxygen Demand	EPA 410.2	1	01/03/2006 07:50	Susan A Engle	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676895

MA3-TG5-2-122105-13 Groundwater
122105-4,5,6 02687.007.007.0001
Moss American
Collected:12/21/2005 14:55

Account Number: 07802

Submitted: 12/22/2005 10:40
Reported: 01/05/2006 at 15:10
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

513MA SDG#: KMA76-16

08213	BTEX (8021)	SW-846 8021B	1	12/27/2005 23:52	Martha L Seidel	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/28/2005 23:45	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/27/2005 23:52	Martha L Seidel	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	12/28/2005 08:45	Choon Y Tian	1
03337	PAH Water Extraction	SW-846 3510C	1	12/27/2005 08:00	Danette S Cavalier	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	12/23/2005 10:20	Nancy J Shoop	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676896

MA3-TG6-3-122105-10 Groundwater
122105-4,8 02687.007.007.0001
Moss American
Collected:12/21/2005 13:00

Account Number: 07802

Submitted: 12/22/2005 10:40
Reported: 01/05/2006 at 15:10
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

10MA3 SDG#: KMA76-17

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	1.2	0.50	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l	1
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	0.73	0.11	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	0.029 J	0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	3.1	mg/l	1
00273	Total Organic Carbon	n.a.	7.9	1.0	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	N.D.	0.25	mg/l	1
01553	Chemical Oxygen Demand	n.a.	20.2	2.1	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.7	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.7	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	1.7	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.54	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.086	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.043	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.043	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.021	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.043	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.021	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.043	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.086	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.086	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.021	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676896

MA3-TG6-3-122105-10 Groundwater
122105-4,8 02687.007.007.0001
Moss American
Collected:12/21/2005 13:00

Account Number: 07802

Submitted: 12/22/2005 10:40
Reported: 01/05/2006 at 15:10
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

10MA3 SDG#: KMA76-17

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor

State of Wisconsin Lab Certification No. EN 748

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	12/29/2005 19:54	Venia B McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	12/23/2005 09:15	Tonya M Beck	1
00220	Nitrate Nitrogen	EPA 353.2	1	01/05/2006 12:22	Nicole M Kepley	1
00221	Ammonia Nitrogen	EPA 350.2	1	12/29/2005 18:30	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	12/23/2005 03:00	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	12/22/2005 21:45	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	12/30/2005 15:28	Nicole M Kepley	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	12/27/2005 11:30	William L Hamaker Jr	1
01553	Chemical Oxygen Demand	EPA 410.2	1	01/03/2006 07:50	Susan A Engle	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676896

MA3-TG6-3-122105-10 Groundwater
122105-4,8 02687.007.007.0001
Moss American
Collected:12/21/2005 13:00

Account Number: 07802

Submitted: 12/22/2005 10:40
Reported: 01/05/2006 at 15:10
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

10MA3 SDG#: KMA76-17

08213	BTEX (8021)	SW-846 8021B	1	12/28/2005 00:23	Martha L Seidel	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/29/2005 00:24	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/28/2005 00:23	Martha L Seidel	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	12/28/2005 08:45	Choon Y Tian	1
03337	PAH Water Extraction	SW-846 3510C	1	12/27/2005 08:00	Danette S Cavalier	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	12/23/2005 10:20	Nancy J Shoop	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4676897

Trip_Blank Water
122105-4 02687.007.007.0001
Moss American
Collected:12/21/2005 17:00

Account Number: 07802

Submitted: 12/22/2005 10:40
Reported: 01/05/2006 at 15:10
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

TBMA3 SDG#: KMA76-18TB*

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.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	12/27/2005 17:31	Martha L Seidel	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/27/2005 17:31	Martha L Seidel	1

Lancaster Laboratories

Quality Control Summary

Client Name: Kerr-McGee Corporation
Reported: 01/05/06 at 03:10 PM

Group Number: 972196

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 05356023501A	Sample number(s): 4676887-4676889,4676892-4676896							
Biochemical Oxygen Demand				109	103	85-115	5	8
Batch number: 05357022601A	Sample number(s): 4676887-4676889,4676892-4676896							
Ortho-Phosphate as P	N.D.	0.010	mg/l	99		95-105		
Batch number: 05357105101A	Sample number(s): 4676887-4676889,4676892-4676895							
Nitrite Nitrogen	N.D.	0.015	mg/l	102		90-110		
Batch number: 05357105101B	Sample number(s): 4676896							
Nitrite Nitrogen	N.D.	0.015	mg/l	102		90-110		
Batch number: 05357110101A	Sample number(s): 4676889,4676892-4676896							
Total Phosphorus as PO4 water	N.D.	0.25	mg/l	98		89-110		
Batch number: 05358WAC026	Sample number(s): 4676885-4676886,4676888-4676896							
Naphthalene	N.D.	1.6	ug/l	70		57-109		
Acenaphthylene	N.D.	1.6	ug/l	73		67-99		
Acenaphthene	N.D.	1.6	ug/l	75		60-116		
Fluorene	N.D.	0.50	ug/l	75		61-116		
Phenanthrene	N.D.	0.080	ug/l	77		67-115		
Anthracene	N.D.	0.040	ug/l	74		68-113		
Fluoranthene	N.D.	0.040	ug/l	79		70-112		
Pyrene	N.D.	0.18	ug/l	77		69-113		
Benzo(a)anthracene	N.D.	0.020	ug/l	82		73-114		
Benzo(b)fluoranthene	N.D.	0.040	ug/l	82		72-113		
Benzo(a)pyrene	N.D.	0.020	ug/l	79		68-112		
Dibenz(a,h)anthracene	N.D.	0.040	ug/l	37		19-129		
Indeno(1,2,3-cd)pyrene	N.D.	0.080	ug/l	69		67-106		
Benzo(g,h,i)perylene	N.D.	0.10	ug/l	30		7-126		
Chrysene	N.D.	0.080	ug/l	78		70-111		
Benzo(k)fluoranthene	N.D.	0.020	ug/l	81		72-119		
Batch number: 05361A53A	Sample number(s): 4676885-4676889,4676892-4676894,4676897							
Benzene	N.D.	0.2	ug/l	89	88	86-119	0	30
Toluene	N.D.	0.2	ug/l	93	92	82-119	1	30
Ethylbenzene	N.D.	0.2	ug/l	92	91	81-119	1	30

*- 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.

Lancaster Laboratories

Quality Control Summary

Client Name: Kerr-McGee Corporation Group Number: 972196
Reported: 01/05/06 at 03:10 PM

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Total Xylenes	N.D.	0.6	ug/l	93	93	82-120	0	30
Batch number: 05361A53B	Sample number(s): 4676890-4676891,4676895-4676896							
Benzene	N.D.	0.2	ug/l	89	88	86-119	0	30
Toluene	N.D.	0.2	ug/l	93	92	82-119	1	30
Ethylbenzene	N.D.	0.2	ug/l	92	91	81-119	1	30
Total Xylenes	N.D.	0.6	ug/l	93	93	82-120	0	30
Batch number: 05362022102A	Sample number(s): 4676889,4676892-4676895							
Ammonia Nitrogen	N.D.	0.11	mg/l	98	97	91-100	1	1
Batch number: 05362108102A	Sample number(s): 4676889,4676892							
Kjeldahl Nitrogen	N.D.	0.50	mg/l	105		90-110		
Batch number: 05362108102B	Sample number(s): 4676893-4676896							
Kjeldahl Nitrogen	N.D.	0.50	mg/l	105		90-110		
Batch number: 05363022101A	Sample number(s): 4676887-4676888,4676896							
Ammonia Nitrogen	N.D.	0.11	mg/l	98	98	91-100	1	1
Batch number: 05363049512A	Sample number(s): 4676887-4676889,4676892-4676895							
Total Organic Carbon	N.D.	1.0	mg/l	88		83-115		
Batch number: 05363049512B	Sample number(s): 4676896							
Total Organic Carbon	N.D.	1.0	mg/l	88		83-115		
Batch number: 06003155301A	Sample number(s): 4676889,4676892-4676896							
Chemical Oxygen Demand				96		87-102		
Batch number: 06005106101A	Sample number(s): 4676887-4676889,4676892-4676896							
Nitrate Nitrogen	N.D.	0.040	mg/l	93		89-110		

Sample Matrix Quality Control

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 05356023501A	Sample number(s): 4676887-4676889,4676892-4676896								
Biochemical Oxygen Demand	98	97	67-144	2	9	267.	256.	4	9
Batch number: 05357022601A	Sample number(s): 4676887-4676889,4676892-4676896								
Ortho-Phosphate as P	94	97	88-113	3	5	0.029 J	0.029 J	0 (1)	8
Batch number: 05357105101A	Sample number(s): 4676887-4676889,4676892-4676895								
Nitrite Nitrogen	102		90-110			N.D.	N.D.	0 (1)	20

*- 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.

Lancaster Laboratories

Quality Control Summary

Client Name: Kerr-McGee Corporation Group Number: 972196
Reported: 01/05/06 at 03:10 PM

Sample Matrix Quality Control

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 05357105101B	Sample number(s): 4676896								
Nitrite Nitrogen	101		90-110			N.D.	N.D.	0 (1)	20
Batch number: 05357110101A	Sample number(s): 4676889,4676892-4676896								
Total Phosphorus as PO4 water	103		90-110			N.D.	N.D.	0 (1)	3
Batch number: 05358WAC026	Sample number(s): 4676885-4676886,4676888-4676896								
Naphthalene	71	69	54-112	4	30				
Acenaphthylene	74	73	63-104	1	30				
Acenaphthene	76	75	59-114	2	30				
Fluorene	77	76	71-99	2	30				
Phenanthrene	79	78	66-115	1	30				
Anthracene	77	77	68-104	1	30				
Fluoranthene	80	79	67-104	1	30				
Pyrene	78	78	66-106	0	30				
Benzo(a)anthracene	82	81	63-111	0	30				
Benzo(b)fluoranthene	82	82	71-106	0	30				
Benzo(a)pyrene	81	81	69-109	0	30				
Dibenz(a,h)anthracene	83	82	35-129	1	30				
Indeno(1,2,3-cd)pyrene	79	77	56-112	2	30				
Benzo(g,h,i)perylene	81	79	35-126	2	30				
Chrysene	78	78	60-107	0	30				
Benzo(k)fluoranthene	82	81	70-109	1	30				
Batch number: 05361A53A	Sample number(s): 4676885-4676889,4676892-4676894,4676897								
Benzene	102	102	78-131	1	30				
Toluene	108	108	78-129	1	30				
Ethylbenzene	108	104	75-133	3	30				
Total Xylenes	109	104	80-134	4	30				
Batch number: 05361A53B	Sample number(s): 4676890-4676891,4676895-4676896								
Benzene	102	102	78-131	1	30				
Toluene	108	108	78-129	1	30				
Ethylbenzene	108	104	75-133	3	30				
Total Xylenes	109	104	80-134	4	30				
Batch number: 05362022102A	Sample number(s): 4676889,4676892-4676895								
Ammonia Nitrogen						5.1	5.0	3*	2
Batch number: 05362108102A	Sample number(s): 4676889,4676892								
Kjeldahl Nitrogen	108		90-110			N.D.	N.D.	61* (1)	7
Batch number: 05362108102B	Sample number(s): 4676893-4676896								
Kjeldahl Nitrogen	123*		90-110			0.94 J	1.1	16* (1)	7
Batch number: 05363022101A	Sample number(s): 4676887-4676888,4676896								

*- 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.

Lancaster Laboratories

Quality Control Summary

Client Name: Kerr-McGee Corporation Group Number: 972196
Reported: 01/05/06 at 03:10 PM

Sample Matrix Quality Control

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Ammonia Nitrogen						17.4	17.4	0	2
Batch number: 05363049512A	Sample number(s): 4676887-4676889,4676892-4676895								
Total Organic Carbon	91		67-130			5.2	4.8	8* (1)	4
Batch number: 05363049512B	Sample number(s): 4676896								
Total Organic Carbon	101		67-130			3.3	3.3	1 (1)	4
Batch number: 06003155301A	Sample number(s): 4676889,4676892-4676896								
Chemical Oxygen Demand	89	89	60-129	0	5	30.4	29.6	3 (1)	8
Batch number: 06005106101A	Sample number(s): 4676887-4676889,4676892-4676896								
Nitrate Nitrogen	112*		90-110			N.D.	N.D.	0 (1)	2

Surrogate Quality Control

Analysis Name: PAH's in Water by HPLC
Batch number: 05358WAC026

	Nitrobenzene	Triphenylene
4676885	97	79
4676886	95	80
4676888	100	85
4676889	99	87
4676890	96	83
4676891	93	82
4676892	97	81
4676893	91	73
4676894	98	79
4676895	96	80
4676896	97	83
Blank	95	80
LCS	97	85
MS	96	83
MSD	93	82
Limits:	63-154	55-130

Analysis Name: BTEX (8021)
Batch number: 05361A53A

	Trifluorotoluene-P
4676885	112
4676886	114

*- 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.

Lancaster Laboratories

Quality Control Summary

Client Name: Kerr-McGee Corporation Group Number: 972196
Reported: 01/05/06 at 03:10 PM

Surrogate Quality Control

4676887	103
4676888	117
4676889	115
4676892	113
4676893	110
4676894	110
4676897	114
Blank	109
LCS	96
LCSD	98
MS	98
MSD	99
Limits:	69-129

Analysis Name: BTEX (8021)
Batch number: 05361A53B
Trifluorotoluene-P

4676890	98
4676891	99
4676895	110
4676896	114
Blank	110
LCS	96
LCSD	98
MS	98
MSD	99
Limits:	69-129

*- 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.

7802-972196 - 467685-97

COC ID: 4

Chain of Custody Record

WESTON SOLUTIONS

Client: Kerr McGee

Site Name: Moss American | Contact Name: Tom Graan

W. O.: 02687.007.007.0001 | Contact Phone No.: 847-918-4142

Lab: LANCASTER LABS | Lab Contact: C. SWEIGART

TAT: PER QUOTE | Lab Phone: 717-656-2308 X1527

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	353.2-NO2	353.2-NO3	365.3-OP,405.1-BOD	415.1-TOC	8021B-BTEX					
						Filtered									
						Container	40ml-Glass Via	40ml-Glass Vi	1000ml-Plastic	40ml-Round Am	40ml-Glass Via					
						Preservative	N/A	H2SO4	N/A	H3PO4	HCl					
	MA3-MW28S-122105-9	G		N	12/21/2005 11:15					3					
	MA3-MW9S-122105-11	G		N	12/21/2005 13:03					3					
	MA3-TG1-2-122105-13	G		N	12/21/2005 16:40	1	1	1	1	3					
	MA3-TG1-3-122105-14	G		N	12/21/2005 16:30	1	1	1	1	3					
	MA3-TG2-1-122105-6	G		N	12/21/2005 09:10	1	1		1						
	MA3-TG2-1-122105-6-MSD	G		Y	12/21/2005 09:10					9					
	MA3-TG2-2-122105-7	G		N	12/21/2005 09:20	1	1		1	3					
	MA3-TG2-3-122105-8	G		N	12/21/2005 11:05	1	1		1	3					
	MA3-TG5-1-122105-12	G		N	12/21/2005 14:45	1	1		1	3					
	MA3-TG5-2-122105-13	G		N	12/21/2005 14:55	1	1		1	3					
	MA3-TG6-3-122105-10	G		N	12/21/2005 13:00	1	1		1	3					
	TRIP BLANKS	G		N	12/21/05 13:00					2					

Remarks/Comments

Lab Use Only

Temp of Cooler when Received, C: 1) 2.0° 2) 1.8° 3) 1.7° 4) 1.5° 5) 1.2°

COC Tape was present on outer package (Y) N

COC Tape was unbroken on outer package (Y) N

COC Tape wa present on sample Y N

COC Tape was unbroken on sample Y N

Received in good condition (Y) N

Labels indicate Properly Preserved Y N

Received within Holding Time Y N

Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time
[illegible]	12/22/05 1040	FED EX					
						Kathy Blakley	12-22-05/1040

Sampled By: [signature]

7802-972196 - 4676885-97

COC ID: 5

Chain of Custody Record

WESTON SOLUTIONS

Client: Kerr McGee
Site Name: Moss American
W. O.: 02687.007.007.0001
Lab: LANCASTER LABS
TAT: PER QUOTE

Contact Name: Tom Graan
Contact Phone No.: 847-918-4142
Lab Contact: C. SWEIGART
Lab Phone: 717-656-2308 X1527

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	350.2-NH3	351.2-TKN,365.1-TP,410.2-COD	365.3-OP,405.1-BOD	8310-PAHS						
						Filtered									
						Container	0ml-Round G	0ml-Round G	000ml-Plasti	0mL Amber G					
						Preservative	H2SO4	H2SO4	N/A	N/A					
	MA3-TG2-1-122105-6	G		N	12/21/2005 09:10	1	1	1							
	MA3-TG2-2-122105-7	G		N	12/21/2005 09:20	1	1	1	2						
	MA3-TG5-2-122105-13	G		N	12/21/2005 14:55	1	1								

Remarks/Comments

Lab Use Only

Temp of Cooler when Received, C: 1 2.0 | 2 .8 | 3 1.7 | 4 1.5 | 5 1.2

COC Tape was present on outer package (Y) N
COC Tape was unbroken on outer package (Y) N
COC Tape ws present on sample Y N
COC Tape was unbroken on sample Y N

Received in good condition (Y) N
Labels indicate Properly Preserved Y N
Received within Holding Time Y N

Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time
[signature]	12/21/05 1855	FED EX					
						Kathy Barkley	12-22-05 1040

Sampled By: [signature]

7802-942196- 4676855-97

COC ID: 6

Chain of Custody Record

WESTON SOLUTIONS

Client: Kerr McGee
Site Name: Moss American
W. O.: 02687.007.007.0001
Lab: LANCASTER LABS
TAT: PER QUOTE

Contact Name: Tom Graan
Contact Phone No.: 847-918-4142
Lab Contact: C. SWEIGART
Lab Phone: 717-656-2308 X1527

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	350.2-NH3	351.2-TKN,365.1-TP,410.2-COD	365.3-OP,405.1-BOD	8310-PAHS						
						Filtered									
						Container	0ml-Round G	0ml-Round G	000ml-Plasti	mL Amber G					
						Preservative	H2SO4	H2SO4	N/A	N/A					
	MA3-TG1-3-122105-14	G		N	12/21/2005 16:30				2						
	MA3-TG5-1-122105-12	G		N	12/21/2005 14:45	1	1	1	2						
	MA3-TG5-2-122105-13	G		N	12/21/2005 14:55			1	2						

Remarks/Comments

Lab Use Only

Temp of Cooler when Received, C: 1 2.0 | 2 .8 | 3 1.7 | 4 1.5 | 5 1.2

COC Tape was present on outer package (Y) N
COC Tape was unbroken on outer package (Y) N
COC Tape ws present on sample Y N
COC Tape was unbroken on sample Y N

Received in good condition (Y) N
Labels indicate Properly Preserved Y N
Received within Holding Time Y N

Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time
[illegible]	12/21/05 1550						
						Kathy Binkley	12-22-05 1040

Sampled By: [signature]

7802-972196-4676885-97

COC ID: 7

Chain of Custody Record

WESTON SOLUTIONS

Client: Kerr McGee
Site Name: Moss American
W. O.: 02687.007.007.0001
Lab: LANCASTER LABS
TAT:

Contact Name: Tom Graan
Contact Phone No.: 847-918-4142
Lab Contact: C. SWEIGART
Lab Phone: 717-656-2308 X1527

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	350.2-NH3	351.2-TP-410.2-COD	TKN,365.1-	8310-PAHS							
Filtered																
Container						500ml-Round G	500ml-Round G		1mL Amber G							
Preservative						H2SO4	H2SO4		N/A							
	MA3-TG2-1-122105-6-MSD	G		Y	12/21/2005 09:10				6							
	MA3-TG2-3-122105-8	G		N	12/21/2005 11:05	1	1		2							

Remarks/Comments

Sampled By

Lab Use Only

Temp of Cooler when Received, C: 1 2.0° 2 .8° 3 1.7° 4 1.5° 5 1.2°

COC Tape was present on outer package: (Y) N
COC Tape was unbroken on outer package: (Y) N
COC Tape was present on sample: Y N
COC Tape was unbroken on sample: Y N

Received in good condition: (Y) N
Labels Indicate Property Preserved: Y N
Received within Holding Time: Y N

Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time
Travis Bond	12/21/05 1800	FED EX					
						Kathy Henkley	12-22-05 1040

7802 - 972196 - 4676885-97

COC ID: 8

Chain of Custody Record

WESTON SOLUTIONS

Client: Kerr McGee
Site Name: Moss American
W. O.: 02687.007.007.0001
Lab: LANCASTER LABS
TAT: PER QUOTE

Contact Name: Tom Graan
Contact Phone No.: 847-918-4142
Lab Contact: C. SWEIGART
Lab Phone: 717-656-2308 X1527

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	350.2-NH3	351.2-TKN,365.1-TP,410.2-COD	365.3-OP,405.1-BOD	8310-PAHS						
Filtered															
Container						0ml-Round G	0ml-Round G	000ml-Plastic	0mL. Amber G						
Preservative						H2SO4	H2SO4	N/A	N/A						
	MA3-MW28S-122105-9	G		N	12/21/2005 11:15				2						
	MA3-MW9S-122105-11	G		N	12/21/2005 13:03				2						
	MA3-TG2-3-122105-8	G		N	12/21/2005 11:05			1							
	MA3-TG6-3-122105-10	G		N	12/21/2005 13:00	1	1	1	2						

Remarks/Comments

Lab Use Only

Temp of Cooler when Received, C

1	2	3	4	5
2°	.8°	1.7°	1.5°	1.2°

COC Tape was present on outer package (Y) N
COC Tape was unbroken on outer package (Y) N
COC Tape was present on sample Y N
COC Tape was unbroken on sample Y N

Received in good condition (Y) N
Labels indicate Properly Preserved Y N
Received within Holding Time Y N

Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time
[illegible]	12/21/05 1900	[illegible]					
						[illegible] 12-22-05	1040

Sampled By: [illegible]

Inter-Office Memorandum

TO: Tom Graan

FROM: Tania Shammo **DATE:** February 2, 2006

SUBJECT: Data Validation: SDG#: KMA77
Moss American Superfund Site

I have reviewed the analytical data for Kerr-McGee Corporation (Moss American Site-Groundwater) water samples collected on 12/20/05 and 12/21/05, which were provided by Lancaster Laboratories. The samples were analyzed for Polynuclear Aromatic Hydrocarbons PAHs, Petroleum analyses (BETX), Kjeldahl Nitrogen, Ammonia Nitrogen, Total Phosphorus and Chemical Oxygen Demand.

Polynuclear Aromatic Hydrocarbons (PAHs by HPLC, U.S. EPA Method 8310)
Moss American Site
SDG # KMA77

1. Samples:

Client Sample Description:	Lab Sample Number	Matrix	Date Collected	Date Extracted	Date Analyzed
MA3-FB-122205-4	4678671	Ground water	12/22/05	12/28/05	12/30/05
MA3-MW29S-122205-19	4678672	Ground water	12/22/05	12/28/05	12/30/05
MA3-MW30S-122205-2	4678673	Ground water	12/22/05	12/28/05	12/30/05
MA3-MW32S-122205-18	4678674	Ground water	12/22/05	12/28/05	12/30/05
MA3-MW32S-122205-18-DP	4678675	Ground water	12/22/05	12/28/05	12/30/05
MA3-MW33S-122205-17	4678676	Ground water	12/22/05	12/28/05	12/30/05
MA3-MW36S-122205-1	4678677	Ground water	12/22/05	12/28/05	12/30/05
MA3-MW37S-122205-20	4678678	Ground water	12/22/05	12/28/05	12/30/05
MA3-TG1-2-122105-15	4678679	Ground water	12/21/05	12/28/05	12/30/05
MA3-TG1-3-122105-14	4678680	Ground water	12/21/05	12/28/05	12/30/05
MA3-MW27S-122705-7	4679501	Ground water	12/27/05	12/29/05	12/30/05
MA3-MW31S-122705-1	4679502	Ground water	12/27/05	12/29/05	12/30/05
MA3-MW34S-122705-5	4679503	Ground water	12/27/05	12/29/05	12/30/05
MA3-MW35S-122705-3	4679504	Ground water	12/27/05	12/29/05	12/30/05
MA3-MW5S-122705-6	4679505	Ground water	12/27/05	12/29/05	12/30/05
MA3-MW6S-122705-2	4679506	Ground water	12/27/05	12/29/05	12/30/05
MA3-MW7S-122705-4	4679507	Ground water	12/27/05	12/29/05	12/30/05
MA3-MW7S-122705-4-DP	4679508	Ground water	12/27/05	12/29/05	12/30, 31

2. Holding Times:

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

3. Method Blank:
The method blank SBLKWF3612 was analyzed on 12/29/05 with samples 4678671 thru 4678679 and the results were free of contamination.

The method blank SBLKWB3632 was analyzed on 12/30/05 with samples 4679501 thru 4679508, 4679503DL, 4679507DL, 4679508DL and the results were free of contamination.

4. Surrogate:
The method blanks and the investigated samples had surrogate recoveries within the required quality control limit, except triphenylene for samples 4679503 and 4679503DL was outside the upper control limits. Therefore, qualify the detected results as estimated (J) for samples 4679503 and 4679503DL.

5. Matrix Spike/Matrix Spike Duplicate Recovery:
Sufficient sample volume was not available to perform a MS/MSD for the analysis; therefore, LCS/LCSD was performed to demonstrate precision and accuracy at a batch level and was associated with samples 4678671 thru 4678679, 4679501 thru 4679508, 4679503DL, 4679507DL and 4679508DL.

6. Laboratory Control Sample:
The laboratories control sample/laboratories control sample duplicate associated with samples 4678671 thru 4678679 recoveries were within the quality control limits. Also, the RPD values were acceptable.

The laboratories control sample associated with samples 4679501 thru 4679508, 4679503DL, 4679507DL and 4679508DL recoveries were within the quality control limits. Also, the RPD values were acceptable.

7. Retention Time:
All the retention time results were acceptable.

8. Initial and Continuing Calibration:
The associated initial calibration results showed that the percent relative standard deviations (%RSD) were less or equal to (+/-30.0%) criteria and the standard relative response factor (RRFs) were equal or greater than 0.05 for the requested compounds.

All associated continuing calibrations showed the percent relative standard deviations (%RSD) less or equal to (+/-25.0%) criteria for the requested compounds.

However, the retention time, initial and continuing calibration results were used in the calculation from two detectors: nitrobenzene (surrogate), naphthalene, acenaphthylene, 1-methylnaphthalene, 2-methylnaphthalene, fluorene, phenanthrene, and anthracene were taken from ultraviolet detector. Acenaphthene, fluoranthene, pyrene, benzo (a) anthracene, chrysene, benzo (b) fluoranthene, benzo (k) fluoranthene, benzo (a) pyrene, dibenzo (a, h) anthracene, benzo (g, h, i) perylene, indeno (1, 2, 3-cd) pyrene and triphenylene (surrogate) were taken from fluorescence detector.

BETX (U.S. EPA Method 8021B)
SDG # MMA77

1.Samples:

Client Sample Description:	Lab Sample Number	Matrix	Date Collected	Date Prepared	Date Analyzed
MA3-FB-122205-4	4678671	Ground water	12/22/05	12/30/05	12/30/05
MA3-MW29S-122205-19	4678672	Ground water	12/22/05	12/30/05	12/30/05
MA3-MW30S-122205-2	4678673	Ground water	12/22/05	12/30/05	12/30/05
MA3-MW32S-122205-18	4678674	Ground water	12/22/05	12/31/05	12/31/05
MA3-MW32S-122205-18-DP	4678675	Ground water	12/22/05	12/31/05	12/31/05
MA3-MW33S-122205-17	4678676	Ground water	12/22/05	12/31/05	12/31/05
MA3-MW36S-122205-1	4678677	Ground water	12/22/05	12/31/05	12/31/05
MA3-MW37S-122205-20	4678678	Ground water	12/22/05	12/31/05	12/31/05
MA3-TB-3-122205-3	4678681	Ground water	12/22/05	12/30/05	12/30/05
MA3-MW27S-122705-7	4679501	Ground water	12/27/05	12/31/05	12/31/05
MA3-MW31S-122705-1	4679502	Ground water	12/27/05	12/31/05	12/31/05
MA3-MW34S-122705-5	4679503	Ground water	12/27/05	12/31/05	12/31/05
MA3-MW35S-122705-3	4679504	Ground water	12/27/05	12/31/05	12/31/05
MA3-MW5S-122705-6	4679505	Ground water	12/27/05	12/31/05	12/31/05
MA3-MW6S-122705-2	4679506	Ground water	12/27/05	12/31/05	12/31/05
MA3-MW7S-122705-4	4679507	Ground water	12/27/05	12/31/05	12/31/05
MA3-MW7S-122705-4-DP	4679508	Ground water	12/27/05	12/31/05	12/31/05
MA3-TB-4-122705-8	4679509	Ground water	12/27/05	12/30/05	12/30/05

2. Holding Times:
The samples were prepared and analyzed within the required holding time.

3. Method Blank:
Two methods blanks were associated with this SDG. The method blank **BLK5177** was analyzed on 12/30/05 with samples 4678671 thru 4678678, 4678681 and 4679501 thru 4679509. The method blank results were free of contamination.

The method blank **BLK5178** was analyzed on 12/31/05 with samples 4678672MS. The method blank results were free of contamination.

4. Matrix Spike/Matrix Spike Duplicate :
Sufficient sample volume was not available to perform a MS/MSD for the analysis; therefore, the laboratory performed only MS to demonstrate precision and accuracy at a batch level. The 4678672MS recoveries were within the quality control limits.

5. Laboratory control Sample:
The associated laboratories control samples/laboratories control samples duplicates associated with samples 4678671 thru 4678678, 4678681 and 4679501 thru 4679509 recoveries were within the control limits. Also, the RPD% values were acceptable.

6. Surrogate:
The method blanks and the investigated samples had surrogate recoveries within the required quality control limits.

7. Initial and Continuing Calibration:
All the initial calibration and continuing calibration results were within the quality control limit.

WET CHEMISTRY ANALYSIS
SDG # KMA77

Kjeldahl Nitrogen Analysis (TKN) EPA 351.2:
1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Digested	Date Analyzed
MA3-TG1-2-122205-15	4678679	Ground water	12/22/05	01/06/06	01/10/06
MA3-TG1-3-122205-14	4678680	Ground water	12/22/05	01/06/06	01/10/06

2. Holding Times:
Samples were digested and analyzed within the required holding times.

3. Method Blank:
The method blank result was free of contamination.

4. Matrix Spike Recovery:
A matrix spike was performed on P679842 from different SDG. The MS was (88%) outside the lower control limits (90-110%). Therefore, qualify the TKN results for samples 4678679 and 4678680 as (UJ).

5. Duplicate Recovery:
The duplicate sample P679842 result was acceptable.

6. Laboratory Control Sample Recovery:
The laboratory control sample recovery was within the quality control limits.

7. Initial and Continuing Verification Calibration:
The initial and continuing calibration results were all within the quality control limits.

8. Initial and Continuing Calibration Blank:
The initial and continuing calibration blanks results were free of contamination.

Total Phosphorus as (PO4) EPA 365.1:

1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Extracted	Date Analyzed
MA3-TG1-2-122205-15	4678679	Ground water	12/22/05	01/03/06	01/04/06
MA3-TG1-3-122205-14	4678680	Ground water	12/22/05	01/03/06	01/04/06

2. Holding Times:

Samples were prepared and analyzed within the required holding time.

3. Method Blank:

The method blank result was free of contamination.

4. Matrix Spike Recovery:

The matrix spike was performed on 4678679. The MS recovery was outside the upper control limits (90-110%). Therefore, qualify the total phosphorus result for samples 4678679 and 4678680 as estimated (J).

5. Duplicate Recovery:

The duplicate sample 4678679 result was acceptable.

6. Laboratory Control Sample Recovery:

The laboratory control sample recovery was within the quality control limits.

7. Initial and Continuing Verification Calibration:

The initial and continuing calibration results were all within the quality control limits.

8. Initial and Continuing Calibration Blank:

The initial and continuing calibration blanks results were free of contamination.

Ammonia Nitrogen Analysis EPA 350.2:

1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Analyzed
MA3-TG1-2-122205-15	4678679	Ground water	12/22/05	12/29/05
MA3-TG1-3-122205-14	4678680	Ground water	12/22/05	12/29/05

2. Holding Times:

Samples were analyzed within the required holding time.

3. Method Blank:

The method blank result was free of contamination.

4. Duplicate Recovery:
The duplicate sample P676908 result was acceptable.

5. Laboratory Control Sample Recovery:
The laboratory control sample/ laboratory control sample duplicate recovery was within the quality control limits. Also, the RPD values were acceptable.

6. Matrix Spike Recovery:
Sufficient sample volume was not available to perform a MS/MSD for the analysis; therefore, LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

Chemical Oxygen Demand Analysis (COD) EPA 410.2:

1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Analyzed
MA3-TG1-2-122205-15	4678679	Ground water	12/22/05	01/05/06
MA3-TG1-3-122205-14	4678680	Ground water	12/22/05	01/05/06

2. Holding Times:
Samples were analyzed within the required holding time.

3. Matrix Spike Recovery:
A matrix spike was performed on P676348. The matrix spike/matrix spike duplicate recoveries were within the quality control limits (60-129%). Also, the RPD value was acceptable.

4. Duplicate Recovery:
The duplicate sample P676348 recovery was acceptable.

5. Laboratory Control Sample Recovery:
The laboratory control sample recovery was within the quality control limits.

Summary
Results of this review:

1. All sample results in this sample group are considered usable.
2. The detected results for samples 4679503 and 4679503DL had unacceptable surrogate; therefore, were qualified as (UJ).
3. The undetected TKN results for samples 4678679 and 4678680 had unacceptable MS recovery; therefore, were qualified as (UJ).
4. The detected total phosphorus results for samples 4678679 and 4678680 had unacceptable MS recovery; therefore, were qualified as estimated (J).

Data Reviewed by: Tania Shammo Date: 02/01/06

Analysis Report

Lancaster Laboratories

GROUP REPRINT:

972455

RECEIVED
JAN 23 2006

* Reason for Reprint:
Correction to SDG# on
LLI # 4678681 (TB).

No change in data.

JAB#417 1/17/06

MEMBER ACIL
Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425

Lancaster Laboratories

REVISED

ANALYTICAL RESULTS

Prepared for:

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

734-367-7900

Prepared by:

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

SAMPLE GROUP

The sample group for this submittal is 972455. Samples arrived at the laboratory on Friday, December 23, 2005. The PO# for this group is ZAKW1KEOK0A90089.

Client Description	Lancaster Labs Number
MA3-FB-122205-4 Water Sample	4678671
MA3-MW29S-122205-19 Groundwater Sample	4678672
MA3-MW30S-122205-2 Groundwater Sample	4678673
MA3-MW32S-122205-18 Groundwater Sample	4678674
MA3-MW32S-122205-18-DP Groundwater Sample	4678675
MA3-MW33S-122205-17 Groundwater Sample	4678676
MA3-MW36S-122205-1 Groundwater Sample	4678677
MA3-MW37S-122205-20 Groundwater Sample	4678678
MA3-TG1-2-122105-15 Groundwater	4678679
MA3-TG1-3-122105-14 Groundwater	4678680
MA3-TB-3-1222205-3 Water Sample	4678681

METHODOLOGY

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

1 COPY TO	Weston Solutions, Inc.	Attn: Tom Graan
1 COPY TO	Tronox LLC	Attn: Roy Widmann
1 COPY TO	Data Package Group	

Lancaster Laboratories

REVISED

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

Respectfully Submitted,

Jenifer E. Hess
Manager

MEMBER ACIL
Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425

Analysis Report

Lancaster Laboratories

REVISED

Lancaster Laboratories Sample No. WW 4678671

MA3-FB-122205-4 Water Sample
122205-12 02687.007.007.0001
Moss American
Collected:12/22/2005 14:50

Account Number: 07802

Submitted: 12/23/2005 10:15
Reported: 01/17/2006 at 12:10
Discard: 03/19/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

29S19 SDG#: KMA77-01

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.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.8	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.8	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	1.8	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.56	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.090	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.045	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.045	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.20	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.023	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.045	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.023	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.045	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.090	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.090	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.023	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

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

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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4678671

MA3-FB-122205-4 Water Sample
122205-12 02687.007.007.0001
Moss American
Collected:12/22/2005 14:50

Account Number: 07802

Submitted: 12/23/2005 10:15
Reported: 01/17/2006 at 12:10
Discard: 03/19/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

29S19 SDG#: KMA77-01

08213	BTEX (8021)	SW-846 8021B	1	12/30/2005 22:09	Robin S Cheal	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/30/2005 01:10	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/30/2005 22:09	Robin S Cheal	1
03337	PAH Water Extraction	SW-846 3510C	1	12/28/2005 07:00	Zachary S Dennis	1

Analysis Report

Lancaster Laboratories

REVISED

Lancaster Laboratories Sample No. WW 4678672

MA3-MW29S-122205-19 Groundwater Sample
122205-10,12 02687.007.007.0001
Moss American
Collected:12/22/2005 11:15

Account Number: 07802

Submitted: 12/23/2005 10:15
Reported: 01/17/2006 at 12:11
Discard: 03/19/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MA319 SDG#: KMA77-02

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.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.8	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.8	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	1.8	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.55	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.089	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.044	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.044	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.20	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.022	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.044	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.022	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.044	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.089	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.089	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.022	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

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

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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4678672

MA3-MW29S-122205-19 Groundwater Sample
122205-10,12 02687.007.007.0001
Moss American
Collected:12/22/2005 11:15

Account Number: 07802

Submitted: 12/23/2005 10:15
Reported: 01/17/2006 at 12:11
Discard: 03/19/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MA319 SDG#: KMA77-02

08213	BTEX (8021)	SW-846 8021B	1	12/30/2005 23:15	Robin S Cheal	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/30/2005 01:48	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/30/2005 23:15	Robin S Cheal	1
03337	PAH Water Extraction	SW-846 3510C	1	12/28/2005 07:00	Zachary S Dennis	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4678673

MA3-MW30S-122205-2 Groundwater Sample
122205-11,12 02687.007.007.0001
Moss American
Collected:12/22/2005 13:20

Account Number: 07802

Submitted: 12/23/2005 10:15
Reported: 01/17/2006 at 12:11
Discard: 03/19/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

30SA3 SDG#: KMA77-03

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.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.8	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.8	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	1.8	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.56	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.089	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.045	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.045	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.20	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.022	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.045	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.022	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.045	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.089	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.089	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.022	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

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

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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4678673

MA3-MW30S-122205-2 Groundwater Sample
122205-11,12 02687.007.007.0001
Moss American
Collected:12/22/2005 13:20

Account Number: 07802

Submitted: 12/23/2005 10:15
Reported: 01/17/2006 at 12:11
Discard: 03/19/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

30SA3 SDG#: KMA77-03

08213	BTEX (8021)	SW-846 8021B	1	12/30/2005 23:47	Robin S Cheal	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/30/2005 02:30	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/30/2005 23:47	Robin S Cheal	1
03337	PAH Water Extraction	SW-846 3510C	1	12/28/2005 07:00	Zachary S Dennis	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4678674

MA3-MW32S-122205-18 Groundwater Sample
122205-10,12 02687.007.007.0001
Moss American
Collected:12/22/2005 10:08

Account Number: 07802

Submitted: 12/23/2005 10:15
Reported: 01/17/2006 at 12:11
Discard: 03/19/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

32S18 SDG#: KMA77-04

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.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.8	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.8	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	1.8	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.56	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.089	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.045	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.045	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.20	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.022	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.045	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.022	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.045	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.089	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.089	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.022	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

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

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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4678674

MA3-MW32S-122205-18 Groundwater Sample
122205-10,12 02687.007.007.0001
Moss American
Collected:12/22/2005 10:08

Account Number: 07802

Submitted: 12/23/2005 10:15
Reported: 01/17/2006 at 12:11
Discard: 03/19/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

32S18 SDG#: KMA77-04

08213	BTEX (8021)	SW-846 8021B	1	12/31/2005 00:20	Robin S Cheal	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/30/2005 06:25	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/31/2005 00:20	Robin S Cheal	1
03337	PAH Water Extraction	SW-846 3510C	1	12/28/2005 07:00	Zachary S Dennis	1

Analysis Report

Lancaster Laboratories

REVISED

Lancaster Laboratories Sample No. WW 4678675

MA3-MW32S-122205-18-DP Groundwater Sample
122205-10,12 02687.007.007.0001
Moss American
Collected:12/22/2005 10:08

Account Number: 07802

Submitted: 12/23/2005 10:15
Reported: 01/17/2006 at 12:11
Discard: 03/19/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

18DPD SDG#: KMA77-05FD

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.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.8	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.8	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	1.8	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.56	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.090	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.045	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.045	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.20	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.022	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.045	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.022	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.045	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.090	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.090	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.022	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

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

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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4678675

MA3-MW32S-122205-18-DP Groundwater Sample
122205-10,12 02687.007.007.0001
Moss American
Collected:12/22/2005 10:08

Account Number: 07802

Submitted: 12/23/2005 10:15
Reported: 01/17/2006 at 12:11
Discard: 03/19/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

18DPD SDG#: KMA77-05FD

08213	BTEX (8021)	SW-846 8021B	1	12/31/2005 00:53	Robin S Cheal	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/30/2005 07:04	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/31/2005 00:53	Robin S Cheal	1
03337	PAH Water Extraction	SW-846 3510C	1	12/28/2005 07:00	Zachary S Dennis	1

Analysis Report

Lancaster Laboratories

REVISED

Lancaster Laboratories Sample No. WW 4678676

MA3-MW33S-122205-17 Groundwater Sample
122205-10,12 02687.007.007.0001
Moss American
Collected:12/22/2005 10:05

Account Number: 07802

Submitted: 12/23/2005 10:15
Reported: 01/17/2006 at 12:11
Discard: 03/19/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

20517 SDG#: KMA77-06

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.		0.2	ug/l	1
00777	Toluene	108-88-3	N.D.		0.2	ug/l	1
00778	Ethylbenzene	100-41-4	0.5	J	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.		0.6	ug/l	1
00774	PAH's in Water by HPLC						
00775	Naphthalene	91-20-3	27.		1.9	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.		1.9	ug/l	1
00783	Acenaphthene	83-32-9	10.	J	1.9	ug/l	1
00784	Fluorene	86-73-7	3.0		0.59	ug/l	1
00785	Phenanthrene	85-01-8	0.37	J	0.094	ug/l	1
00789	Anthracene	120-12-7	N.D.		0.047	ug/l	1
00807	Fluoranthene	206-44-0	N.D.		0.047	ug/l	1
00811	Pyrene	129-00-0	N.D.		0.21	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.		0.024	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.		0.047	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.		0.024	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.		0.047	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.094	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.		0.12	ug/l	1
07409	Chrysene	218-01-9	N.D.		0.094	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.		0.024	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

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

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

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4678676

MA3-MW33S-122205-17 Groundwater Sample
122205-10,12 02687.007.007.0001
Moss American
Collected:12/22/2005 10:05

Account Number: 07802

Submitted: 12/23/2005 10:15
Reported: 01/17/2006 at 12:11
Discard: 03/19/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

20517 SDG#: KMA77-06

08213	BTEX (8021)	SW-846 8021B	1	12/31/2005 01:26	Robin S Cheal	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/30/2005 07:42	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/31/2005 01:26	Robin S Cheal	1
03337	PAH Water Extraction	SW-846 3510C	1	12/28/2005 07:00	Zachary S Dennis	1

Analysis Report

Lancaster Laboratories

REVISED

Lancaster Laboratories Sample No. WW 4678677

MA3-MW36S-122205-1 Groundwater Sample
122205-10,12 02687.007.007.0001
Moss American
Collected:12/22/2005 11:40

Account Number: 07802

Submitted: 12/23/2005 10:15
Reported: 01/17/2006 at 12:11
Discard: 03/19/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

36S51 SDG#: KMA77-07

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.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.7	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.7	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	1.7	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.53	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.085	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.043	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.043	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.021	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.043	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.021	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.043	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.085	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.085	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.021	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

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

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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4678677

MA3-MW36S-122205-1 Groundwater Sample
122205-10,12 02687.007.007.0001
Moss American
Collected:12/22/2005 11:40

Account Number: 07802

Submitted: 12/23/2005 10:15
Reported: 01/17/2006 at 12:11
Discard: 03/19/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

36S51 SDG#: KMA77-07

08213	BTEX (8021)	SW-846 8021B	1	12/31/2005 01:59	Robin S Cheal	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/30/2005 08:21	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/31/2005 01:59	Robin S Cheal	1
03337	PAH Water Extraction	SW-846 3510C	1	12/28/2005 07:00	Zachary S Dennis	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4678678

MA3-MW37S-122205-20 Groundwater Sample
122205-11,12 02687.007.007.0001
Moss American
Collected:12/22/2005 11:36

Account Number: 07802

Submitted: 12/23/2005 10:15
Reported: 01/17/2006 at 12:11
Discard: 03/19/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

37S20 SDG#: KMA77-08

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.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.7	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.7	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	1.7	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.55	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.087	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.044	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.044	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.20	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.022	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.044	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.022	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.044	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.087	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.087	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.022	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4678678

MA3-MW37S-122205-20 Groundwater Sample
122205-11,12 02687.007.007.0001
Moss American
Collected:12/22/2005 11:36

Account Number: 07802

Submitted: 12/23/2005 10:15
Reported: 01/17/2006 at 12:11
Discard: 03/19/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

37S20 SDG#: KMA77-08

08213	BTEX (8021)	SW-846 8021B	1	12/31/2005 02:32	Robin S Cheal	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/30/2005 08:59	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/31/2005 02:32	Robin S Cheal	1
03337	PAH Water Extraction	SW-846 3510C	1	12/28/2005 07:00	Zachary S Dennis	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4678679

MA3-TG1-2-122105-15 Groundwater
122205-11 02687.007.007.0001
Moss American
Collected:12/21/2005 16:40 Account Number: 07802

Submitted: 12/23/2005 10:15 Kerr-McGee Corporation
Reported: 01/17/2006 at 12:11 PO Box 3048
Discard: 03/19/2006 Livonia MI 48150

TG125 SDG#: KMA77-09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	1.5	0.50	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	1.0	0.11	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	N.D.	0.25	mg/l	1
	Matrix QC was performed on this sample for the TP as PO4 analysis. Please see the attached QC Summary report for the parameter showing a matrix bias.					
01553	Chemical Oxygen Demand	n.a.	29.8	2.1	mg/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	34.	1.8	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.8	ug/l	1
00783	Acenaphthene	83-32-9	28.	1.8	ug/l	1
00784	Fluorene	86-73-7	13.	0.57	ug/l	1
00785	Phenanthrene	85-01-8	6.6	0.091	ug/l	1
00789	Anthracene	120-12-7	1.0	0.045	ug/l	1
00807	Fluoranthene	206-44-0	1.5	0.045	ug/l	1
00811	Pyrene	129-00-0	1.0	0.20	ug/l	1
00812	Benzo(a)anthracene	56-55-3	0.042 J	0.023	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.045	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.023	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.045	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.091	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.091	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.023	ug/l	1
	Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.					

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4678679

MA3-TG1-2-122105-15 Groundwater
122205-11 02687.007.007.0001
Moss American
Collected:12/21/2005 16:40

Account Number: 07802

Submitted: 12/23/2005 10:15
Reported: 01/17/2006 at 12:11
Discard: 03/19/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

TG125 SDG#: KMA77-09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	01/10/2006 18:29	Venia B McFadden	1
00221	Ammonia Nitrogen	EPA 350.2	1	12/29/2005 18:30	Luz M Groff	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	01/04/2006 10:55	Nicole M Kepley	1
01553	Chemical Oxygen Demand	EPA 410.2	1	01/05/2006 07:45	Susan A Engle	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/30/2005 09:38	Mark A Clark	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	2	01/06/2006 14:30	Nancy J Shoop	1
03337	PAH Water Extraction	SW-846 3510C	1	12/28/2005 07:00	Zachary S Dennis	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	01/03/2006 14:05	Nancy J Shoop	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4678680

MA3-TG1-3-122105-14 Groundwater
122205-11 02687.007.007.0001
Moss American
Collected:12/21/2005 16:30

Account Number: 07802

Submitted: 12/23/2005 10:15
Reported: 01/17/2006 at 12:11
Discard: 03/19/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

TG122 SDG#: KMA77-10

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	1.1	0.50	mg/l	1
	The result obtained for Total Kjeldahl Nitrogen is less than the result obtained for Ammonia-N. The results for both analyses are within the acceptable criteria for duplicate analysis.					
00221	Ammonia Nitrogen	7664-41-7	1.2	0.11	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	N.D.	0.25	mg/l	1
01553	Chemical Oxygen Demand	n.a.	27.1	2.1	mg/l	1

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	01/10/2006 18:31	Venia B McFadden	1

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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4678680

MA3-TG1-3-122105-14 Groundwater
122205-11 02687.007.007.0001
Moss American
Collected:12/21/2005 16:30

Account Number: 07802

Submitted: 12/23/2005 10:15
Reported: 01/17/2006 at 12:11
Discard: 03/19/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

TG122 SDG#: KMA77-10

00221	Ammonia Nitrogen	EPA 350.2	1	12/29/2005 18:30	Luz M Groff	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	01/04/2006 11:01	Nicole M Kepley	1
01553	Chemical Oxygen Demand	EPA 410.2	1	01/05/2006 07:45	Susan A Engle	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	2	01/06/2006 14:30	Nancy J Shoop	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	01/03/2006 14:05	Nancy J Shoop	1

Lancaster Laboratories

REVISED

Lancaster Laboratories Sample No. WW 4678681

MA3-TB-3-1222205-3 Water Sample
122205-12 02687.007.007.0001
Moss American
Collected:12/22/2005 14:26

Account Number: 07802

Submitted: 12/23/2005 10:15
Reported: 01/17/2006 at 12:11
Discard: 03/19/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MA3T3 SDG#: KMA77-11TB

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.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	12/30/2005 21:36	Robin S Cheal	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/30/2005 21:36	Robin S Cheal	1

Lancaster Laboratories

Quality Control Summary

Client Name: Kerr-McGee Corporation
Reported: 01/17/06 at 12:11 PM

Group Number: 972455

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 05361WAF026	Sample number(s): 4678671-4678679							
Naphthalene	N.D.	1.6	ug/l	71	71	57-109	1	30
Acenaphthylene	N.D.	1.6	ug/l	72	73	67-99	1	30
Acenaphthene	N.D.	1.6	ug/l	75	77	60-116	2	30
Fluorene	N.D.	0.50	ug/l	75	76	61-116	2	30
Phenanthrene	N.D.	0.080	ug/l	77	79	67-115	2	30
Anthracene	N.D.	0.040	ug/l	75	77	68-113	2	30
Fluoranthene	N.D.	0.040	ug/l	78	80	70-112	3	30
Pyrene	N.D.	0.18	ug/l	77	79	69-113	2	30
Benzo(a)anthracene	N.D.	0.020	ug/l	80	83	73-114	4	30
Benzo(b)fluoranthene	N.D.	0.040	ug/l	80	84	72-113	4	30
Benzo(a)pyrene	N.D.	0.020	ug/l	80	83	68-112	4	30
Dibenz(a,h)anthracene	N.D.	0.040	ug/l	65	73	19-129	12	30
Indeno(1,2,3-cd)pyrene	N.D.	0.080	ug/l	72	74	67-106	4	30
Benzo(g,h,i)perylene	N.D.	0.10	ug/l	46	60	7-126	26	30
Chrysene	N.D.	0.080	ug/l	76	79	70-111	4	30
Benzo(k)fluoranthene	N.D.	0.020	ug/l	80	83	72-119	3	30
Batch number: 05363022101A	Sample number(s): 4678679-4678680							
Ammonia Nitrogen	N.D.	0.11	mg/l	98	98	91-100	1	1
Batch number: 05364A51A	Sample number(s): 4678671-4678678,4678681							
Benzene	N.D.	0.2	ug/l	98	99	86-119	1	30
Toluene	N.D.	0.2	ug/l	98	99	82-119	1	30
Ethylbenzene	N.D.	0.2	ug/l	98	98	81-119	0	30
Total Xylenes	N.D.	0.6	ug/l	99	98	82-120	0	30
Batch number: 06003110101A	Sample number(s): 4678679-4678680							
Total Phosphorus as PO4 water	N.D.	0.25	mg/l	101		89-110		
Batch number: 06005155301A	Sample number(s): 4678679-4678680							
Chemical Oxygen Demand				97		87-102		
Batch number: 06006108101A	Sample number(s): 4678679-4678680							
Kjeldahl Nitrogen	N.D.	0.50	mg/l	97		90-110		

*- 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.

Lancaster Laboratories

Quality Control Summary

Client Name: Kerr-McGee Corporation Group Number: 972455
Reported: 01/17/06 at 12:11 PM

Sample Matrix Quality Control

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 05363022101A	Sample number(s): 4678679-4678680								
Ammonia Nitrogen						17.4	17.4	0	2
Batch number: 05364A51A	Sample number(s): 4678671-4678678,4678681								
Benzene	100		78-131						
Toluene	105		78-129						
Ethylbenzene	108		75-133						
Total Xylenes	108		80-134						
Batch number: 06003110101A	Sample number(s): 4678679-4678680								
Total Phosphorus as PO4 water	113*		90-110			N.D.	N.D.	9* (1)	3
Batch number: 06005155301A	Sample number(s): 4678679-4678680								
Chemical Oxygen Demand	108	102	60-129	5	5	2.7 J	5.1 J	60* (1)	8
Batch number: 06006108101A	Sample number(s): 4678679-4678680								
Kjeldahl Nitrogen	88*		90-110			1.4	1.5	4 (1)	7

Surrogate Quality Control

Analysis Name: PAH's in Water by HPLC
Batch number: 05361WAF026

	Nitrobenzene	Triphenylene
4678671	86	72
4678672	107	84
4678673	105	82
4678674	107	83
4678675	101	83
4678676	107	85
4678677	103	83
4678678	108	81
4678679	106	91
Blank	104	80
LCS	102	82
LCSD	107	84
Limits:	63-154	55-130

Analysis Name: BTEX (8021)
Batch number: 05364A51A

	Trifluorotoluene-P

*- 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.

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

Lancaster Laboratories

Quality Control Summary

Client Name: Kerr-McGee Corporation Group Number: 972455
Reported: 01/17/06 at 12:11 PM

Surrogate Quality Control

4678671	94
4678672	95
4678673	90
4678674	95
4678675	90
4678676	95
4678677	91
4678678	96
4678681	95
Blank	94
LCS	95
LCSD	97
MS	97
Limits:	69-129

*- 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.

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

RECEIVED JAN 17 2006

7802-972455- 4678671-81

COC ID: 10

Chain of Custody Record

WESTON SOLUTIONS

Client: Kerr McGee

Site Name: Moss American | Contact Name: Tom Graan

W. O.: 02687.007.007.0001 | Contact Phone No.: 847-918-4142

Lab: LANCASTER LABS | Lab Contact: C. SWEIGART

TAT: PER QUOTE | Lab Phone: 717-656-2308 X1527

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	8310-PAHS								
						Filtered								
						Container	0mL Amber G							
						Preservative	N/A							
	MA3-MW29S-122205-19	G		N	12/22/2005 11:15	2								
	MA3-MW32S-122205-18	G		N	12/22/2005 10:08	2								
	MA3-MW32S-122205-18-DP	G		N	12/22/2005 10:08	2								
	MA3-MW33S-122205-17	G		N	12/22/2005 10:05	2								
	MA3-MW36S-122205-1	G		N	12/22/2005 11:40	2								

Remarks/Comments

Sampled By

Lab Use Only

Temp of Cooler when Received, C

1	2	3	4	5

COC Tape was present on outer package Y N

COC Tape was unbroken on outer package Y N

COC Tape ws present on sample Y N

COC Tape was unbroken on sample Y N

Received in good condition Y N

Labels indicate Properly Preserved Y N

Received within Holding Time Y N

Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time
Tonya Bond	12/22/05 1540	FED EX					
						Thomas K	12/23/05 1015

180a-972455-4678671-81

COC ID: 11

Chain of Custody Record

WESTON SOLUTIONS

Client: Kerr McGee

Site Name: Moss American

W. O.: 02687.007.007.0001

Lab: LANCASTER LABS

TAT: PER QUOTE

Contact Name: Tom Graan

Contact Phone No.: 847-918-4142

Lab Contact: C. SWEIGART

Lab Phone: 717-656-2308 X1527

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	350.2-NH3	351.2-TKN,365.1-TP,410.2-COD	8310-PAHS							
					Filtered										
					Container	0ml-Round G	ml-Round G	mL Amber G							
					Preservative	H2SO4	H2SO4	N/A							
	MA3-MW30S-122205-2	G		N	12/22/2005 13:20			2							
	MA3-MW37S-122205-20	G		N	12/22/2005 11:36			2							
	MA3-TG1-2-122105-15	G		N	12/21/2005 16:40	1	1	2							
	MA3-TG1-3-122105-14	G		N	12/21/2005 16:30	1	1								

Remarks/Comments

Lab Use Only

Temp of Cooler when Received, C

1	2	3	4	5

COC Tape was present on outer package Y N

COC Tape was unbroken on outer package Y N

COC Tape ws present on sample Y N

COC Tape was unbroken on sample Y N

Received in good condition Y N

Labels indicate Properly Preserved Y N

Received within Holding Time Y N

Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time
[signature]	12/22/05 1530	FED EX				[signature]	12/23/05 1015

Sampled By [signature]

7802 - 972455 - 467861-81

COC ID: 12

Chain of Custody Record

WESTON SOLUTIONS

Client: Kerr McGee
Site Name: Moss American
W. O.: 02687.007.007.0001
Lab: LANCASTER LABS
TAT: PER QUOTE

Contact Name: Tom Graan
Contact Phone No.: 847-918-4142
Lab Contact: C. SWEIGART
Lab Phone: 717-656-2308 X1527

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	8021B-BTEX	8021B-BTEX	8310-PAHS						
						Filtered								
						Container	40ml-Glass Via	40ml-Glass Vi	250mL Amber G						
						Preservative	HCl	N/A	N/A						
	MA3-FB-122205-4	G		N	12/22/2005 14:50	3		2						
	MA3-MW29S-122205-19	G		N	12/22/2005 11:15	3								
	MA3-MW30S-122205-2	G		N	12/22/2005 13:20	3								
	MA3-MW32S-122205-18	G		N	12/22/2005 10:08	3								
	MA3-MW32S-122205-18-DP	G		N	12/22/2005 10:08	3								
	MA3-MW33S-122205-17	G		N	12/22/2005 10:05	3								
	MA3-MW36S-122205-1	G		N	12/22/2005 11:40	3								
	MA3-MW37S-122205-20	G		N	12/22/2005 11:36	3								
	MA3-TB-3-122205-3	G		N	12/22/2005 14:26		2							

Remarks/Comments

Lab Use Only

Temp of Cooler when Received, C

1	2	3	4	5

COC Tape was present on outer package Y N
COC Tape was unbroken on outer package Y N
COC Tape ws present on sample Y N
COC Tape was unbroken on sample Y N

Received in good condition Y N
Labels indicate Properly Preserved Y N
Received within Holding Time Y N

Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time
[signature]	12/22/05 1550	[signature]					
						[signature]	12/23/05 1015

Sampled By: [signature]

Lancaster Laboratories

ANALYTICAL RESULTS

Prepared for:

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

734-367-7900

Prepared by:

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

SAMPLE GROUP

The sample group for this submittal is 972625. Samples arrived at the laboratory on Wednesday, December 28, 2005. The PO# for this group is ZAKW1KEOK0A90089.

Client Description	Lancaster Labs Number
MA3-MW27S-122705-7 Groundwater Sample	4679501
MA3-MW31S-122705-1 Groundwater Sample	4679502
MA3-MW34S-122705-5 Groundwater Sample	4679503
MA3-MW35S-122705-3 Groundwater Sample	4679504
MA3-MW5S-122705-6 Groundwater Sample	4679505
MA3-MW6S-122705-2 Groundwater Sample	4679506
MA3-MW7S-122705-4 Groundwater Sample	4679507
MA3-MW7S-122705-4-DP Groundwater Sample	4679508
MA3-TB-4-122705-8 Water Sample	4679509

METHODOLOGY

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

1 COPY TO	Weston Solutions, Inc.	Attn: Tom Graan
1 COPY TO	Tronox LLC	Attn: Roy Widmann
1 COPY TO	Data Package Group	

Lancaster Laboratories

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

Respectfully Submitted,

Elizabeth A. Smith
Senior Specialist

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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679501

MA3-MW27S-122705-7 Groundwater Sample
122705-13,14 02687.007.007.0001
Moss American
Collected:12/27/2005 16:30

Account Number: 07802

Submitted: 12/28/2005 09:40
Reported: 01/05/2006 at 21:56
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

27S57 SDG#: KMA77-12

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.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.7	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.7	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	1.7	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.52	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.083	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.042	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.042	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.021	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.042	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.021	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.042	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.083	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.083	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.021	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

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

MEMBER ACIL
Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717.656.2300 Fax: 717.656.2681

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679501

MA3-MW27S-122705-7 Groundwater Sample
122705-13,14 02687.007.007.0001
Moss American
Collected:12/27/2005 16:30 Account Number: 07802

Submitted: 12/28/2005 09:40 Kerr-McGee Corporation
Reported: 01/05/2006 at 21:56 PO Box 3048
Discard: 03/07/2006 Livonia MI 48150

27S57 SDG#: KMA77-12

08213	BTEX (8021)	SW-846 8021B	1	12/31/2005 04:11	Robin S Cheal	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/30/2005 14:16	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/31/2005 04:11	Robin S Cheal	1
03337	PAH Water Extraction	SW-846 3510C	1	12/29/2005 16:00	Desiree J Wann	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679502

MA3-MW31S-122705-1 Groundwater Sample
122705-14 02687.007.007.0001
Moss American
Collected:12/27/2005 12:59

Account Number: 07802

Submitted: 12/28/2005 09:40
Reported: 01/05/2006 at 21:56
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

31S51 SDG#: KMA77-13

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.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.8	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.8	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	1.8	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.56	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.089	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.044	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.044	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.20	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.022	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.044	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.022	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.044	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.089	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.089	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.022	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679502

MA3-MW31S-122705-1 Groundwater Sample
122705-14 02687.007.007.0001
Moss American
Collected:12/27/2005 12:59

Account Number: 07802

Submitted: 12/28/2005 09:40
Reported: 01/05/2006 at 21:56
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

31S51 SDG#: KMA77-13

08213	BTEX (8021)	SW-846 8021B	1	12/31/2005 05:17	Robin S Cheal	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/30/2005 14:54	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/31/2005 05:17	Robin S Cheal	1
03337	PAH Water Extraction	SW-846 3510C	1	12/29/2005 16:00	Desiree J Wann	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679503

MA3-MW34S-122705-5 Groundwater Sample
122705-13,14 02687.007.007.0001
Moss American
Collected:12/27/2005 14:53 Account Number: 07802

Submitted: 12/28/2005 09:40 Kerr-McGee Corporation
Reported: 01/05/2006 at 21:56 PO Box 3048
Discard: 03/07/2006 Livonia MI 48150

34S55 SDG#: KMA77-14

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	5.0	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	54.	J	12.	ug/l	20

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. The pH of this sample was pH = 3.

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

00774	PAH's in Water by HPLC						
00775	Naphthalene	91-20-3	4,400.		34.	ug/l	20
00782	Acenaphthylene	208-96-8	N.D.		65.	ug/l	1
00783	Acenaphthene	83-32-9	190.		1.7	ug/l	1
00784	Fluorene	86-73-7	94.		10.	ug/l	20
00785	Phenanthrene	85-01-8	110.		1.7	ug/l	20
00789	Anthracene	120-12-7	10.		0.84	ug/l	20
00807	Fluoranthene	206-44-0	18.		0.84	ug/l	20
00811	Pyrene	129-00-0	13.		0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	1.7		0.021	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	0.52		0.042	ug/l	1
00823	Benzo(a)pyrene	50-32-8	0.55		0.021	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.		0.042	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	0.14	J	0.084	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.		0.30	ug/l	1
07409	Chrysene	218-01-9	N.D.		3.0	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	0.29		0.021	ug/l	1

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

Due to the nature of the sample matrix, a reduced aliquot was used for

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679503

MA3-MW34S-122705-5 Groundwater Sample
122705-13,14 02687.007.007.0001
Moss American
Collected:12/27/2005 14:53 Account Number: 07802

Submitted: 12/28/2005 09:40 Kerr-McGee Corporation
Reported: 01/05/2006 at 21:56 PO Box 3048
Discard: 03/07/2006 Livonia MI 48150

34S55 SDG#: KMA77-14

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor

analysis. The reporting limits were raised accordingly.

Due to the presence of interferents near their retention times, normal reporting limits were not attained for several target compounds. The reporting limits for these compounds were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	12/31/2005 07:28	Robin S Cheal	20
00774	PAH's in Water by HPLC	SW-846 8310	1	12/30/2005 15:33	Mark A Clark	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/30/2005 22:48	Mark A Clark	20
01146	GC VOA Water Prep	SW-846 5030B	1	12/31/2005 07:28	Robin S Cheal	20
03337	PAH Water Extraction	SW-846 3510C	1	12/29/2005 16:00	Desiree J Wann	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679504

MA3-MW35S-122705-3 Groundwater Sample
122705-14 02687.007.007.0001
Moss American
Collected:12/27/2005 13:15

Account Number: 07802

Submitted: 12/28/2005 09:40
Reported: 01/05/2006 at 21:56
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

35S53 SDG#: KMA77-15

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.		0.2	ug/l	1
00777	Toluene	108-88-3	N.D.		0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.		0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.		0.6	ug/l	1
00774	PAH's in Water by HPLC						
00775	Naphthalene	91-20-3	N.D.		1.7	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.		1.7	ug/l	1
00783	Acenaphthene	83-32-9	N.D.		1.7	ug/l	1
00784	Fluorene	86-73-7	N.D.		0.52	ug/l	1
00785	Phenanthrene	85-01-8	N.D.		0.084	ug/l	1
00789	Anthracene	120-12-7	N.D.		0.042	ug/l	1
00807	Fluoranthene	206-44-0	0.33		0.042	ug/l	1
00811	Pyrene	129-00-0	0.24	J	0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.		0.021	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.		0.042	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.		0.021	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.		0.042	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.084	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.		0.10	ug/l	1
07409	Chrysene	218-01-9	N.D.		0.084	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.		0.021	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679504

MA3-MW35S-122705-3 Groundwater Sample
122705-14 02687.007.007.0001
Moss American
Collected:12/27/2005 13:15

Account Number: 07802

Submitted: 12/28/2005 09:40
Reported: 01/05/2006 at 21:56
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

35S53 SDG#: KMA77-15

08213	BTEX (8021)	SW-846 8021B	1	12/31/2005 05:49	Robin S Cheal	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/30/2005 16:12	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/31/2005 05:49	Robin S Cheal	1
03337	PAH Water Extraction	SW-846 3510C	1	12/29/2005 16:00	Desiree J Wann	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679505

MA3-MW5S-122705-6 Groundwater Sample
122705-13,14 02687.007.007.0001
Moss American
Collected:12/27/2005 16:00

Account Number: 07802

Submitted: 12/28/2005 09:40
Reported: 01/05/2006 at 21:56
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

5S576 SDG#: KMA77-16

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.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.6	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.6	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	1.6	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.51	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.082	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.041	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.041	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.18	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.021	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.041	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.021	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.041	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.082	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.082	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.021	ug/l	1

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	12/31/2005 06:22	Robin S Cheal	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/30/2005 16:50	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/31/2005 06:22	Robin S Cheal	1

MEMBER ACIL
Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679505

MA3-MW5S-122705-6 Groundwater Sample
122705-13,14 02687.007.007.0001
Moss American
Collected:12/27/2005 16:00

Account Number: 07802

Submitted: 12/28/2005 09:40
Reported: 01/05/2006 at 21:56
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

5S576 SDG#: KMA77-16

03337	PAH Water Extraction	SW-846 3510C	1	12/29/2005 16:00	Desiree J Wann	1

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

MEMBER ACIL

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679506

MA3-MW6S-122705-2 Groundwater Sample
122705-14 02687.007.007.0001
Moss American
Collected:12/27/2005 13:10

Account Number: 07802

Submitted: 12/28/2005 09:40
Reported: 01/05/2006 at 21:57
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

6SS57 SDG#: KMA77-17

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.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.7	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.7	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	1.7	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.53	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.084	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.042	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.042	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.021	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.042	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.021	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.042	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.084	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.084	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.021	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679506

MA3-MW6S-122705-2 Groundwater Sample
122705-14 02687.007.007.0001
Moss American
Collected:12/27/2005 13:10

Account Number: 07802

Submitted: 12/28/2005 09:40
Reported: 01/05/2006 at 21:57
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

6SS57 SDG#: KMA77-17

08213	BTEX (8021)	SW-846 8021B	1	12/31/2005 06:55	Robin S Cheal	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/30/2005 17:29	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/31/2005 06:55	Robin S Cheal	1
03337	PAH Water Extraction	SW-846 3510C	1	12/29/2005 16:00	Desiree J Wann	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679507

MA3-MW7S-122705-4 Groundwater Sample
122705-13,14 02687.007.007.0001
Moss American
Collected:12/27/2005 14:45

Account Number: 07802

Submitted: 12/28/2005 09:40
Reported: 01/05/2006 at 21:57
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

77S57 SDG#: KMA77-18

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	1.7 J	1.0	ug/l	5
00777	Toluene	108-88-3	N.D.	1.0	ug/l	5
00778	Ethylbenzene	100-41-4	12.	1.0	ug/l	5
00779	Total Xylenes	1330-20-7	16.	3.0	ug/l	5
	Due to dilution of the sample made necessary by the high level of non-target compounds, normal reporting limits were not attained.					
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	1,000.	8.3	ug/l	5
00782	Acenaphthylene	208-96-8	N.D.	30.	ug/l	1
00783	Acenaphthene	83-32-9	25.	1.7	ug/l	1
00784	Fluorene	86-73-7	4.2	0.52	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.083	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.041	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.041	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.021	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.041	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.021	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.041	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.083	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.083	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.021	ug/l	1
	Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.					
	Due to the presence of an interferent near its retention time, the normal reporting limit was not attained for acenaphthylene. The reporting limit for this compound was raised accordingly.					

State of Wisconsin Lab Certification No. EN 748

MEMBER ACIL
Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679507

MA3-MW7S-122705-4 Groundwater Sample
122705-13,14 02687.007.007.0001
Moss American
Collected:12/27/2005 14:45

Account Number: 07802

Submitted: 12/28/2005 09:40
Reported: 01/05/2006 at 21:57
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

77S57 SDG#: KMA77-18

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	12/31/2005 08:01	Robin S Cheal	5
00774	PAH's in Water by HPLC	SW-846 8310	1	12/30/2005 20:45	Mark A Clark	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/30/2005 23:30	Mark A Clark	5
01146	GC VOA Water Prep	SW-846 5030B	1	12/31/2005 08:01	Robin S Cheal	5
03337	PAH Water Extraction	SW-846 3510C	1	12/29/2005 16:00	Desiree J Wann	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679508

MA3-MW7S-122705-4-DP Groundwater Sample
122705-13,14 02687.007.007.0001
Moss American
Collected:12/27/2005 14:45

Account Number: 07802

Submitted: 12/28/2005 09:40
Reported: 01/05/2006 at 21:57
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

77SDP SDG#: KMA77-19

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	1.5 J	1.0	ug/l	5
00777	Toluene	108-88-3	N.D.	1.0	ug/l	5
00778	Ethylbenzene	100-41-4	12.	1.0	ug/l	5
00779	Total Xylenes	1330-20-7	17.	3.0	ug/l	5
	Due to dilution of the sample made necessary by the high level of non-target compounds, normal reporting limits were not attained.					
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	1,000.	8.2	ug/l	5
00782	Acenaphthylene	208-96-8	N.D.	30.	ug/l	1
00783	Acenaphthene	83-32-9	24.	1.6	ug/l	1
00784	Fluorene	86-73-7	4.0	0.51	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.082	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.041	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.041	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.18	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.020	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.041	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.020	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.041	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.082	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.082	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.020	ug/l	1
	Due to the presence of an interferent near its retention time, the normal reporting limit was not attained for acenaphthylene. The reporting limit for this compound was raised accordingly.					

State of Wisconsin Lab Certification No. EN 748

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679508

MA3-MW7S-122705-4-DP Groundwater Sample
122705-13,14 02687.007.007.0001
Moss American
Collected:12/27/2005 14:45

Account Number: 07802

Submitted: 12/28/2005 09:40
Reported: 01/05/2006 at 21:57
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

77SDP SDG#: KMA77-19

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	12/31/2005 08:34	Robin S Cheal	5
00774	PAH's in Water by HPLC	SW-846 8310	1	12/30/2005 22:02	Mark A Clark	1
00774	PAH's in Water by HPLC	SW-846 8310	1	12/31/2005 00:12	Mark A Clark	5
01146	GC VOA Water Prep	SW-846 5030B	1	12/31/2005 08:34	Robin S Cheal	5
03337	PAH Water Extraction	SW-846 3510C	1	12/29/2005 16:00	Desiree J Wann	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679509

MA3-TB-4-122705-8 Water Sample
122705-14 02687.007.007.0001
Moss American
Collected:12/27/2005 18:00

Account Number: 07802

Submitted: 12/28/2005 09:40
Reported: 01/05/2006 at 21:57
Discard: 03/07/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

TB4A3 SDG#: KMA77-20*

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.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	12/30/2005 22:42	Robin S Cheal	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/30/2005 22:42	Robin S Cheal	1

Lancaster Laboratories

Quality Control Summary

Client Name: Kerr-McGee Corporation
Reported: 01/05/06 at 09:57 PM

Group Number: 972625

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 05363WAB026	Sample number(s): 4679501-4679508							
Naphthalene	N.D.	1.6	ug/l	67	70	57-109	3	30
Acenaphthylene	N.D.	1.6	ug/l	69	71	67-99	3	30
Acenaphthene	N.D.	1.6	ug/l	72	75	60-116	4	30
Fluorene	N.D.	0.50	ug/l	71	74	61-116	4	30
Phenanthrene	N.D.	0.080	ug/l	74	77	67-115	5	30
Anthracene	N.D.	0.040	ug/l	73	76	68-113	4	30
Fluoranthene	N.D.	0.040	ug/l	76	80	70-112	5	30
Pyrene	N.D.	0.18	ug/l	74	78	69-113	5	30
Benzo(a)anthracene	N.D.	0.020	ug/l	80	84	73-114	5	30
Benzo(b)fluoranthene	N.D.	0.040	ug/l	80	83	72-113	5	30
Benzo(a)pyrene	N.D.	0.020	ug/l	79	83	68-112	6	30
Dibenz(a,h)anthracene	N.D.	0.040	ug/l	77	86	19-129	12	30
Indeno(1,2,3-cd)pyrene	N.D.	0.080	ug/l	71	82	67-106	14	30
Benzo(g,h,i)perylene	N.D.	0.10	ug/l	73	84	7-126	13	30
Chrysene	N.D.	0.080	ug/l	76	78	70-111	3	30
Benzo(k)fluoranthene	N.D.	0.020	ug/l	80	84	72-119	5	30
Batch number: 05364A51A	Sample number(s): 4679501-4679509							
Benzene	N.D.	0.2	ug/l	98	99	86-119	1	30
Toluene	N.D.	0.2	ug/l	98	99	82-119	1	30
Ethylbenzene	N.D.	0.2	ug/l	98	98	81-119	0	30
Total Xylenes	N.D.	0.6	ug/l	99	98	82-120	0	30

Sample Matrix Quality Control

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 05364A51A	Sample number(s): 4679501-4679509								
Benzene	100		78-131						
Toluene	105		78-129						
Ethylbenzene	108		75-133						
Total Xylenes	108		80-134						

*- 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.

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

Lancaster Laboratories

Quality Control Summary

Client Name: Kerr-McGee Corporation Group Number: 972625
Reported: 01/05/06 at 09:57 PM

Surrogate Quality Control

Analysis Name: PAH's in Water by HPLC
Batch number: 05363WAB026

	Nitrobenzene	Triphenylene
4679501	100	77
4679502	103	83
4679503	113	245*
4679504	95	78
4679505	97	77
4679506	94	76
4679507	116	78
4679508	118	81
Blank	102	82
LCS	97	79
LCSD	103	82
Limits:	63-154	55-130

Analysis Name: BTEX (8021)
Batch number: 05364A51A

	Trifluorotoluene-P
4679501	95
4679502	94
4679503	96
4679504	95
4679505	95
4679506	95
4679507	96
4679508	96
4679509	95
Blank	94
LCS	95
LCSD	97
MS	97
Limits:	69-129

*- 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.

7802-972625-4679501-09

COC ID: 14

Chain of Custody Record

WESTON

Client: Kerr McGee
Site Name: Moss American
W. O.: 02687.007.007.0001
Lab: LANCASTER LABS
TAT: PER QUOTE

Contact Name: Tom Graan
Contact Phone No.: 847-918-4142
Lab Contact: C. SWEIGART
Lab Phone: 717-656-2308 X1527

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	8021B-BTEX	8021B-BTEX	8310-PAHS							
						Filtered									
						Container	40ml-Glass Via	40ml-Glass Via	1L Amber G						
						Preservative	HCl	N/A	N/A						
	MA3-MW27S-122305-7	G		N	12/27/2005 16:30	3									
	MA3-MW31S-122305-1	G		N	12/27/2005 12:59	3		2							
	MA3-MW34S-122305-5	G		N	12/27/2005 14:53	3									
	MA3-MW35S-122305-3	G		N	12/27/2005 13:15	3		2							
	MA3-MW3S-122305-6	G		N	12/27/2005 16:00	3									
	MA3-MW6S-122305-2	G		N	12/27/2005 13:10	3		2							
	MA3-MW7S-122305-4	G		N	12/27/2005 14:45	3									
	MA3-MW7S-122305-4-DP	G		N	12/27/2005 14:45	3									
	MA3-TB-4-122305-8	G		N	12/27/2005 18:00		2								

Remarks/Comments
Sample ID should be
12 27 05

Lab Use Only
Temp of Cooler when Received, C
1: 3.5 | 2: 2.3 | 3: | 4: | 5:

COC Tape was present on outer package (Y) N
COC Tape was unbroken on outer package (Y) N
COC Tape was present on sample Y N
COC Tape was unbroken on sample Y N

Received in good condition (Y) N
Labels indicate Properly Preserved Y N
Received within Holding Time Y N

Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time
[signature]	12/27/05 1539						
						Kathy Binkley	12-28-05 0940

Sampled By [signature]

7802-972 625 4679501-09

COC ID: 13

Chain of Custody Record

WESTON SOLUTIONS

Client Kerr McGee

Site Name Moss American | Contact Name Tom Green

W. O. 02687.007.007.0001 | Contact Phone No. 847-918-4142

Lab LANCASTER LABS | Lab Contact C. SWEIGART

TAT PER QUOTE | Lab Phone 717-656-2308 X1527

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	8310-PAHS								
						Filtered								
						Container	0mL Amber G							
						Preservative	N/A							
	MA3-MW27S-122705-7	G		N	12/27/2005 16:30	2								
	MA3-MW34S-122705-5	G		N	12/27/2005 14:53	2								
	MA3-MW5S-122705-6	G		N	12/27/2005 16:00	2								
	MA3-MW7S-122705-4	G		N	12/27/2005 14:45	2								
	MA3-MW7S-122705-4-DP	G		N	12/27/2005 14:45	2								

Remarks/Comments

Sample ID should have 122705

Sampled By T. Walls

Lab Use Only

Temp of Cooler when Received, C

1	2	3	4	5
3.5°	2.3°			

COC Tape was present on outer package (Y) N

COC Tape was unbroken on outer package (Y) N

COC Tape ws present on sample Y N

COC Tape was unbroken on sample Y N

Received in good condition (Y) N

Labels indicate Properly Preserved Y N

Received within Holding Time Y N

Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time
	12/27/05 1558						
						Kathleen Pinkney	12-28-05 0945

Inter-Office Memorandum

TO: Tom Graan

FROM: Tania Shammo **DATE:** February 8, 2006

SUBJECT: Data Validation: SDG#: KMA78
Moss American Superfund Site

I have reviewed the analytical data for Kerr-McGee Corporation (Moss American Site-Groundwater) water samples collected on 12/28/05, which were provided by Lancaster Laboratories. The samples were analyzed for Polynuclear Aromatic Hydrocarbons PAHs, Petroleum analyses (BETX), Kjeldahl Nitrogen, Nitrite Nitrogen, Nitrate Nitrogen, Ammonia Nitrogen, Ortho-Phosphate, Biochemical Oxygen Demand, Total Organic Carbon, Total Phosphorus, Chemical Oxygen Demand.

Polynuclear Aromatic Hydrocarbons (PAHs by HPLC, U.S. EPA Method 8310)
Moss American Site
SDG # KMA78

1. Samples:

Client Sample Description:	Lab Sample Number	Matrix	Date Collected	Date Extracted	Date Analyzed
MA3-TG1-1-122805-5	4679838	Ground water	12/28/05	01/03/06	1/8 & 1/10/06
MA3-TG3-1-122805-4	4679839	Ground water	12/28/05	01/03/06	01/06/06
MA3-TG4-1-122805-1	4679840	Ground water	12/28/05	01/03/06	01/06/06
MA3-TG5-3-122805-2	4679841	Ground water	12/28/05	01/03/06	01/06/06
MA3-TG4-3-122805-3BKG	4679842	Ground water	12/28/05	01/03/06	01/06/06
MA3-TG4-3-122805-3-MS	4679843	Ground water	12/28/05	01/03/06	01/06/06
MA3-TG4-3-122805-3-MSD	4679844	Ground water	12/28/05	01/03/06	01/06/06
MA3-FB-122805-7	4679845	Ground water	12/28/05	01/03/06	01/06/06

2. Holding Times:
The samples were extracted and analyzed within the required holding times.

3. Method Blank:
The method blank SBLKWB3652 was analyzed on 01/06/05 with samples 4679838 thru 4679845, and 4679838DL and the results were free of contamination.

4. Surrogate:
The method blanks and the investigated samples had surrogate recoveries within the required quality control limit, except triphenylene for samples 4679838, 4679838DL1 and 4679838DL2 was diluted out. No action was taken due to the nature of the sample matrix.

5. Matrix Spike/Matrix Spike Duplicate Recovery:
A matrix spike was performed on sample 4697842. The MS/MSD recoveries were within the control limits. Also, the RPD values were acceptable.

6. Laboratory Control Sample:
The laboratories control sample recoveries were within the quality control limits.

7. Retention Time:
All the retention time results were acceptable.

8. Initial and Continuing Calibration:
The associated initial calibration results showed that the percent relative standard deviations (%RSD) were less or equal to (+/-30.0%) criteria and the standard relative response factor (RRFs) were equal or greater than 0.05 for the requested compounds.

All associated continuing calibrations showed the percent relative standard deviations (%RSD) less or equal to (+/-25.0%) criteria for the requested compounds.

However, the retention time, initial and continuing calibration results were used in the calculation from two detectors: nitrobenzene (surrogate), naphthalene, acenaphthylene, 1-methylnaphthalene, 2-methylnaphthalene, fluorene, phenanthrene, and anthracene were taken from ultraviolet detector. Acenaphthene, fluoranthene, pyrene, benzo (a) anthracene, chrysene, benzo (b) fluoranthene, benzo (k) fluoranthene, benzo (a) pyrene, dibenzo (a, h) anthracene, benzo (g, h, i) perylene, indeno (1, 2, 3-cd) pyrene and triphenylene (surrogate) were taken from fluorescence detector.

BETX (U.S. EPA Method 8021B)
SDG # MMA78

1.Samples:

Client Sample Description:	Lab Sample Number	Matrix	Date Collected	Date Prepared	Date Analyzed
MA3-TG1-1-122805-5	4679838	Ground water	12/28/05	01/03/06	01/03/06
MA3-TG3-1-122805-4	4679839	Ground water	12/28/05	01/03/06	01/03/06
MA3-TG4-1-122805-1	4679840	Ground water	12/28/05	01/03/06	01/03/06
MA3-TG5-3-122805-2	4679841	Ground water	12/28/05	01/03/06	01/03/06
MA3-TG4-3-122805-3BKG	4679842	Ground water	12/28/05	01/03/06	01/03/06
MA3-TG4-3-122805-3-MS	4679843	Ground water	12/28/05	01/03/06	01/03/06
MA3-TG4-3-122805-3-MSD	4679844	Ground water	12/28/05	01/03/06	01/03/06
MA3-FB-122805-7	4679845	Ground water	12/28/05	01/03/06	01/03/06
MA3-TB-5-122805-6	4679846	Ground water	12/28/05	01/03/06	01/03/06

2. Holding Times:
The samples were prepared and analyzed within the required holding time.

3. Method Blank:
Two methods blanks were associated with this SDG. The method blank **BLK5179** was analyzed on 01/02/06 with LCS/LCSD. The method blank results were free of contamination.

The method blank **BLK5180** was analyzed on 01/03/06 with samples 4679838 thru 4679846. The method blank results were free of contamination.

4. Matrix Spike/Matrix Spike Duplicate :
A matrix spike was performed on sample 4697842. The MS/MSD recoveries were within the control limits. Also, the RPD values were acceptable.

5. Laboratory control Sample:
The associated laboratories control samples/laboratories control samples duplicates associated with samples 4679838 thru 4679846 recoveries were within the control limits. Also, the RPD% values were acceptable.

6. Surrogate:
The method blanks and the investigated samples had surrogate recoveries within the required quality control limits.

7. Initial and Continuing Calibration:
All the initial calibration and continuing calibration results were within the quality control limit.

WET CHEMISTRY ANALYSIS
SDG # KMA78

Kjeldahl Nitrogen Analysis (TKN) EPA 351.2:
1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Digested	Date Analyzed
MA3-TG1-1-122805-5	4679838	Ground water	12/28/05	01/06/06	01/10/06
MA3-TG3-1-122805-4	4679839	Ground water	12/28/05	01/06/06	01/10/06
MA3-TG4-1-122805-1	4679840	Ground water	12/28/05	01/06/06	01/10/06
MA3-TG5-3-122805-2	4679841	Ground water	12/28/05	01/06/06	01/10/06
MA3-TG4-3-122805-3BKG	4679842	Ground water	12/28/05	01/06/06	01/10/06
MA3-FB-122805-7	4679845	Ground water	12/28/05	01/06/06	01/10/06

2. Holding Times:
Samples were digested and analyzed within the required holding times.

3. Method Blank:
The method blank result was free of contamination.

4. Matrix Spike Recovery:
A matrix spike was performed on 4679842. The MS was (88%) outside the lower control limits (90-110%). Therefore, qualify the TKN results for samples 4679838 thru 4679842 and 4679845 as (J/UJ).

5. Duplicate Recovery:
The duplicate sample result was acceptable.

6. Laboratory Control Sample Recovery:
The laboratory control sample recovery was within the quality control limits.

7. Initial and Continuing Verification Calibration:
The initial and continuing calibration results were all within the quality control limits.

8. Initial and Continuing Calibration Blank:
The initial and continuing calibration blanks results were free of contamination.

Total Phosphorus as (PO4) EPA 365.1:

1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Extracted	Date Analyzed
MA3-TG1-1-122805-5	4679838	Ground water	12/28/05	12/30/05	01/04/06
MA3-TG3-1-122805-4	4679839	Ground water	12/28/05	12/30/05	01/04/06
MA3-TG4-1-122805-1	4679840	Ground water	12/28/05	12/30/05	01/04/06
MA3-TG5-3-122805-2	4679841	Ground water	12/28/05	12/30/05	01/04/06
MA3-TG4-3-122805-3BKG	4679842	Ground water	12/28/05	12/30/05	01/04/06
MA3-FB-122805-7	4679845	Ground water	12/28/05	12/30/05	01/04/06

2. Holding Times:

Samples were prepared and analyzed within the required holding time.

3. Method Blank:

The method blank result was free of contamination.

4. Matrix Spike Recovery:

The matrix spike was performed on 4679842. The MS recovery was (114%) outside the upper control limits (90-110%). Therefore, qualify the total phosphorus result for samples 4679838 thru 4679842 and 4679845 as estimated (J).

5. Duplicate Recovery:

The duplicate sample result was acceptable.

6. Laboratory Control Sample Recovery:

The laboratory control sample recovery was within the quality control limits.

7. Initial and Continuing Verification Calibration:

The initial and continuing calibration results were all within the quality control limits.

8. Initial and Continuing Calibration Blank:

The initial and continuing calibration blanks results were free of contamination.

Nitrite Nitrogen Analysis EPA 353.2:

1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Analyzed
MA3-TG1-1-122805-5	4679838	Ground water	12/28/05	12/29/05
MA3-TG3-1-122805-4	4679839	Ground water	12/28/05	12/29/05
MA3-TG4-1-122805-1	4679840	Ground water	12/28/05	12/29/05
MA3-TG5-3-122805-2	4679841	Ground water	12/28/05	12/29/05
MA3-TG4-3-122805-3BKG	4679842	Ground water	12/28/05	12/29/05
MA3-FB-122805-7	4679845	Ground water	12/28/05	12/29/05

2. Holding Time:

All samples were analyzed within the required holding time.

3. Method Blank:
The method blank result was free of contamination.

4. Matrix Spike Recovery:
A matrix spikes was performed on P679861 from different SDG. The MS recovery was (0%) outside the quality control limits (90-110%). Therefore, qualify the results for samples 4679838 thru 4679842 and 4679845 as estimated (J/UJ).

5. Laboratory Control Sample Recovery:
The laboratory control sample recovery was within the quality control limits.

6. Duplicate Recovery:
The duplicate sample result was acceptable.

7. Initial and Continuing Verification Calibration:
The initial and continuing calibration results were all within the quality control limits.

8. Initial and Continuing Calibration Blank:
The initial and continuing calibration blanks results were free of contamination.

Nitrate Nitrogen Analysis EPA 353.2:

1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Analyzed
MA3-TG1-1-122805-5	4679838	Ground water	12/28/05	01/09/06
MA3-TG3-1-122805-4	4679839	Ground water	12/28/05	01/09/06
MA3-TG4-1-122805-1	4679840	Ground water	12/28/05	01/09/06
MA3-TG5-3-122805-2	4679841	Ground water	12/28/05	01/09/06
MA3-TG4-3-122805-3BKG	4679842	Ground water	12/28/05	01/09/06
MA3-FB-122805-7	4679845	Ground water	12/28/05	01/09/06

2. Holding Time:
All samples were analyzed within the required holding time.

3. Method Blank:
The method blank result was free of contamination.

4. Matrix Spike Recovery:
Two matrix spikes were performed on 4679839 and 4679840. Both 4679839MS and 4679840MS recoveries were within the quality control limits (90-110%).

5. Duplicate Recovery:
The duplicate sample result was acceptable.

6. Laboratory Control Sample Recovery:
The laboratory control sample recovery was within the quality control limits.

7. Initial and Continuing Verification Calibration:
The initial and continuing calibration results were all within the quality control limit.

8. Initial and Continuing Calibration Blank:
The initial and continuing calibration blanks results were free of contamination.

Total Organic Carbon (TOC) Method EPA 415.1:

1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Analyzed
MA3-TG1-1-122805-5	4679838	Ground water	12/28/05	01/09/06
MA3-TG3-1-122805-4	4679839	Ground water	12/28/05	01/09/06
MA3-TG4-1-122805-1	4679840	Ground water	12/28/05	01/09/06
MA3-TG5-3-122805-2	4679841	Ground water	12/28/05	01/09/06
MA3-TG4-3-122805-3BKG	4679842	Ground water	12/28/05	01/09/06
MA3-FB-122805-7	4679845	Ground water	12/28/05	01/09/06

2. Holding Time:
All samples were analyzed within the required holding time.

3. Method Blank:
The method blank result was free of contamination.

4. Matrix Spike Recovery:
The matrix spike was performed on sample 4679842. The MS recovery was within the quality control limits (67-130%).

5. Duplicate Recovery:
The duplicate sample result was acceptable.

6. Laboratory Control Sample Recovery:
The laboratory control sample recovery was within the quality control limits.

7. Initial and Continuing Verification Calibration:
All the initial and continuing calibrations results were all within the quality control limit.

Ammonia Nitrogen Analysis EPA 350.2:

1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Analyzed
MA3-TG1-1-122805-5	4679838	Ground water	12/28/05	12/30/05
MA3-TG3-1-122805-4	4679839	Ground water	12/28/05	12/30/05
MA3-TG4-1-122805-1	4679840	Ground water	12/28/05	12/30/05
MA3-TG5-3-122805-2	4679841	Ground water	12/28/05	12/30/05
MA3-TG4-3-122805-3BKG	4679842	Ground water	12/28/05	12/30/05
MA3-FB-122805-7	4679845	Ground water	12/28/05	12/30/05

2. Holding Times:

Samples were analyzed within the required holding time.

3. Method Blank:

The method blank result was free of contamination.

4. Duplicate Recovery:

The duplicate sample result was acceptable.

5. Laboratory Control Sample Recovery:

The laboratory control sample recovery was within the quality control limits.

6. Matrix Spike Recovery:

A matrix spike was performed on sample P679138 from different SDG. The MS/MSD recoveries were within the control limits. Also, the RPD value was acceptable.

Ortho-Phosphate as P Analysis EPA 365.3:

1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Analyzed
MA3-TG1-1-122805-5	4679838	Ground water	12/28/05	12/30/05
MA3-TG3-1-122805-4	4679839	Ground water	12/28/05	12/30/05
MA3-TG4-1-122805-1	4679840	Ground water	12/28/05	12/30/05
MA3-TG5-3-122805-2	4679841	Ground water	12/28/05	12/30/05
MA3-TG4-3-122805-3BKG	4679842	Ground water	12/28/05	12/30/05
MA3-FB-122805-7	4679845	Ground water	12/28/05	12/30/05

2. Holding Times:

All samples were analyzed within the required holding times.

3. Method Blank:

The method blank result was free of contamination.

4. Matrix Spike Recovery:
A matrix spike was performed on sample 4697842. The MS/MSD recoveries were within the control limits. Also, the RPD value was acceptable.

5. Duplicate Recovery:
The duplicate sample result was acceptable.

6. Laboratory Control Sample Recovery:
The laboratory control sample recovery was within the quality control limits.

Chemical Oxygen Demand Analysis (COD) EPA 410.2:

1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Analyzed
MA3-TG1-1-122805-5	4679838	Ground water	12/28/05	01/09/06
MA3-TG3-1-122805-4	4679839	Ground water	12/28/05	01/09/06
MA3-TG4-1-122805-1	4679840	Ground water	12/28/05	01/09/06
MA3-TG5-3-122805-2	4679841	Ground water	12/28/05	01/09/06
MA3-TG4-3-122805-3BKG	4679842	Ground water	12/28/05	01/09/06
MA3-FB-122805-7	4679845	Ground water	12/28/05	01/09/06

2. Holding Times:
Samples were analyzed within the required holding time.

3. Matrix Spike Recovery:
A matrix spike was performed on P679633 from different SDG. The matrix spike/matrix spike duplicate recoveries were within the quality control limits (60-129%). Also, the RPD value was acceptable.

4. Duplicate Recovery:
The duplicate sample recovery was acceptable.

5. Laboratory Control Sample Recovery:
The laboratory control sample recovery was within the quality control limits.

Biochemical Oxygen Demand (BOD) Method EPA 405.1:

1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Analyzed
MA3-TG1-1-122805-5	4679838	Ground water	12/28/05	12/29/05
MA3-TG3-1-122805-4	4679839	Ground water	12/28/05	12/29/05
MA3-TG4-1-122805-1	4679840	Ground water	12/28/05	12/29/05
MA3-TG5-3-122805-2	4679841	Ground water	12/28/05	12/29/05
MA3-TG4-3-122805-3BKG	4679842	Ground water	12/28/05	12/29/05
MA3-FB-122805-7	4679845	Ground water	12/28/05	12/29/05

2. Holding Time:

All samples were analyzed within the required holding time.

3. Matrix Spike Recovery:

A matrix spike was performed on 4679842. The matrix spike/matrix spike duplicate recoveries were within the quality control limits. Also, the RPD value was acceptable.

4. Laboratory Control Sample Recovery:

The two laboratories control samples/laboratories control samples duplicates recoveries were within the quality control limits. Also, the RPD values were acceptable.

5. Duplicate Recovery:

The duplicate sample result was (13%) outside the control limits (9%). Therefore, qualify the detected results as estimated (J) for samples 4679838 thru 4679842 and 4679845.

Summary

Results of this review:

1. All sample results in this sample group are considered usable.
2. The TKN results for samples 4679838 thru 4679842 and 4679845 had unacceptable MS recovery; therefore, results were qualified as (J/UJ).
3. The total phosphorus results for samples 4679838 thru 4679842 and 4679845 had unacceptable MS recovery; therefore, results were qualified as estimated (J).
4. The nitrite nitrogen results for samples 4679838 thru 4679842 and 4679845 had unacceptable MS recovery; therefore, results were qualified as estimated (J/UJ).
5. The TOC results for samples 4679838 thru 4679842 and 4679845 had unacceptable duplicate recovery; therefore, results were qualified as estimated (J).

Data Reviewed by: Tania Shammo Date: 02/08/06

Lancaster Laboratories

ANALYTICAL RESULTS

Prepared for:

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

734-367-7900

Prepared by:

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

SAMPLE GROUP

The sample group for this submittal is 972723. Samples arrived at the laboratory on Thursday, December 29, 2005. The PO# for this group is ZAKW1KEOK0A90089.

Client Description		Lancaster Labs Number
MA3-TG1-1-122805-5	Groundwater	4679838
MA3-TG3-1-122805-4	Groundwater	4679839
MA3-TG4-1-122805-1	Groundwater	4679840
MA3-TG5-3-122805-2	Groundwater	4679841
MA3-TG4-3-122805-3-BKG	Groundwater	4679842
MA3-TG4-3-122805-3-MS	Groundwater	4679843
MA3-TG4-3-122805-3-MSD	Groundwater	4679844
MA3-FB-122805-7	Groundwater	4679845
MA3-TB-5-122805-6	Groundwater	4679846

METHODOLOGY

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

1 COPY TO	Weston Solutions, Inc.	Attn: Tom Graan
1 COPY TO	Tronox LLC	Attn: Roy Widmann
1 COPY TO	Data Package Group	

Lancaster Laboratories

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

Respectfully Submitted,

Michele J. Smith
Group Leader

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

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679838

MA3-TG1-1-122805-5 Groundwater
122805-15,16,17,18 02687.007.007.0001
Moss American
Collected:12/28/2005 14:33

Account Number: 07802

Submitted: 12/29/2005 09:20
Reported: 01/11/2006 at 18:10
Discard: 03/13/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

3-TG1 SDG#: KMA78-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	1.4	0.50	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l	1
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	1.2	0.11	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	N.D.	0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	7.5	0.80	mg/l	1
00273	Total Organic Carbon	n.a.	9.9	1.0	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	N.D.	0.25	mg/l	1
01553	Chemical Oxygen Demand	n.a.	65.1	4.2	mg/l	2
	Due to the presence of a thin upper oil layer, this sample was analyzed multiple times with varying COD results. Another trial yielded a COD result of 86.0 mg/L.					
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	1.0	ug/l	5
00777	Toluene	108-88-3	1.1 J	1.0	ug/l	5
00778	Ethylbenzene	100-41-4	20.	1.0	ug/l	5
00779	Total Xylenes	1330-20-7	32.	3.0	ug/l	5
	Due to dilution of the sample made necessary by the high level of a non-target, normal reporting limits were not attained.					
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	4,300.	34.	ug/l	20
00782	Acenaphthylene	208-96-8	N.D.	160.	ug/l	20
00783	Acenaphthene	83-32-9	2,700.	34.	ug/l	20
00784	Fluorene	86-73-7	2,100.	110.	ug/l	200
00785	Phenanthrene	85-01-8	5,100.	85.	ug/l	1000
00789	Anthracene	120-12-7	590.	8.5	ug/l	200
00807	Fluoranthene	206-44-0	2,400.	43.	ug/l	1000
00811	Pyrene	129-00-0	1,800.	38.	ug/l	200
00812	Benzo(a)anthracene	56-55-3	410.	4.3	ug/l	200
00818	Benzo(b)fluoranthene	205-99-2	180.	8.5	ug/l	200
00823	Benzo(a)pyrene	50-32-8	180.	4.3	ug/l	200
00895	Dibenz(a,h)anthracene	53-70-3	22.	0.85	ug/l	20
00898	Indeno(1,2,3-cd)pyrene	193-39-5	89.	1.7	ug/l	20

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679838

MA3-TG1-1-122805-5 Groundwater
122805-15,16,17,18 02687.007.007.0001
Moss American
Collected:12/28/2005 14:33

Account Number: 07802

Submitted: 12/29/2005 09:20
Reported: 01/11/2006 at 18:10
Discard: 03/13/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

3-TG1 SDG#: KMA78-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00907	Benzo(g,h,i)perylene	191-24-2	77.	2.1	ug/l	20
07409	Chrysene	218-01-9	290.	1.7	ug/l	20
07410	Benzo(k)fluoranthene	207-08-9	93.	4.3	ug/l	200

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

Due to the sample matrix an initial dilution was necessary to perform the analysis. Therefore, the reporting limits for the PAH by HPLC compounds were raised.

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

Due to the presence of an interferent near its retention time, the normal reporting limit was not attained for acenaphthylene. The reporting limit for this compound was raised accordingly.

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	01/10/2006 18:36	Venia B McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	12/29/2005 18:27	Kristina E Kleintop	1
00220	Nitrate Nitrogen	EPA 353.2	1	01/09/2006 19:06	Venia B McFadden	1
00221	Ammonia Nitrogen	EPA 350.2	1	12/30/2005 14:30	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	12/30/2005 01:00	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	12/29/2005 21:16	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	01/04/2006 10:59	James S Mathiot	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	01/04/2006 10:43	Nicole M Kepley	1
01553	Chemical Oxygen Demand	EPA 410.2	2	01/09/2006 07:40	Susan A Engle	2
08213	BTEX (8021)	SW-846 8021B	1	01/03/2006 16:08	Martha L Seidel	5
00774	PAH's in Water by HPLC	SW-846 8310	1	01/08/2006 00:17	Mark A Clark	1000
00774	PAH's in Water by HPLC	SW-846 8310	1	01/10/2006 10:53	Mark A Clark	20
00774	PAH's in Water by HPLC	SW-846 8310	1	01/10/2006 11:34	Mark A Clark	200
01146	GC VOA Water Prep	SW-846 5030B	1	01/03/2006 16:08	Martha L Seidel	5

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679838

MA3-TG1-1-122805-5 Groundwater
122805-15,16,17,18 02687.007.007.0001
Moss American
Collected:12/28/2005 14:33

Account Number: 07802

Submitted: 12/29/2005 09:20
Reported: 01/11/2006 at 18:10
Discard: 03/13/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

3-TG1 SDG#: KMA78-01

01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	2	01/06/2006 14:30	Nancy J Shoop	1
03337	PAH Water Extraction	SW-846 3510C	1	01/03/2006 05:00	Mark P Mastropietro	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	12/30/2005 15:20	Nancy J Shoop	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679839

MA3-TG3-1-122805-4 Groundwater
122805-15,16,17,18 02687.007.007.0001
Moss American
Collected:12/28/2005 14:32

Account Number: 07802

Submitted: 12/29/2005 09:20
Reported: 01/11/2006 at 18:10
Discard: 03/13/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

3-TG3 SDG#: KMA78-02

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	0.62	J	0.50	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	N.D.		0.015	mg/l	1
00220	Nitrate Nitrogen	14797-55-8	N.D.		0.040	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	0.43	J	0.11	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	N.D.		0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.		3.1	mg/l	1
00273	Total Organic Carbon	n.a.	8.5		1.0	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	N.D.		0.25	mg/l	1
01553	Chemical Oxygen Demand	n.a.	21.3		2.1	mg/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	N.D.		0.2	ug/l	1
00777	Toluene	108-88-3	N.D.		0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.		0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.		0.6	ug/l	1
00774	PAH's in Water by HPLC						
00775	Naphthalene	91-20-3	N.D.		1.8	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.		1.8	ug/l	1
00783	Acenaphthene	83-32-9	N.D.		1.8	ug/l	1
00784	Fluorene	86-73-7	N.D.		0.55	ug/l	1
00785	Phenanthrene	85-01-8	N.D.		0.089	ug/l	1
00789	Anthracene	120-12-7	N.D.		0.044	ug/l	1
00807	Fluoranthene	206-44-0	N.D.		0.044	ug/l	1
00811	Pyrene	129-00-0	N.D.		0.20	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.		0.022	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.		0.044	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.		0.022	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.		0.044	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.089	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.		0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.		0.089	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.		0.022	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679839

MA3-TG3-1-122805-4 Groundwater
122805-15,16,17,18 02687.007.007.0001
Moss American
Collected:12/28/2005 14:32

Account Number: 07802

Submitted: 12/29/2005 09:20
Reported: 01/11/2006 at 18:10
Discard: 03/13/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

3-TG3 SDG#: KMA78-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	01/10/2006 18:37	Venia B McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	12/29/2005 18:28	Kristina E Kleintop	1
00220	Nitrate Nitrogen	EPA 353.2	1	01/09/2006 19:08	Venia B McFadden	1
00221	Ammonia Nitrogen	EPA 350.2	1	12/30/2005 14:30	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	12/30/2005 01:00	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	12/29/2005 21:16	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	01/04/2006 11:07	James S Mathiot	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	01/04/2006 10:46	Nicole M Kepley	1
01553	Chemical Oxygen Demand	EPA 410.2	1	01/09/2006 07:40	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	01/03/2006 06:50	Martha L Seidel	1
00774	PAH's in Water by HPLC	SW-846 8310	1	01/06/2006 13:07	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	01/03/2006 06:50	Martha L Seidel	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	2	01/06/2006 14:30	Nancy J Shoop	1
03337	PAH Water Extraction	SW-846 3510C	1	01/03/2006 05:00	Mark P Mastropietro	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	12/30/2005 15:20	Nancy J Shoop	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679840

MA3-TG4-1-122805-1 Groundwater
122805-15,17,18 02687.007.007.0001
Moss American
Collected:12/28/2005 12:55

Account Number: 07802

Submitted: 12/29/2005 09:20
Reported: 01/11/2006 at 18:10
Discard: 03/13/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

3-TG4 SDG#: KMA78-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	0.96 J	0.50	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l	1
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	0.60	0.11	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	N.D.	0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	3.3	mg/l	1
00273	Total Organic Carbon	n.a.	8.3	1.0	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	N.D.	0.25	mg/l	1
01553	Chemical Oxygen Demand	n.a.	20.2	2.1	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.6	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.6	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	1.6	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.50	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.081	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.040	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.040	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.18	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.020	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.040	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.020	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.040	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.081	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.10	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.081	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.020	ug/l	1

State of Wisconsin Lab Certification No. EN 748

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679840

MA3-TG4-1-122805-1 Groundwater
122805-15,17,18 02687.007.007.0001
Moss American
Collected:12/28/2005 12:55

Account Number: 07802

Submitted: 12/29/2005 09:20
Reported: 01/11/2006 at 18:10
Discard: 03/13/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

3-TG4 SDG#: KMA78-03

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	01/10/2006 18:41	Venia B McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	12/29/2005 18:29	Kristina E Kleintop	1
00220	Nitrate Nitrogen	EPA 353.2	1	01/09/2006 19:11	Venia B McFadden	1
00221	Ammonia Nitrogen	EPA 350.2	1	12/30/2005 14:30	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	12/30/2005 01:00	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	12/29/2005 21:16	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	01/04/2006 11:15	James S Mathiot	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	01/04/2006 10:47	Nicole M Kepley	1
01553	Chemical Oxygen Demand	EPA 410.2	1	01/09/2006 07:40	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	01/03/2006 07:23	Martha L Seidel	1
00774	PAH's in Water by HPLC	SW-846 8310	1	01/06/2006 13:45	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	01/03/2006 07:23	Martha L Seidel	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	2	01/06/2006 14:30	Nancy J Shoop	1
03337	PAH Water Extraction	SW-846 3510C	1	01/03/2006 05:00	Mark P Mastropietro	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	12/30/2005 15:20	Nancy J Shoop	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679841

MA3-TG5-3-122805-2 Groundwater
122805-15,16,17,18 02687.007.007.0001
Moss American
Collected:12/28/2005 13:09

Account Number: 07802

Submitted: 12/29/2005 09:20
Reported: 01/11/2006 at 18:10
Discard: 03/13/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

3-TG5 SDG#: KMA78-04

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	0.69	J	0.50	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	N.D.		0.015	mg/l	1
00220	Nitrate Nitrogen	14797-55-8	0.24		0.040	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	N.D.		0.11	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	0.014	J	0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.		3.2	mg/l	1
00273	Total Organic Carbon	n.a.	5.8		1.0	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	N.D.		0.25	mg/l	1
01553	Chemical Oxygen Demand	n.a.	15.5		2.1	mg/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	N.D.		0.2	ug/l	1
00777	Toluene	108-88-3	N.D.		0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.		0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.		0.6	ug/l	1
00774	PAH's in Water by HPLC						
00775	Naphthalene	91-20-3	N.D.		1.7	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.		1.7	ug/l	1
00783	Acenaphthene	83-32-9	N.D.		1.7	ug/l	1
00784	Fluorene	86-73-7	N.D.		0.52	ug/l	1
00785	Phenanthrene	85-01-8	N.D.		0.083	ug/l	1
00789	Anthracene	120-12-7	N.D.		0.042	ug/l	1
00807	Fluoranthene	206-44-0	0.046	J	0.042	ug/l	1
00811	Pyrene	129-00-0	N.D.		0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.		0.021	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.		0.042	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.		0.021	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.		0.042	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.083	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.		0.10	ug/l	1
07409	Chrysene	218-01-9	N.D.		0.083	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.		0.021	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679841

MA3-TG5-3-122805-2 Groundwater
122805-15,16,17,18 02687.007.007.0001
Moss American
Collected:12/28/2005 13:09

Account Number: 07802

Submitted: 12/29/2005 09:20
Reported: 01/11/2006 at 18:10
Discard: 03/13/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

3-TG5 SDG#: KMA78-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	01/10/2006 18:42	Venia B McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	12/29/2005 18:31	Kristina E Kleintop	1
00220	Nitrate Nitrogen	EPA 353.2	1	01/09/2006 19:33	Venia B McFadden	1
00221	Ammonia Nitrogen	EPA 350.2	1	12/30/2005 14:30	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	12/30/2005 01:00	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	12/29/2005 21:16	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	01/04/2006 11:23	James S Mathiot	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	01/04/2006 10:48	Nicole M Kepley	1
01553	Chemical Oxygen Demand	EPA 410.2	1	01/09/2006 07:40	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	01/03/2006 07:56	Martha L Seidel	1
00774	PAH's in Water by HPLC	SW-846 8310	1	01/06/2006 14:24	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	01/03/2006 07:56	Martha L Seidel	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	2	01/06/2006 14:30	Nancy J Shoop	1
03337	PAH Water Extraction	SW-846 3510C	1	01/03/2006 05:00	Mark P Mastropietro	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	12/30/2005 15:20	Nancy J Shoop	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679842

MA3-TG4-3-122805-3-BKG Groundwater
122805-16,17,18 02687.007.007.0001
Moss American
Collected:12/28/2005 13:15

Account Number: 07802

Submitted: 12/29/2005 09:20
Reported: 01/11/2006 at 18:10
Discard: 03/13/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

3TG43 SDG#: KMA78-05BKG

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	1.4	0.50	mg/l	1
	Matrix QC was performed on this sample for the TKN analysis. Please see the attached QC Summary report for the parameter showing a matrix bias.					
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l	1
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	0.52	0.11	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	0.010 J	0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	3.7	mg/l	1
00273	Total Organic Carbon	n.a.	10.0	1.0	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	N.D.	0.25	mg/l	1
	Matrix QC was performed on this sample for the TP as PO4 analysis. Please see the attached QC Summary report for the parameter showing a matrix bias.					
01553	Chemical Oxygen Demand	n.a.	24.8	2.1	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	2.0	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	2.0	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	2.0	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.63	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.10	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.050	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.050	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.23	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.025	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.050	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.025	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.050	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.10	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.13	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.10	ug/l	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679842

MA3-TG4-3-122805-3-BKG Groundwater
122805-16,17,18 02687.007.007.0001
Moss American
Collected:12/28/2005 13:15

Account Number: 07802

Submitted: 12/29/2005 09:20
Reported: 01/11/2006 at 18:10
Discard: 03/13/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

3TG43 SDG#: KMA78-05BKG

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.025	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	01/10/2006 18:43	Venia B McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	12/29/2005 18:32	Kristina E Kleintop	1
00220	Nitrate Nitrogen	EPA 353.2	1	01/09/2006 19:19	Venia B McFadden	1
00221	Ammonia Nitrogen	EPA 350.2	1	12/30/2005 14:30	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	12/30/2005 01:00	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	12/29/2005 21:16	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	01/04/2006 11:32	James S Mathiot	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	01/04/2006 10:49	Nicole M Kepley	1
01553	Chemical Oxygen Demand	EPA 410.2	1	01/09/2006 07:40	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	01/03/2006 08:28	Martha L Seidel	1
00774	PAH's in Water by HPLC	SW-846 8310	1	01/06/2006 11:12	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	01/03/2006 08:28	Martha L Seidel	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	2	01/06/2006 14:30	Nancy J Shoop	1
03337	PAH Water Extraction	SW-846 3510C	1	01/03/2006 05:00	Mark P Mastropietro	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	12/30/2005 15:20	Nancy J Shoop	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679843

MA3-TG4-3-122805-3-MS Groundwater
122805-16,18 02687.007.007.0001
Moss American
Collected:12/28/2005 13:15

Account Number: 07802

Submitted: 12/29/2005 09:20
Reported: 01/11/2006 at 18:10
Discard: 03/13/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

3TG43 SDG#: KMA78-05MS

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.	0.2	ug/l	1
00777	Toluene	108-88-3	22.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	22.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	65.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	160.	2.0	ug/l	1
00782	Acenaphthylene	208-96-8	170.	2.0	ug/l	1
00783	Acenaphthene	83-32-9	210.	2.0	ug/l	1
00784	Fluorene	86-73-7	20.	0.63	ug/l	1
00785	Phenanthrene	85-01-8	6.3	0.10	ug/l	1
00789	Anthracene	120-12-7	3.2	0.050	ug/l	1
00807	Fluoranthene	206-44-0	3.5	0.050	ug/l	1
00811	Pyrene	129-00-0	23.	0.23	ug/l	1
00812	Benzo(a)anthracene	56-55-3	1.8	0.025	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	1.5	0.050	ug/l	1
00823	Benzo(a)pyrene	50-32-8	1.8	0.025	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	3.7	0.050	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	7.3	0.10	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	14.	0.13	ug/l	1
07409	Chrysene	218-01-9	7.2	0.10	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	1.5	0.025	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

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

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

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679843

MA3-TG4-3-122805-3-MS Groundwater
122805-16,18 02687.007.007.0001
Moss American
Collected:12/28/2005 13:15

Account Number: 07802

Submitted: 12/29/2005 09:20
Reported: 01/11/2006 at 18:10
Discard: 03/13/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

3TG43 SDG#: KMA78-05MS

08213	BTEX (8021)	SW-846 8021B	1	01/03/2006 09:01	Martha L Seidel	1
00774	PAH's in Water by HPLC	SW-846 8310	1	01/06/2006 11:50	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	01/03/2006 09:01	Martha L Seidel	1
03337	PAH Water Extraction	SW-846 3510C	1	01/03/2006 05:00	Mark P Mastropietro	1

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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679844

MA3-TG4-3-122805-3-MSD Groundwater
122805-16,18 02687.007.007.0001
Moss American
Collected:12/28/2005 13:15

Account Number: 07802

Submitted: 12/29/2005 09:20
Reported: 01/11/2006 at 18:10
Discard: 03/13/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

3TG43 SDG#: KMA78-05MSD

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	21.	0.2	ug/l	1
00777	Toluene	108-88-3	21.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	22.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	66.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	170.	2.0	ug/l	1
00782	Acenaphthylene	208-96-8	180.	2.0	ug/l	1
00783	Acenaphthene	83-32-9	210.	2.0	ug/l	1
00784	Fluorene	86-73-7	21.	0.63	ug/l	1
00785	Phenanthrene	85-01-8	6.6	0.10	ug/l	1
00789	Anthracene	120-12-7	3.3	0.050	ug/l	1
00807	Fluoranthene	206-44-0	3.6	0.050	ug/l	1
00811	Pyrene	129-00-0	24.	0.23	ug/l	1
00812	Benzo(a)anthracene	56-55-3	1.9	0.025	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	1.5	0.050	ug/l	1
00823	Benzo(a)pyrene	50-32-8	1.9	0.025	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	3.7	0.050	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	7.4	0.10	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	14.	0.13	ug/l	1
07409	Chrysene	218-01-9	7.3	0.10	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	1.5	0.025	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

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

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

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679844

MA3-TG4-3-122805-3-MSD Groundwater
122805-16,18 02687.007.007.0001
Moss American
Collected:12/28/2005 13:15

Account Number: 07802

Submitted: 12/29/2005 09:20
Reported: 01/11/2006 at 18:10
Discard: 03/13/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

3TG43 SDG#: KMA78-05MSD

08213	BTEX (8021)	SW-846 8021B	1	01/03/2006 09:34	Martha L Seidel	1
00774	PAH's in Water by HPLC	SW-846 8310	1	01/06/2006 12:29	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	01/03/2006 09:34	Martha L Seidel	1
03337	PAH Water Extraction	SW-846 3510C	1	01/03/2006 05:00	Mark P Mastropietro	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679845

MA3-FB-122805-7 Groundwater
122805-18 02687.007.007.0001
Moss American
Collected:12/28/2005 16:45

Account Number: 07802

Submitted: 12/29/2005 09:20
Reported: 01/11/2006 at 18:10
Discard: 03/13/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

3-FB- SDG#: KMA78-06FB

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.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	N.D.	1.7	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.7	ug/l	1
00783	Acenaphthene	83-32-9	N.D.	1.7	ug/l	1
00784	Fluorene	86-73-7	N.D.	0.53	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.084	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.042	ug/l	1
00807	Fluoranthene	206-44-0	N.D.	0.042	ug/l	1
00811	Pyrene	129-00-0	N.D.	0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	N.D.	0.021	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	N.D.	0.042	ug/l	1
00823	Benzo(a)pyrene	50-32-8	N.D.	0.021	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	N.D.	0.042	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.084	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	N.D.	0.11	ug/l	1
07409	Chrysene	218-01-9	N.D.	0.084	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	N.D.	0.021	ug/l	1

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The reporting limits were raised accordingly.

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

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

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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679845

MA3-FB-122805-7 Groundwater
122805-18 02687.007.007.0001
Moss American
Collected:12/28/2005 16:45 Account Number: 07802

Submitted: 12/29/2005 09:20 Kerr-McGee Corporation
Reported: 01/11/2006 at 18:10 PO Box 3048
Discard: 03/13/2006 Livonia MI 48150

3-FB- SDG#: KMA78-06FB

08213	BTEX (8021)	SW-846 8021B	1	01/03/2006 04:36	Martha L Seidel	1
00774	PAH's in Water by HPLC	SW-846 8310	1	01/06/2006 15:02	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	01/03/2006 04:36	Martha L Seidel	1
03337	PAH Water Extraction	SW-846 3510C	1	01/03/2006 05:00	Mark P Mastropietro	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4679846

MA3-TB-5-122805-6 Groundwater
122805-18 02687.007.007.0001
Moss American
Collected:12/28/2005 16:00

Account Number: 07802

Submitted: 12/29/2005 09:20
Reported: 01/11/2006 at 18:10
Discard: 03/13/2006

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

3-TB- SDG#: KMA78-07TB*

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.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	01/03/2006 05:08	Martha L Seidel	1
01146	GC VOA Water Prep	SW-846 5030B	1	01/03/2006 05:08	Martha L Seidel	1

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

Lancaster Laboratories

Quality Control Summary

Client Name: Kerr-McGee Corporation
Reported: 01/11/06 at 06:10 PM

Group Number: 972723

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 05363023501A	Sample number(s): 4679838-4679842							
Biochemical Oxygen Demand				100	100	85-115	0	8
Batch number: 05363105101A	Sample number(s): 4679838-4679842							
Nitrite Nitrogen	N.D.	0.015	mg/l	101		90-110		
Batch number: 05364022101A	Sample number(s): 4679838-4679842							
Ammonia Nitrogen	N.D.	0.11	mg/l	99		91-100		
Batch number: 05364022601A	Sample number(s): 4679838-4679842							
Ortho-Phosphate as P	N.D.	0.010	mg/l	98		95-105		
Batch number: 05364110101A	Sample number(s): 4679838-4679842							
Total Phosphorus as PO4 water	N.D.	0.25	mg/l	101		89-110		
Batch number: 05365WAB026	Sample number(s): 4679838-4679845							
Naphthalene	N.D.	1.6	ug/l	70		57-109		
Acenaphthylene	N.D.	1.6	ug/l	73		67-99		
Acenaphthene	N.D.	1.6	ug/l	86		60-116		
Fluorene	N.D.	0.50	ug/l	84		61-116		
Phenanthrene	N.D.	0.080	ug/l	89		67-115		
Anthracene	N.D.	0.040	ug/l	89		68-113		
Fluoranthene	N.D.	0.040	ug/l	95		70-112		
Pyrene	N.D.	0.18	ug/l	94		69-113		
Benzo(a)anthracene	N.D.	0.020	ug/l	99		73-114		
Benzo(b)fluoranthene	N.D.	0.040	ug/l	100		72-113		
Benzo(a)pyrene	N.D.	0.020	ug/l	98		68-112		
Dibenz(a,h)anthracene	N.D.	0.040	ug/l	95		19-129		
Indeno(1,2,3-cd)pyrene	N.D.	0.080	ug/l	97		67-106		
Benzo(g,h,i)perylene	N.D.	0.10	ug/l	88		7-126		
Chrysene	N.D.	0.080	ug/l	97		70-111		
Benzo(k)fluoranthene	N.D.	0.020	ug/l	100		72-119		
Batch number: 06002A51B	Sample number(s): 4679838-4679846							
Benzene	N.D.	0.2	ug/l	102	96	86-119	6	30
Toluene	N.D.	0.2	ug/l	101	98	82-119	2	30
Ethylbenzene	N.D.	0.2	ug/l	100	102	81-119	1	30

*- 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.

Lancaster Laboratories

Quality Control Summary

Client Name: Kerr-McGee Corporation Group Number: 972723
Reported: 01/11/06 at 06:10 PM

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Total Xylenes	N.D.	0.6	ug/l	101	103	82-120	2	30
Batch number: 06004049511B	Sample number(s): 4679838-4679842							
Total Organic Carbon	N.D.	1.0	mg/l	87		83-115		
Batch number: 06006108101A	Sample number(s): 4679838-4679842							
Kjeldahl Nitrogen	N.D.	0.50	mg/l	97		90-110		
Batch number: 06009106101A	Sample number(s): 4679838-4679839							
Nitrate Nitrogen	N.D.	0.040	mg/l	105		89-110		
Batch number: 06009106101B	Sample number(s): 4679840-4679842							
Nitrate Nitrogen	N.D.	0.040	mg/l	105		89-110		
Batch number: 06009155301A	Sample number(s): 4679838-4679842							
Chemical Oxygen Demand				98		87-102		

Sample Matrix Quality Control

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 05363023501A	Sample number(s): 4679838-4679842								
Biochemical Oxygen Demand	95	94	67-144	1	9	399.	454.	13*	9
Batch number: 05363105101A	Sample number(s): 4679838-4679842								
Nitrite Nitrogen	0*		90-110			N.D.	N.D.	0 (1)	20
Batch number: 05364022101A	Sample number(s): 4679838-4679842								
Ammonia Nitrogen	(2)	(2)	64-128	1	8	103,000.	102,000.	1	2
Batch number: 05364022601A	Sample number(s): 4679838-4679842								
Ortho-Phosphate as P	97	98	88-113	1	5	0.010 J	N.D.	185* (1)	8
Batch number: 05364110101A	Sample number(s): 4679838-4679842								
Total Phosphorus as PO4 water	114*		90-110			N.D.	N.D.	0 (1)	3
Batch number: 05365WAB026	Sample number(s): 4679838-4679845								
Naphthalene	65	69	54-112	6	30				
Acenaphthylene	68	73	63-104	7	30				
Acenaphthene	82	86	59-114	4	30				
Fluorene	79	83	71-99	6	30				
Phenanthrene	84	88	66-115	5	30				
Anthracene	86	89	68-104	4	30				
Fluoranthene	93	95	67-104	2	30				

*- 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.

Lancaster Laboratories

Quality Control Summary

Client Name: Kerr-McGee Corporation Group Number: 972723
Reported: 01/11/06 at 06:10 PM

Sample Matrix Quality Control

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Pyrene	94	95	66-106	1	30				
Benzo(a)anthracene	98	100	63-111	2	30				
Benzo(b)fluoranthene	99	100	71-106	1	30				
Benzo(a)pyrene	98	99	69-109	1	30				
Dibenz(a,h)anthracene	100	99	35-129	0	30				
Indeno(1,2,3-cd)pyrene	98	98	56-112	0	30				
Benzo(g,h,i)perylene	94	93	35-126	1	30				
Chrysene	96	97	60-107	2	30				
Benzo(k)fluoranthene	100	101	70-109	1	30				
Batch number: 06002A51B	Sample number(s): 4679838-4679846								
Benzene	109	103	78-131	6	30				
Toluene	109	106	78-129	3	30				
Ethylbenzene	108	110	75-133	1	30				
Total Xylenes	108	110	80-134	2	30				
Batch number: 06004049511B	Sample number(s): 4679838-4679842								
Total Organic Carbon	93		67-130			10.0	9.9	1 (1)	4
Batch number: 06006108101A	Sample number(s): 4679838-4679842								
Kjeldahl Nitrogen	88*		90-110			1.4	1.5	4 (1)	7
Batch number: 06009106101A	Sample number(s): 4679838-4679839								
Nitrate Nitrogen	100		90-110			N.D.	N.D.	0 (1)	2
Batch number: 06009106101B	Sample number(s): 4679840-4679842								
Nitrate Nitrogen	98		90-110			N.D.	N.D.	0 (1)	2
Batch number: 06009155301A	Sample number(s): 4679838-4679842								
Chemical Oxygen Demand	72	76	60-129	2	5	65.1	68.2	5 (1)	8

Surrogate Quality Control

Analysis Name: PAH's in Water by HPLC
Batch number: 05365WAB026

	Nitrobenzene	Triphenylene
4679838	96	37665*
4679839	94	103
4679840	90	100
4679841	95	101
4679842	91	100
4679843	95	103
4679844	94	104

*- 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.

Lancaster Laboratories

Quality Control Summary

Client Name: Kerr-McGee Corporation Group Number: 972723
Reported: 01/11/06 at 06:10 PM

Surrogate Quality Control

4679845	92	99
Blank	90	99
LCS	91	106
MS	95	103
MSD	94	104
Limits:	63-154	55-130

Analysis Name: BTEX (8021)
Batch number: 06002A51B
Trifluorotoluene-P

4679838	95
4679839	95
4679840	96
4679841	91
4679842	96
4679843	97
4679844	93
4679845	95
4679846	97
Blank	95
LCS	98
LCSD	93
MS	97
MSD	93
Limits:	69-129

*- 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.

Account# 07502 Group# 712723 Sample# 46'14838-46

COC ID: 15

Chain of Custody Record

WESTON SOLUTIONS

Client: Kerr McGee
Site Name: Moss American
W. O.: 02687.007.007.0001
Lab: LANCASTER LABS
TAT: PER QUOTE

Contact Name: Tom Graan
Contact Phone No.: 847-918-4142
Lab Contact: C. SWEIGART
Lab Phone: 717-656-2308 X1527

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	350.2-NH3	351.2-TKN,365.1-TP,410.2-COD	8310-PAHS							
						Filtered									
						Container	0ml-Round G	ml-Round G	mL. Amber G						
						Preservative	H2SO4	H2SO4	N/A						
	MA3-TG1-1-122305-5	G		N	12/28/2005 14:33		1	2							
	MA3-TG3-1-122305-4	G		N	12/28/2005 14:32			2							
	MA3-TG4-1-122305-1	G		N	12/28/2005 12:55			2							
	MA3-TG5-3-122305-2	G		N	12/28/2005 13:09	1		2							

Remarks/Comments: Date Sample ID should be 122805

Lab Use Only

Temp of Cooler when Received, C: 1: 5.1° 2: 4.3° 3: 2° 4: 2.5° 5:

COC Tape was present on outer package (Y) N
COC Tape was unbroken on outer package (Y) N
COC Tape ws present on sample Y N
COC Tape was unbroken on sample Y N

Received in good condition (Y) N
Labels indicate Properly Preserved Y N
Received within Holding Time Y N

Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time
[signature]	122805 1935						
						[signature]	12-29-05 0955

Sampled By: [signature]

Account# 07802 Group# 972723 Sample# 4679838-46

COC ID: 16

Chain of Custody Record

WESTON SOLUTIONS

Client: Kerr McGee
Site Name: Moss American
W. O.: 02687.007.007.0001
Lab: LANCASTER LABS
TAT:

Contact Name: Tom Graan
Contact Phone No.: 847-918-4142
Lab Contact: C. SWEIGART
Lab Phone: 717-656-2308 X1527

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	350.2-NH3	351.2-TKN,365.1-TP,410.2-COD	8310-PAHS
					Filtered			
					Container	0ml-Round G	0ml-Round G	0mL Amber G
					Preservative	H2SO4	H2SO4	N/A
	MA3-TG1-1-122305-5	G		N	12/28/2005 14:33	1		
	MA3-TG3-1-122305-4	G		N	12/28/2005 14:32	1		
	MA3-TG4-3-122305-3	G		N	12/28/2005 13:15		1	
	MA3-TG4-3-122305-3-MSD	G		Y	12/28/2005 13:15			6
	MA3-TG5-3-122305-2	G		N	12/28/2005 13:09		1	

Remarks/Comments
Date in Sample ID should be 122805

Lab Use Only

Temp of Cooler when Received, C

1	2	3	4	5
5.1°	4.3°	2.°	2.5°	

COC Tape was present on outer package (Y) N
COC Tape was unbroken on outer package (Y) N
COC Tape ws present on sample Y N
COC Tape was unbroken on sample Y N

Received in good condition (Y) N
Labels indicate Properly Preserved Y N
Received within Holding Time Y N

Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time
[signature]	122805 1740					Kathy Binkley	12-29-05 0920

Sampled By [signature]

Account# 07802 Group# 972723 Sample# 4674838 - 46

COC ID: 18

Chain of Custody Record

WESTON SOLUTIONS

Client: Kerr McGee
Site Name: Moss American
W. O.: 02687.007.007.0001
Lab: LANCASTER LABS
TAT: PER QUOTE

Contact Name: Tom Graan
Contact Phone No.: 847-918-4142
Lab Contact: C. SWEIGART
Lab Phone: 717-656-2308 X1527

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	353.2-NO2	353.2-NO3	415.1-TOC	8021B-BTEX	8021B-BTEX	8310-PAHS				
						Filtered									
						Container	0ml-Glass Via	ml-Glass Vi	ml-Round Am	0ml-Glass Via	0ml-Glass Via	mL Amber G				
						Preservative	N/A	H2SO4	H3PO4	HCl	N/A	N/A				
	MA3-FB-122205-7	G		N	12/28/2005 16:45				3		2				
	MA3-TB-5-122305-6	G		N	12/28/2005 16:00					2					
	MA3-TG1-1-122305-5	G		N	12/28/2005 14:33	1	1	1	3						
	MA3-TG3-1-122305-4	G		N	12/28/2005 14:32	1	1	1	3						
	MA3-TG4-1-122305-1	G		N	12/28/2005 12:55	1	1	1	3						
	MA3-TG4-3-122305-3	G		N	12/28/2005 13:15	1	1	1							
	MA3-TG4-3-122305-3-MSD	G		Y	12/28/2005 13:15				9						
	MA3-TG5-3-122305-2	G		N	12/28/2005 13:09	1	1	1	3						

Remarks/Comments
Date in Sample ID should be 122805
DB

Sampled By: T. Walk

Lab Use Only
Temp of Cooler when Received, C
1: 5.1° 2: 4.3° 3: 2.° 4: 2.5° 5:

COC Tape was present on outer package (Y) N
COC Tape was unbroken on outer package (Y) N
COC Tape wa present on sample Y N
COC Tape was unbroken on sample Y N

Received in good condition (Y) N
Labels indicate Properly Preserved Y N
Received within Holding Time Y N

Relinquished By	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time
	122805 1617						
						Kathy Binkley	12-29-05 09:20