QUARTERLY GROUNDWATER TREATMENT PERFORMANCE MONITORING REPORT Q3 2005 MOSS-AMERICAN SITE MILWAUKEE, WISCONSIN

Prepared for

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Kerr-McGee Center
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Oklahoma City, OK 73102

Prepared by

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November 2005

W. O. No. 02687.007.007.0001

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11 November 2005

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: 3rd Quarter 2005 Groundwater Monitoring Report
Moss-American Site, Milwaukee, WI

Dear Mr. Hart:

Enclosed is the groundwater monitoring report for the 3rd 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

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SECTION 1
INTRODUCTION

In accordance with paragraph 4a of the Remedial Design/Remedial Action Statement of Work (RD/RA SOW), Kerr-McGee Chemical, LLC (KMC) is required to implement a groundwater monitoring program capable of detecting changes in chemical concentrations in the groundwater. KMC 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.

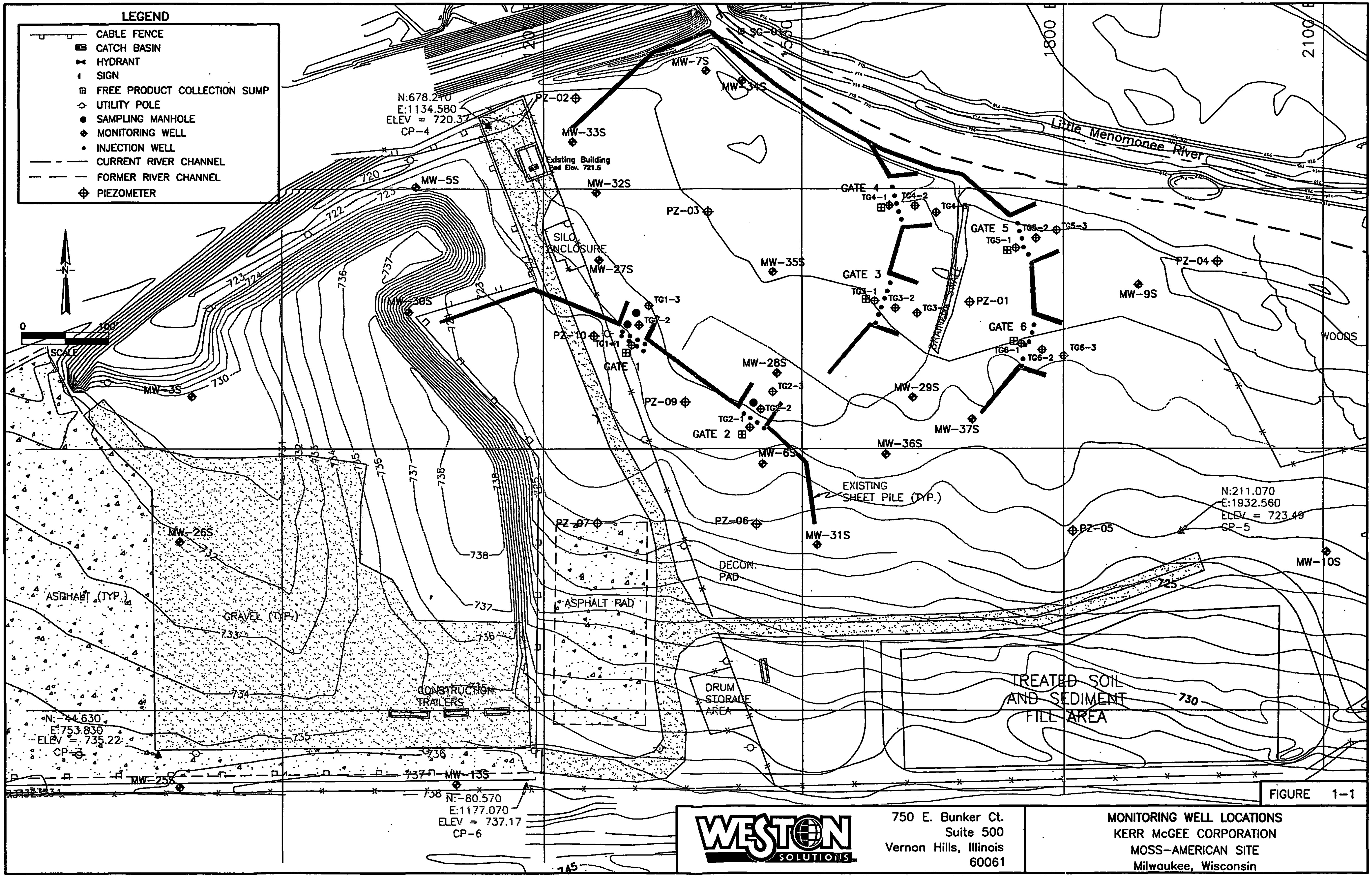
As discussed in the Q2 2002 Quarterly Groundwater Treatment Performance Monitoring Report, some modifications were made to the sampling program. The first modification was the reduction of performance monitoring well sampling frequency. The treatment performance monitoring wells were originally sampled 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 KMC 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.


LEGEND
CABLE FENCE
CATCH BASIN
HYDRANT
SIGN
FREE PRODUCT COLLECTION SUMP
UTILITY POLE
SAMPLING MANHOLE
MONITORING WELL
INJECTION WELL
CURRENT RIVER CHANNEL
FORMER RIVER CHANNEL
PIEZOMETER
N
0
100'
SCALE
Little Menomonee River
1800
2100
N:678.210
E:1134.580
ELEV = 720.37
CP-4
PZ-02
MW-7S
MW-34S
SG-01
MW-33S
Existing Building
Pad Elev. 721.6
MW-5S
MW-32S
PZ-03
SILO ENCLOSURE
MW-27S
MW-35S
GATE 4
TG4-1
TG4-2
TG4-3
GATE 5
TG5-1
TG5-2
TG5-3
GATE 3
TG3-1
TG3-2
TG3-3
DRAINAGE SWALE
PZ-01
PZ-04
MW-9S
GATE 6
TG6-1
TG6-2
TG6-3
WOODS
MW-30S
TG1-1
TG1-2
TG1-3
PZ-10
GATE 1
MW-3S
MW-28S
TG2-1
TG2-2
TG2-3
PZ-09
GATE 2
MW-29S
MW-37S
MW-36S
MW-6S
EXISTING SHEET PILE (TYP.)
N:211.070
E:1932.560
ELEV = 723.49
CP-5
MW-26S
PZ-07
PZ-06
MW-31S
PZ-05
MW-10S
DECON. PAD
ASPHALT (TYP.)
GRAVEL (TYP.)
ASPHALT PAD
DRUM STORAGE AREA
TREATED SOIL AND SEDIMENT FILL AREA
CONSTRUCTION TRAILERS
N:-44.630
E:753.830
ELEV = 735.22
CP-3
MW-25S
MW-13S
N:-80.570
E:1177.070
ELEV = 737.17
CP-6
FIGURE 1-1
WESTON SOLUTIONS
750 E. Bunker Ct.
Suite 500
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60061
MONITORING WELL LOCATIONS
KERR McGEE CORPORATION
MOSS-AMERICAN SITE
Milwaukee, Wisconsin

SECTION 2
ON-SITE GROUNDWATER MONITORING RESULTS

The Q3 2005 groundwater-monitoring event at the Moss-American site was completed between 6 and 13 September 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 Q3 2005 groundwater sampling event are described in the following subsections.

2.1 GROUNDWATER ELEVATION MEASUREMENTS

The depth to water was measured in each of the shallow groundwater monitoring, containment performance monitoring, treatment performance monitoring, and piezometers on 6 and 7 September 2005 within a 24 hour period, and prior to the commencement of groundwater sampling. 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 Q3 2005. Figure 2-1 presents a potentiometric surface map of the shallow groundwater-bearing zone, based on the 6 and 7 Septemter 2005 data. Figure 2-2 presents the groundwater potentiometric surface elevations during Q2 2005. An evaluation of the Q3 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 0.032 feet per foot (ft/ft) to the northeast, as measured from the vicinity of MW-13S 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 0.013 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 0.0083 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 0.0046 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 0.032 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 0.0032 ft/day. Near the river, using a hydraulic gradient of 0.013 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 0.13

ft/day. The groundwater flow velocities within the treatment gates are estimated to range from 0.0047 ft/day to 0.0784 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, four field sample duplicate, three matrix spike/matrix spike duplicate (MS/MSD), and three field blank (identified by an FB prefix) samples were collected for quality assurance/quality control (QA/QC) purposes. The QA/QC program was also inclusive of the 10 investigative samples and QA/QC samples collected from the Reaches 1, 2, and 3 monitoring wells. 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 immediately 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 on the purge water during Q3 2005.

2.2.1.1 pH

The pH of the groundwater samples collected during Q3 2005 ranged from 6.65 to 7.35 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 Q3 2005 ranged from -113.1 to 73.4 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 Q3 2005 ranged from 0.06 to 1.99 milligrams per liter (mg/L) with only level above 1.0 mg/L. Overall, the DO readings indicate the presence of low 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 Q3 2005 ranged from 0.668 to 2.109 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 15.1 to 20.1 degrees Celsius (°C) during Q3 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 1.97 to 385 nephelometric turbidity units (NTU) during Q3 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 September 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 September 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, MW-34S, and TG1-1.

- Benzo(a)pyrene was detected at concentrations exceeding the PAL of 0.02 µg/L in the groundwater samples collected from wells MW-34S, MW-7S, TG1-1, TG2-2 and TG5-2.

- Benzo(b)fluoranthene was detected at concentrations exceeding the PAL of 0.02 µg/L in the groundwater samples collected from wells MW-34S, TG1-1, and TG2-2.

- Chrysene was detected at concentrations exceeding the PAL of 0.02 µg/L in the groundwater samples collected from wells MW-34S, and TG1-1.

- Fluoranthene was detected at a concentration exceeding the PAL of 80 µg/L in the groundwater sample collected from wells MW-34S and 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

- Benzene was detected at concentrations exceeding the ES of 5 µg/L in the groundwater sample collected from well MW-34S.

- 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 concentrations exceeding the ES of 0.2 µg/L in the groundwater samples collected from wells MW-34S and 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 wells MW-34S and TG1-1.

- Naphthalene was detected at concentrations exceeding the ES of 40 µg/L in the groundwater samples collected from wells MW-7S, MW-33S, MW-34S, and TG1-1.

- Pyrene was detected at a concentration exceeding the ES of 250 µg/L in the groundwater sample collected from wells MW-34S and 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 a few 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 25 quarterly groundwater sampling events. Very low (estimated) detections of PAHs in wells from treatment gates 2, 5, and 6 were noted. WESTON will track these wells and constituents in subsequent monitoring events.

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 Q3 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 TG3-2 at 0.088 mg/L and non-detect results elsewhere. Nitrite was not detected above the detection limits in any of the treatment performance monitoring well samples. TKN results include three non-detect results and detections with concentrations ranging from 0.72 to 2.1 mg/L. Ammonia results include three non-detect results and detections ranging from 0.28 to 1.8 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 detected in TG4-1 and TG6-1 at concentrations of 3.9 and 0.51 mg/L, respectively. All other PO_4-P were non-detects. ORP results included non-detects and detected concentrations ranging from 0.012 to 0.11 mg/L.

BOD, COD, and TOC

BOD concentrations for the samples collected throughout the treatment system ranged from non-detect to 14.6 mg/L. COD concentrations for the samples collected throughout the treatment system ranged from 7.8 to 122 mg/L. TOC concentrations for the samples collected throughout the treatment system ranged from 3.1 to 13.7 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 2.5×10^2 to 2.3×10^6 colony forming units per milliliter (CFU/mL) during Q3 2005. The total microbial population for TG3 and TG4 ranged from 2.1×10^3 to 1.6×10^5 CFU/mL during Q3 2005. The total microbial populations for TG5 and TG6 ranged from non-detect to 6.1×10^4 CFU/mL during Q3 2005.

The result of degrader microbial population analysis for TG1 and TG2 ranged from non-detect to 1.6×10^3 CFU/mL during Q3 2005. The degrader microbial populations for TG3 and TG4 ranged from not detect to 6.4×10^2 CFU/mL during Q3 2005. The degrader microbial populations for TG5 ranged from non-detect to 2.1×10^2 during Q3 2005. The degrader microbial populations for TG6 were all non-detect during Q3 2005.

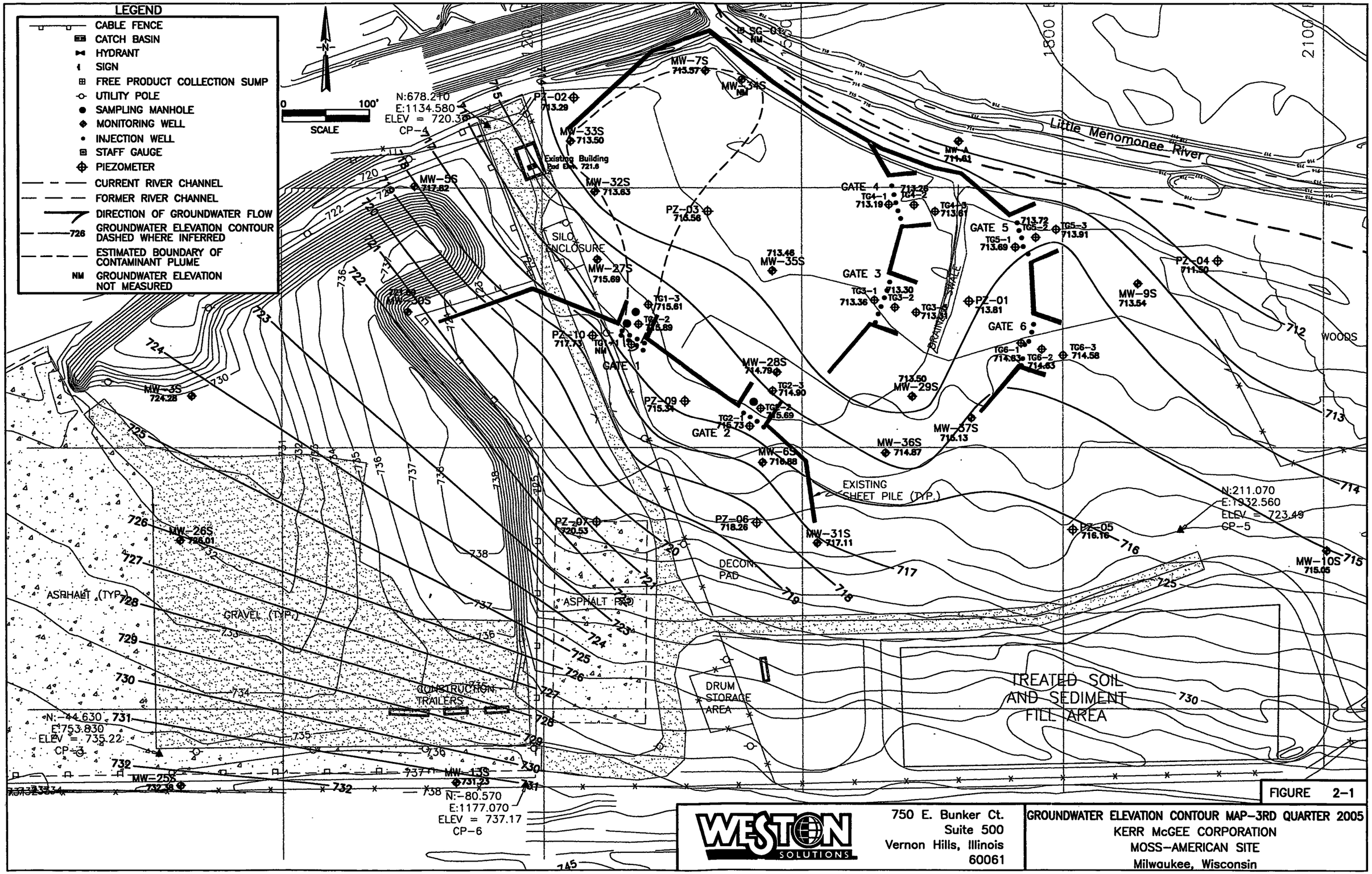


FIGURE 2-1

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

J:\CAD93\000\00303.dwg, 11/11/2005 10:08:52 AM

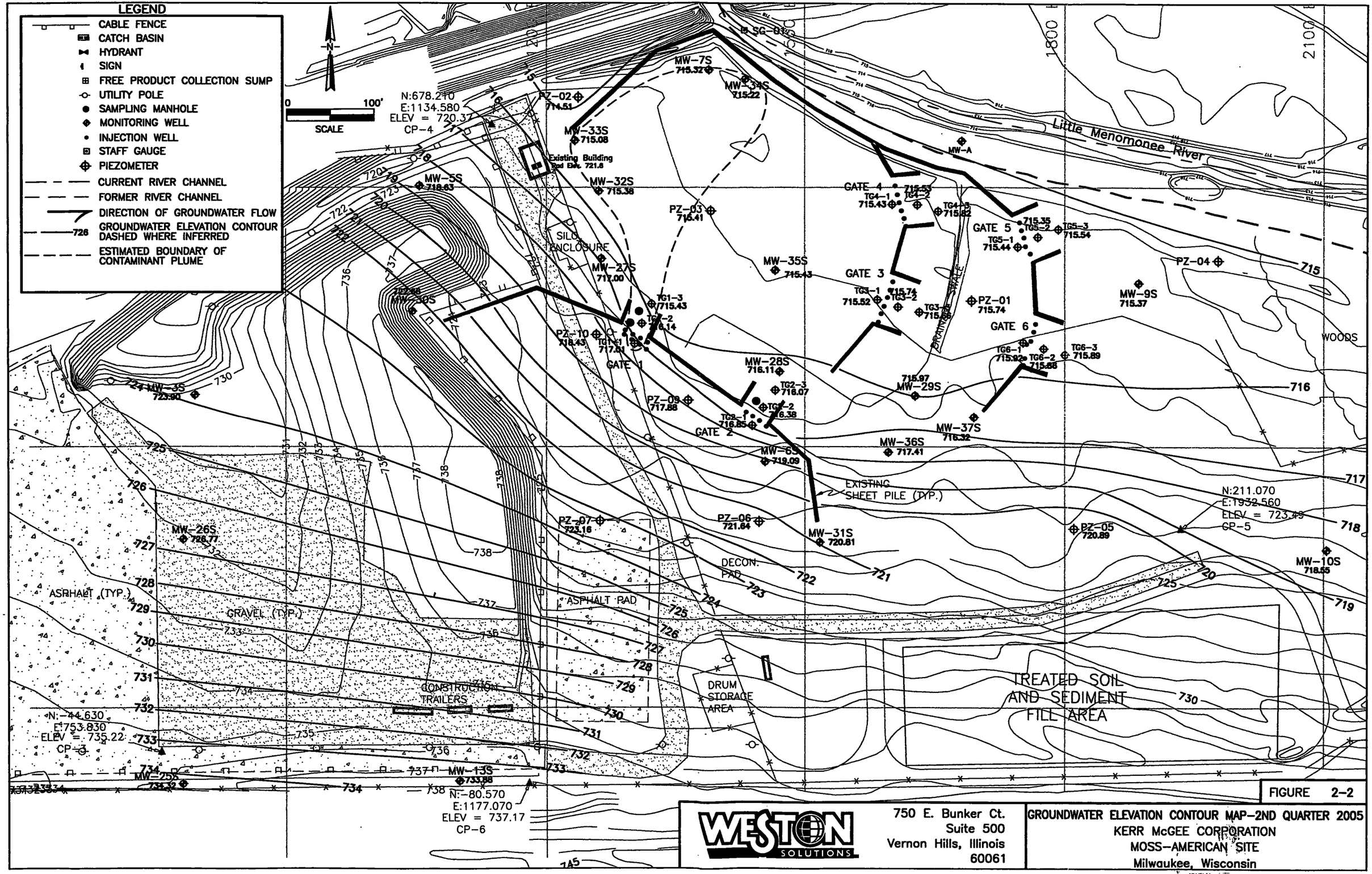


FIGURE 2-2

WESTON SOLUTIONS

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

GROUNDWATER ELEVATION CONTOUR MAP-2ND 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
Third Quarter 2005

Well ID	Ground Elevation	TOC Elevation	Depth to Water	Groundwater Elevation	Product Thickness
MW-3S	729.71	731.45	7.17	724.28	None Detected
MW-5S	723.41	724.63	6.81	717.82	
MW-6S	723.11	725.24	8.36	716.88	
MW-7S	719.47	721.59	8.02	713.57	
MW-9S	719.15	721.66	8.12	713.54	
MW-10S	723.95	726.76	11.71	715.05	
MW-13S	737.73	738.58	7.35	731.23	
MW-25S	736.95	739.19	6.81	732.38	
MW-26S	732.31	731.87	5.86	726.01	
MW-27S	720.57	723.10	7.41	715.69	
MW-28S	719.64	722.13	7.34	714.79	
MW-29S	719.51	722.17	8.67	713.50	
MW-30S	725.35	727.34	5.45	721.89	
MW-31S	725.29	725.31	8.2	717.11	
MW-32S	719.68	722.79	9.16	713.63	
MW-33S	719.25	721.81	8.31	713.50	
MW-34S	718.97	721.52	NM	NC	Trace
MW-35S	718.14	721.75	8.29	713.46	None Detected
MW-36S	720.41	723.21	8.34	714.87	
MW-37S	721.33	723.30	8.17	715.13	

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 6 September 2005

NM= Not measured

NC= Could not be calculated due to insufficient data

Table 2-2

Groundwater Elevation Measurements
Treatment Performance Monitoring Wells
Moss-American Site
Milwaukee, Wisconsin
Third 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	NM	NC	0.0028	0.0265	Trace
TG1-2	720.06	722.81	6.92	715.89			None Detected
TG1-3	719.56	722.53	6.92	715.61			
TG2-1	720.67	723.80	8.07	715.73	0.0083	0.0784	
TG2-2	720.62	723.05	7.36	715.69			
TG2-3	720.06	722.61	7.71	714.90			
TG3-1	719.14	721.05	7.69	713.36	0.0005	0.0047	
TG3-2	718.87	720.92	7.62	713.30			
TG3-3	718.35	720.60	7.29	713.31			
TG4-1	718.06	721.14	7.95	713.19	-0.0042	-0.0397	
TG4-2	718.26	720.75	7.49	713.26			
TG4-3	718.01	720.04	6.43	713.61			
TG5-1	717.60	721.12	7.43	713.69	-0.0022	-0.0208	
TG5-2	718.18	720.63	6.91	713.72			
TG5-3	718.17	719.99	6.08	713.91			
TG6-1	719.47	721.96	7.33	714.63	0.0005	0.0047	
TG6-2	719.70	722.05	7.42	714.63			
TG6-3	719.58	722.47	7.89	714.58			

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
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 6 September 2005.

Table 2-3

Groundwater Elevation Measurements
Piezometer and Staff Guage
Moss-American Site
Milwaukee, Wisconsin
Third Quarter 2005

Well ID	Ground Elevation	TOC Elevation	Depth to Water	Groundwater Elevation	Product Thickness
Groundwater					
PZ-01	718.04	721.05	7.24	713.81	None Detected
PZ-02	718.89	721.84	8.55	713.29	
PZ-03	719.00	722.09	8.53	713.56	
PZ-04	717.30	720.22	8.72	711.50	
PZ-05	724.34	727.43	11.27	716.16	
PZ-06	724.62	727.79	9.53	718.26	
PZ-07	725.78	728.72	8.19	720.53	
PZ-09	721.12	724.08	8.74	715.34	
PZ-10	722.04	725.05	7.32	717.73	
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 6 September 2005

Table 2-4

Field-Measured Parameters
Shallow Groundwater and Containment Performance Monitoring Wells
Moss-American Site
Milwaukee, Wisconsin
Third 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	0.27	-41	7.1	1.419	15.79	1.02
MW-6S	0.97	59.4	7.2	1.5	18.67	3.49
MW-7S	0.87	-90.5	6.78	0.913	16.4	1.37
MW-9S	0.28	-67.5	6.69	0.925	15.07	1.09
MW-27S	0.67	-44.7	6.93	1.573	16.8	4.51
MW-28S	0.13	69.2	6.97	1.601	17.65	2.44
MW-29S	1.99	-44.9	7.03	1.325	16.25	6.32
MW-30S	0.18	-22.9	6.72	2.109	17.92	1.37
MW-31S	0.62	54.7	7.17	1.39	16.89	5.87
MW-32S	0.11	-64.9	6.92	1.448	18.26	0.95
MW-33S	0.53	-67.2	6.71	1.57	17.34	1.42
MW-34S	NM	NM	NM	NM	NM	NM
MW-35S	0.95	73.4	6.79	1.277	20.1	0.76
MW-36S	0.6	10.2	7.35	1.388	17.1	4.2
MW-37S	0.89	-56.4	7.25	1.342	16.09	4.15
MW-A	0.02	-51.2	7.02	0.966	17.9	0.73
MW-B	0.09	-79.2	6.87	1.304	16.49	1.9
MW-C	NM	-88.3	7.12	1.058	14.8	2.64
MW-D	0.02	-60.8	6.92	1.338	14.79	1.38
MW-E	NM	48.79	7.39	1.109	16.98	1.24
MW-F	0.05	-82.1	6.88	1.393	16.65	9.51
MW-G	0.86	-83.8	6.95	1.402	16.95	40.8
MW-H	0.11	-79.6	7.28	1.089	16.34	8.51
MW-I	0.07	-85.4	7.07	1.237	17.42	2.84
MW-J	0.02	-40.3	7.09	1.445	14.23	8.78

Table 2-4 (Continued)

Field-Measured Parameters
Treatment Performance Monitoring Wells
Moss-American Site
Milwaukee, Wisconsin
Third 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	0.18	-89.3	7.03	1.041	17.38	1.28
TG1-3	0.14	-74.8	6.9	1.067	18.85	2.43
TG2-1	0.23	-22.4	6.87	0.886	16.55	1.26
TG2-2	0.15	-70.8	7.14	1.378	17.36	0.79
TG2-3	0.42	-97.6	6.89	1.413	17.68	0.68
TG3-1	0.12	23.5	6.91	1.725	19.19	1.24
TG3-2	0.08	-92.5	7.07	1.582	19.58	2.39
TG3-3	0.06	-109.6	6.91	1.579	19.57	3.79
TG4-1	NM	-76.2	7.08	1.627	17.61	1.16
TG4-2	0.19	-88.6	7.09	1.553	17.86	0.97
TG4-3	0.13	-99.7	7.09	1.517	16.95	0.98
TG5-1	0.84	-27.4	7.02	1.067	18.59	1.26
TG5-2	0.08	-92	7.08	1.057	18.83	1.22
TG5-3	NM	-113.1	7.24	0.668	19.27	1.34
TG6-1	0.07	-72.5	7.05	1.374	16.89	3.72
TG6-2	0.18	-38.3	6.67	1.679	16.35	1.39
TG6-3	0.3	-58.3	6.69	1.617	16.82	0.63

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

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

Sample ID	MA3-MW5S-090905-4	MA3-MW6S-090905-10	MA3-MW7S-091205-8	MA3-MW9S-091205-14	MA3-MW27S-090905-8	WDNR PAL (ug/L)	WDNR ES (ug/L)
Well ID	MW-5S	MW-6S	MW-7S	MW-9S	MW-27S		
Matrix	WG	WG	WG	WG	WG		
Date	9/9/2005	9/9/2005	9/12/2005	9/12/2005	9/9/2005		
Units	ug/l	ug/l	ug/l	ug/l	ug/l		
VOCs							
Benzene	0.2 U	0.2 U	1.8	0.2 U	0.2 U	0.5	5
Ethylbenzene	0.2 U	0.2 U	14	0.2 U	0.2 U	140	700
Toluene	0.2 U	0.2 U	0.3 J	0.2 U	0.2 U	68.6	343
Total Xylenes	0.6 U	0.6 U	22	0.6 U	0.6 U	124	650
PAHs							
Acenaphthene	1.8 U	1.7 U	34	1.7 U	1.7 U	NA	NA
Acenaphthylene	1.8 U	1.7 U	31	1.7 U	1.7 U	NA	NA
Anthracene	0.045 U	0.042 U	0.042 U	0.042 U	0.042 U	600	3000
Benzo(a)anthracene	0.023 U	0.021 U	0.021 U	0.021 U	0.021 U	NA	NA
Benzo(a)pyrene	0.023 U	0.021 U	0.021 U	0.021 U	0.021 U	0.02	0.2
Benzo(b)fluoranthene	0.045 U	0.042 U	0.042 U	0.042 U	0.042 U	0.02	0.2
Benzo(g,h,i)perylene	0.11 U	0.11 U	0.10 U	0.10 U	0.11 U	NA	NA
Benzo(k)fluoranthene	0.023 U	0.021 U	0.021 U	0.021 U	0.021 U	NA	NA
Chrysene	0.091 U	0.084 U	0.084 U	0.083 U	0.084 U	0.02	0.2
Dibenz(a,h)anthracene	0.045 U	0.042 U	0.042 U	0.042 U	0.042 U	NA	NA
Fluoranthene	0.045 U	0.042 U	0.042 U	0.042 U	0.042 U	80	400
Fluorene	0.57 U	0.53 U	5.8	0.52 U	0.53 U	80	400
Indeno(1,2,3-cd)pyrene	0.091 U	0.084 U	0.084 U	0.083 U	0.084 U	NA	NA
Naphthalene	1.8 U	1.7 U	[redacted]	1.7 U	1.7 U	8	40
Phenanthrene	0.091 U	0.084 U	0.084 U	0.083 U	0.084 U	NA	NA
Pyrene	0.20 U	0.19 U	0.19 U	0.19 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
Shallow Monitoring Well Samples
Moss-American Site
Milwaukee, Wisconsin
Third Quarter 2005

Sample ID	MA3-MW28S-090905-9	MA3-MW28S-090905-9-DP	MA3-MW29S-090905-1	MA3-MW29S-090905-1-DP	MA3-MW30S-090905-5	WDNR PAL (ug/L)	WDNR ES (ug/L)
Well ID	MW-28S	MW-28S	MW-29S	MW-29S	MW-30S		
Matrix	WG	WQ	WG	WQ	WG		
Date	9/9/2005	9/9/2005	9/9/2005	9/9/2005	9/9/2005		
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 J	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	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	NA	NA
Acenaphthylene	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	NA	NA
Anthracene	0.042 U	0.042 U	0.042 U	0.041 U	0.044 U	600	3000
Benzo(a)anthracene	0.021 U	0.021 U	0.021 U	0.021 U	0.022 U	NA	NA
Benzo(a)pyrene	0.021 U	0.021 U	0.021 U	0.021 U	0.022 U	0.02	0.2
Benzo(b)fluoranthene	0.042 U	0.042 U	0.042 U	0.041 U	0.044 U	0.02	0.2
Benzo(g,h,i)perylene	0.10 U	0.10 U	0.10 U	0.10 U	0.11 U	NA	NA
Benzo(k)fluoranthene	0.021 U	0.021 U	0.021 U	0.021 U	0.022 U	NA	NA
Chrysene	0.083 U	0.083 U	0.083 U	0.083 U	0.087 U	0.02	0.2
Dibenz(a,h)anthracene	0.042 U	0.042 U	0.042 U	0.041 U	0.044 U	NA	NA
Fluoranthene	0.042 U	0.042 U	0.042 U	0.041 U	0.044 U	80	400
Fluorene	0.52 U	0.52 U	0.52 U	0.52 U	0.55 U	80	400
Indeno(1,2,3-cd)pyrene	0.083 U	0.083 U	0.083 U	0.083 U	0.087 U	NA	NA
Naphthalene	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	8	40
Phenanthrene	0.083 U	0.083 U	0.083 U	0.083 U	0.087 U	NA	NA
Pyrene	0.19 U	0.19 U	0.19 U	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
Containment Monitoring Well Samples
Moss-American Site
Milwaukee, Wisconsin
Third Quarter 2005

Sample ID	MA3-MW31S-090905-11	MA3-MW32S-090905-7	MA3-MW33S-090905-6	MA3-MW33S-090905-8-D	WDNR PAL (ug/L)	WDNR ES (ug/L)
Well ID	MW-31S	MW-32S	MW-33S	MW-33S		
Matrix	WG	WG	WG	WQ		
Date	9/9/2005	9/9/2005	9/9/2005	9/9/2005		
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	6.9	6.2	140	700
Toluene	0.2 U	0.2 U	0.3 J	0.2 J	68.6	343
Total Xylenes	0.6 U	0.6 U	5.8	5.1	124	650
PAHs						
Acenaphthene	1.7 U	1.7 U	160	150	NA	NA
Acenaphthylene	1.7 U	1.7 U	17 U	17 U	NA	NA
Anthracene	0.042 U	0.043 U	0.42	0.38	600	3000
Benzo(a)anthracene	0.021 U	0.021 U	0.021 U	0.021 U	NA	NA
Benzo(a)pyrene	0.021 U	0.021 U	0.021 U	0.021 U	0.02	0.2
Benzo(b)fluoranthene	0.042 U	0.043 U	0.042 U	0.042 U	0.02	0.2
Benzo(g,h,i)perylene	0.11 U	0.11 U	0.10 U	0.10 U	NA	NA
Benzo(k)fluoranthene	0.021 U	0.021 U	0.021 U	0.021 U	NA	NA
Chrysene	0.084 U	0.086 U	0.084 U	0.084 U	0.02	0.2
Dibenz(a,h)anthracene	0.042 U	0.043 U	0.042 U	0.042 U	NA	NA
Fluoranthene	0.042 U	0.043 U	0.042 U	0.042 U	80	400
Fluorene	0.53 U	0.53 U	56	61	80	400
Indeno(1,2,3-cd)pyrene	0.084 U	0.086 U	0.084 U	0.084 U	NA	NA
Naphthalene	1.7 U	1.7 U	**290**	**270**	8	40
Phenanthrene	0.084 U	0.086 U	14	13	NA	NA
Pyrene	0.19 U	0.19 U	0.19 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
Containment Monitoring Well Samples
Moss-American Site
Milwaukee, Wisconsin
Third Quarter 2005

Sample ID	MA3-MW34S-091205-10	MA3-MW35S-091205-9	MA3-MW36S-090905-3	MA3-MW37S-090905-2	WDNR PAL (ug/L)	WDNR ES (ug/L)
Well ID	MW-34S	MW-35S	MW-36S	MW-37S		
Matrix	WG	WG	WG	WG		
Date	9/12/2005	9/12/2005	9/9/2005	9/9/2005		
Units	ug/l	ug/l	ug/l	ug/l		
VOCs						
Benzene	7.3	0.2 U	0.2 U	0.2 U	0.5	5
Ethylbenzene	27	0.2 U	0.2 U	0.2 U	140	700
Toluene	1.4	0.2 U	0.2 U	0.2 U	68.6	343
Total Xylenes	76	0.6 U	0.6 U	0.6 U	124	650
PAHs						
Acenaphthene	590 J	1.7 U	1.7 U	1.7 U	NA	NA
Acenaphthylene	89 J	1.7 U	1.7 U	1.7 U	NA	NA
Anthracene	100	0.042 U	0.042 U	0.044 U	600	3000
Benzo(a)anthracene	63	0.021 U	0.021 U	0.022 U	NA	NA
Benzo(a)pyrene	23	0.021 U	0.021 U	0.022 U	0.02	0.2
Benzo(b)fluoranthene	23	0.042 U	0.042 U	0.044 U	0.02	0.2
Benzo(g,h,i)perylene	7.9 J	0.11 U	0.11 U	0.11 U	NA	NA
Benzo(k)fluoranthene	12	0.021 U	0.021 U	0.022 U	NA	NA
Chrysene	50	0.084 U	0.084 U	0.087 U	0.02	0.2
Dibenz(a,h)anthracene	3.2 J	0.042 U	0.042 U	0.044 U	NA	NA
Fluoranthene	400	0.68	0.042 U	0.044 U	80	400
Fluorene	440	0.53 U	0.53 U	0.54 U	80	400
Indeno(1,2,3-cd)pyrene	9.8 J	0.084 U	0.084 U	0.087 U	NA	NA
Naphthalene	6900	1.7 U	1.7 U	1.7 U	8	40
Phenanthrene	1000	0.084 U	0.084 U	0.087 U	NA	NA
Pyrene	310	0.42 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
Third Quarter 2005

Sample ID	MA3-TG1-1-091205-1	MA3-TG1-2-091205-2	MA3-TG1-3-091205-3	MA3-TG2-1-090805-1	MA3-TG2-2-090805-2	WDNR PAL (ug/L)	WDNR ES (ug/L)
Well ID	TG1-1	TG1-2	TG1-3	TG2-1	TG2-2		
Matrix	WG	WG	WG	WG	WG		
Date	9/12/2005	9/12/2005	9/12/2005	9/8/2005	9/8/2005		
Units	ug/l	ug/l	ug/l	ug/l	ug/l		
VOCs							
Benzene	0.8 J	0.2 U	0.2 U	0.2 U	0.2 U	0.5	5
Ethylbenzene	32	0.2 U	0.2 U	0.2 U	0.2 U	140	700
Toluene	0.4 J	0.2 U	0.2 U	0.2 U	0.2 U	68.6	343
Total Xylenes	47	0.6 U	0.6 U	0.6 U	0.6 U	124	650
PAHs							
Acenaphthene	1400	31	2.6 J	1.7 U	1.7 U	NA	NA
Acenaphthylene	100 J	1.7 U	1.7 U	1.7 U	1.7 U	NA	NA
Anthracene	280	0.81	0.099 J	0.043 U	0.043 U	600	3000
Benzo(a)anthracene	210	0.081 J	0.021 U	0.021 U	0.027 J	NA	NA
Benzo(a)pyrene	91	0.021 U	0.021 U	0.021 U	0.045 J	0.02	0.2
Benzo(b)fluoranthene	87	0.042 U	0.041 U	0.043 U	0.058 J	0.02	0.2
Benzo(g,h,i)perylene	32	0.10 U	0.10 U	0.11 U	0.11 U	NA	NA
Benzo(k)fluoranthene	47	0.021 U	0.021 U	0.021 U	0.024 J	NA	NA
Chrysene	150	0.084 U	0.083 U	0.085 U	0.086 U	0.02	0.2
Dibenz(a,h)anthracene	13	0.042 U	0.041 U	0.043 U	0.043 U	NA	NA
Fluoranthene	1200	2.3	0.28	0.043 U	0.13 J	80	400
Fluorene	1100	15	1.2	0.53 U	0.54 U	80	400
Indeno(1,2,3-cd)pyrene	38	0.084 U	0.083 U	0.085 U	0.086 U	NA	NA
Naphthalene	4000	22	2.7 J	1.7 U	1.7 U	8	40
Phenanthrene	2700	4.7	0.30 J	0.085 U	0.086 U	NA	NA
Pyrene	970	1.5	0.19 J	0.19 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
Third Quarter 2005

Sample ID	MA3-TG2-3-090805-3	MA3-TG3-1-090805-4	MA3-TG3-2-090805-5	MA3-TG3-3-090805-6	WDNR PAL (ug/L)	WDNR ES (ug/L)
Well ID	TG2-3	TG3-1	TG3-2	TG3-3		
Matrix	WG	WG	WG	WG		
Date	9/8/2005	9/8/2005	9/8/2005	9/8/2005		
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	1.7 U	1.6 U	1.6 U	NA	NA
Acenaphthylene	1.7 U	1.7 U	1.6 U	1.6 U	NA	NA
Anthracene	0.043 U	0.043 U	0.041 U	0.041 U	600	3000
Benzo(a)anthracene	0.022 U	0.022 U	0.020 U	0.021 U	NA	NA
Benzo(a)pyrene	0.022 U	0.022 U	0.020 U	0.021 U	0.02	0.2
Benzo(b)fluoranthene	0.043 U	0.043 U	0.041 U	0.041 U	0.02	0.2
Benzo(g,h,i)perylene	0.11 U	0.11 U	0.10 U	0.10 U	NA	NA
Benzo(k)fluoranthene	0.022 U	0.022 U	0.020 U	0.021 U	NA	NA
Chrysene	0.087 U	0.087 U	0.081 U	0.082 U	0.02	0.2
Dibenz(a,h)anthracene	0.043 U	0.043 U	0.041 U	0.041 U	NA	NA
Fluoranthene	0.046 J	0.050 J	0.049 J	0.099 J	80	400
Fluorene	0.54 U	0.54 U	0.51 U	0.52 U	80	400
Indeno(1,2,3-cd)pyrene	0.087 U	0.087 U	0.081 U	0.082 U	NA	NA
Naphthalene	1.7 U	1.7 U	1.6 U	1.6 U	8	40
Phenanthrene	0.087 U	0.087 U	0.081 U	0.082 U	NA	NA
Pyrene	0.20 U	0.19 U	0.18 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
Third Quarter 2005

Sample ID	MA3-TG4-1-090805-10	MA3-TG4-2-090805-11	MA3-TG4-3-090805-12	MA3-TG5-1-091205-4	MA3-TG5-2-091205-5	WDNR PAL (ug/L)	WDNR ES (ug/L)
Well ID	TG4-1	TG4-2	TG4-3	TG5-1	TG5-2		
Matrix	WG	WG	WG	WG	WG		
Date	9/8/2005	9/8/2005	9/8/2005	9/12/2005	9/12/2005		
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	1.6 U	1.8 U	1.7 U	1.7 U	NA	NA
Acenaphthylene	1.6 U	1.6 U	1.8 U	1.7 U	1.7 U	NA	NA
Anthracene	0.041 U	0.041 U	0.044 U	0.042 U	0.041 U	600	3000
Benzo(a)anthracene	0.021 U	0.021 J	0.022 U	0.021 U	0.021 U	NA	NA
Benzo(a)pyrene	0.021 U	0.021 U	0.022 U	0.021 U	**0.039 J**	0.02	0.2
Benzo(b)fluoranthene	0.041 U	0.041 U	0.044 U	0.042 U	0.041 U	0.02	0.2
Benzo(g,h,i)perylene	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	NA	NA
Benzo(k)fluoranthene	0.021 U	0.021 U	0.022 U	0.021 U	0.021 U	NA	NA
Chrysene	0.082 U	0.082 U	0.088 U	0.083 U	0.083 U	0.02	0.2
Dibenz(a,h)anthracene	0.041 U	0.041 U	0.044 U	0.042 U	0.041 U	NA	NA
Fluoranthene	0.041 U	0.34	0.044 U	0.042 U	0.095 J	80	400
Fluorene	0.52 U	0.51 U	0.55 U	0.52 U	0.52 U	80	400
Indeno(1,2,3-cd)pyrene	0.082 U	0.082 U	0.088 U	0.083 U	0.083 U	NA	NA
Naphthalene	1.6 U	1.6 U	1.8 U	1.7 U	1.7 U	8	40
Phenanthrene	0.082 U	0.082 U	0.088 U	0.083 U	0.083 U	NA	NA
Pyrene	0.19 U	0.27 J	0.20 U	0.19 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
Third Quarter 2005

Sample ID	MA3-TG5-3-091205-6	MA3-TG6-1-090805-7	MA3-TG6-2-090805-8	MA3-TG6-3-090805-9	WDNR PAL (ug/L)	WDNR ES (ug/L)
Well ID	TG5-3	TG6-1	TG6-2	TG6-3		
Matrix	WG	WG	WG	WG		
Date	9/12/2005	9/8/2005	9/8/2005	9/8/2005		
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	1.7 U	1.7 U	1.6 U	NA	NA
Acenaphthylene	1.7 U	1.7 U	1.7 U	1.6 U	NA	NA
Anthracene	0.041 U	0.042 U	0.041 U	0.040 U	600	.3000
Benzo(a)anthracene	0.021 U	0.021 U	0.021 U	0.020 U	NA	NA
Benzo(a)pyrene	0.021 U	0.021 U	0.021 U	0.020 U	0.02	0.2
Benzo(b)fluoranthene	0.041 U	0.042 U	0.041 U	0.040 U	0.02	0.2
Benzo(g,h,i)perylene	0.10 U	0.10 U	0.10 U	0.10 U	NA	NA
Benzo(k)fluoranthene	0.021 U	0.021 U	0.021 U	0.020 U	NA	NA
Chrysene	0.083 U	0.084 U	0.083 U	0.081 U	0.02	0.2
Dibenz(a,h)anthracene	0.041 U	0.042 U	0.041 U	0.040 U	NA	NA
Fluoranthene	0.046 J	0.086 J	0.13 J	0.078 J	80	400
Fluorene	0.52 U	0.52 U	0.52 U	0.50 U	80	400
Indeno(1,2,3-cd)pyrene	0.083 U	0.084 U	0.083 U	0.081 U	NA	NA
Naphthalene	1.7 U	1.7 U	1.7 U	1.6 U	8	40
Phenanthrene	0.083 U	0.084 U	0.083 U	0.081 U	NA	NA
Pyrene	0.19 U	0.19 U	0.19 U	0.18 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
Third Quarter 2005

Sample ID	MA3-FB-090805-14	MA3-FB-090905-12	MA3-FB-091305-7	MA3-TB-090805-13	MA3-TB-090905-13	MA3-TB-091205-15	MA3-TB-091305-8	WDNR PAL (ug/L)	WDNR ES (ug/L)
Well ID	Field Blank	Field Blank	Field Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank		
Matrix	WQ	WQ	WQ	WQ	WQ	WQ	WQ		
Date	9/8/2005	9/9/2005	9/13/2005	9/8/2005	9/9/2005	9/12/2005	9/13/2005		
Units	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	0.5	5
Ethylbenzene	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	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	124	650
PAHs									
Acenaphthene	1.6 U	1.8 U	1.7 U	-	-	-	-	NA	NA
Acenaphthylene	1.6 U	1.8 U	1.7 U	-	-	-	-	NA	NA
Anthracene	0.040 U	0.045 U	0.042 U	-	-	-	-	600	3000
Benzo(a)anthracene	0.020 U	0.022 U	0.021 U	-	-	-	-	NA	NA
Benzo(a)pyrene	0.020 U	0.022 U	0.021 U	-	-	-	-	0.02	0.2
Benzo(b)fluoranthene	0.040 U	0.045 U	0.042 U	-	-	-	-	0.02	0.2
Benzo(g,h,i)perylene	0.10 U	0.11 U	0.11 U	-	-	-	-	NA	NA
Benzo(k)fluoranthene	0.020 U	0.022 U	0.021 U	-	-	-	-	NA	NA
Chrysene	0.081 U	0.090 U	0.084 U	-	-	-	-	0.02	0.2
Dibenz(a,h)anthracene	0.040 U	0.045 U	0.042 U	-	-	-	-	NA	NA
Fluoranthene	0.040 U	0.045 U	0.042 U	-	-	-	-	80	400
Fluorene	0.51 U	0.56 U	0.53 U	-	-	-	-	80	400
Indeno(1,2,3-cd)pyrene	0.081 U	0.090 U	0.084 U	-	-	-	-	NA	NA
Naphthalene	1.6 U	1.8 U	1.7 U	-	-	-	-	8	40
Phenanthrene	0.081 U	0.090 U	0.084 U	-	-	-	-	NA	NA
Pyrene	0.18 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 2-6

Concentration Trends in Groundwater Monitoring Wells
Fourth Quarter 2002 through Third Quarter 2005
Moss-American Site
Milwaukee, Wisconsin

	MW-7S	MW-32S	MW-33S	MW-34S	MW-35S	TG1-1
Benzene (ug/L)						
Fourth Quarter (December '02)	4 U	0.20 U	2 U	5.6 J	0.20 U	4.9 J
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
Naphthalene (ug/L)						
Fourth Quarter (December '02)	2,800	1.0 U	2,100	5,300	1.00 U	8,900
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

Table 2-6 (Continued)

Concentration Trends in Groundwater Monitoring Wells
Fourth Quarter 2002 through Third Quarter 2005
Moss-American Site
Milwaukee, Wisconsin

	MW-7S	MW-32S	MW-33S	MW-34S	MW-35S	TG1-1
Fluorene (ug/L)						
Fourth Quarter (December '02)	11	0.20 UJ	59.0 J	170 J	0.20 UJ	3,400J
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
Benzo(a) pyrene (ug/L)						
Fourth Quarter (December '02)	0.20 U	0.02 UJ	0.02 UJ	5.6 J	0.02 UJ	290J
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

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
Third Quarter 2005

	Sample Identification					
Parameter (mg/L)	TG1-1	TG1-2	TG1-3	TG2-1	TG2-2	TG2-3
Ammonia Nitrogen	1.6	1.5	1.8	0.28 J	0.62	0.11 U
Biochemical oxygen demand	14.6	7.8	8.4	1.8 UJ	2.6 UJ	5.3 UJ
Chemical oxygen demand	122	33.2	32.8	13.3	7.8 J	26.2
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)	2.1	1.9	1.7	0.50 U	0.50 U	1.4
Ortho-Phosphate as P	0.010 U	0.010 U	0.012 J	0.019 J	0.023 J	0.030
Total Organic Carbon	11.1	13.7	11.2	3.1	10.7	5.1
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 U	1600	150	130
Total Microbial Population (mean) (cfu/mL)	250	14000	4000	1000000	2300000	9000

	Sample Identification					
Parameter (mg/L)	TG3-1	TG3-2	TG3-3	TG4-1	TG4-2	TG4-3
Ammonia Nitrogen	0.31 J	1.1	1.8	0.75	1.2	0.97
Biochemical oxygen demand	4.0 UJ	5.1 UJ	9.7 J	2.3 U	3.2 U	4.2 U
Chemical oxygen demand	20.3	23.8	30.9	57.4 J	27.7	19.1
Nitrate Nitrogen	0.040 U	0.088 J	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 UJ	0.015 U	0.015 U
Nitrogen (Kjeldahl)	0.72 J	1.0	1.7	1.1	1.4	1.1
Ortho-Phosphate as P	0.037	0.025 J	0.11	0.027 J	0.021 J	0.015 J
Total Organic Carbon	11.2	9.9	12.3	7.8	10.3	8.3
Total Phosphorus as PO4	0.25 U	0.25 U	0.25 U	3.9	0.25 U	0.25 U
Degrader Microbial Population (mean) (cfu/mL)	100 U	640	100 U	100 U	170	100 U
Total Microbial Population (mean) (cfu/mL)	65000	160000	2100	34000	5300	38000

	Sample Identification					
Parameter (mg/L)	TG5-1	TG5-2	TG5-3	TG6-1	TG6-2	TG6-3
Ammonia Nitrogen	0.11 U	0.97	0.11 U	1.6	1.1	0.93
Biochemical oxygen demand	2.7 U	3.5 U	2.6 U	3.1 U	2.4 U	1.7 U
Chemical oxygen demand	10.3	17.6	15.6	31.3	19.9	19.1
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 UJ	0.015 UJ	0.015 U
Nitrogen (Kjeldahl)	0.50 U	0.91 J	1.0 J	2.0	1.2	1.0
Ortho-Phosphate as P	0.010 U	0.010 U	0.010 U	0.056	0.023 J	0.014 J
Total Organic Carbon	4.5	6.4	6.5	11.6	7.9	7.5
Total Phosphorus as PO4	0.25 U	0.25 U	0.25 U	0.51	0.25 U	0.25 U
Degrader Microbial Population (mean) (cfu/mL)	100 U	210	100 U	100 U	100 U	100 U
Total Microbial Population (mean) (cfu/mL)	61000	9800	1400	22000	4400	100 U

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 Q3 2005, the DO concentrations in most all of the wells remained below 1.0 mg/L.

$N\text{-}NO_3$ was only detected in one well, and $N\text{-}NO_2$ was not detected in any of the treatment performance wells sampled in Q3 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. KMC/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.

KMC/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 (6.65 to 7.35 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 Q3 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 the performance monitoring wells were found to have decreased in TG1 from Q2 2005 counts. Total bacterial counts significantly increased in TG2, TG5, and TG6 from Q2 2005 counts. Total bacterial counts in TG3 and TG4 were found to have overall remained relatively steady from Q2 to Q3 2005; however, on a well by well comparison, total bacteria counts did vary. Degrader bacterial counts in the performance monitoring wells remained relatively steady or decreased slightly in most wells during Q3 2005 when compared to Q2 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

KMC/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 KMC/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 Q3 2005.

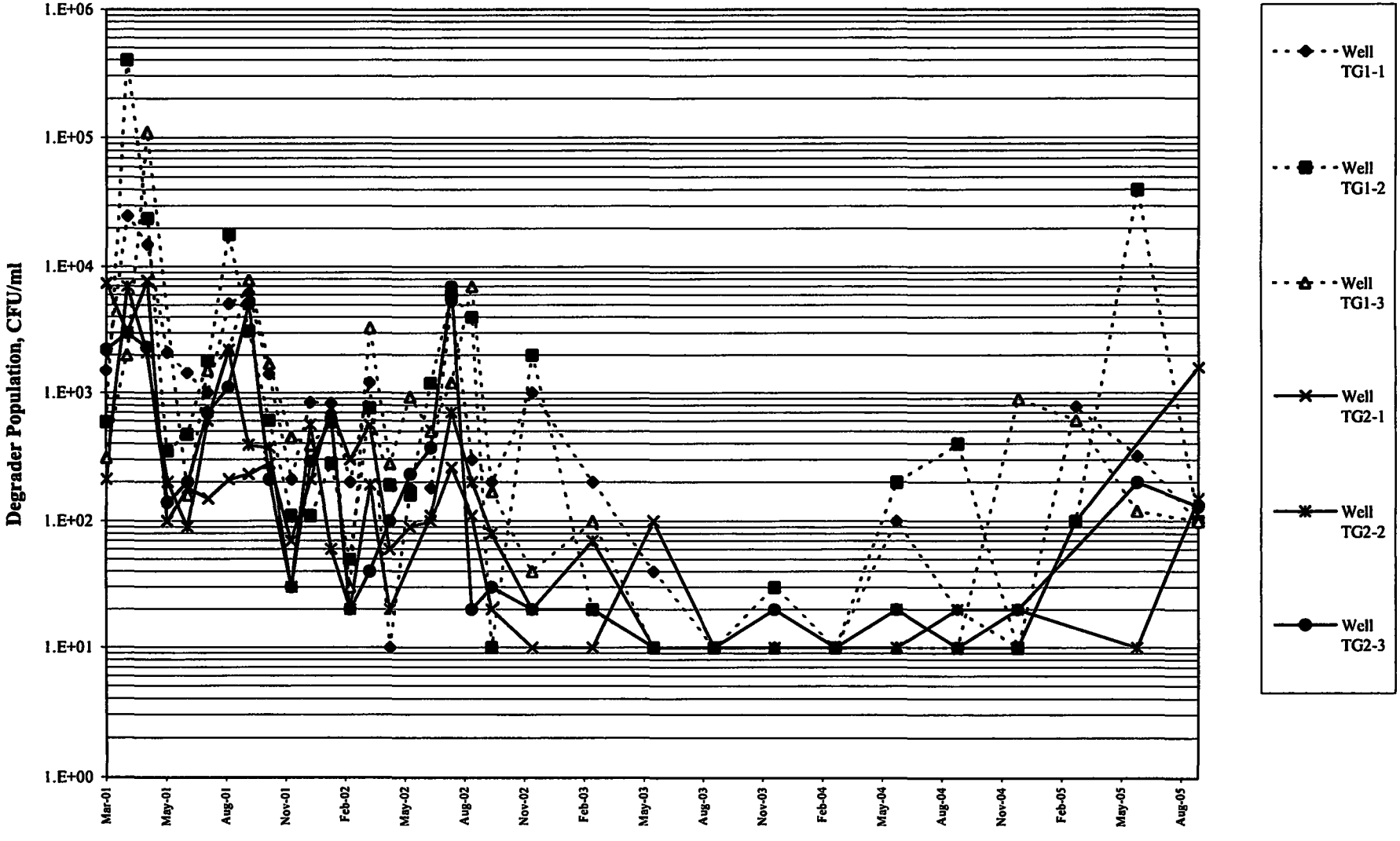
3.5 SITE MODIFICATIONS

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
Second 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	11.1	1.6	ND	100	14	0
TG1-2	13.7	1.5	ND	100	11	0
TG1-3	11.2	1.8	ND	100	16	0
TG2-1	3.1	0.28	ND	100	9	0
TG2-2	10.7	0.62	ND	100	6	0
TG2-3	5.1	0	ND	100	0	0
TG3-1	11.2	0.31	ND	100	3	0
TG3-2	9.90	1.188	ND	100	12	0
TG3-3	12.3	1.8	ND	100	15	0
TG4-1	7.8	0.75	3.9	100	10	50
TG4-2	10.3	1.2	ND	100	12	0
TG4-3	8.3	0.97	ND	100	12	0
TG5-1	4.50	0	ND	100	0	0
TG5-2	6.4	0.97	ND	100	15	0
TG5-3	6.5	0	ND	100	0	0
TG6-1	11.60	1.6	0.51	100	14	4
TG6-2	7.9	1.1	ND	100	14	0
TG6-3	7.5	0.93	ND	100	12	0
Site Average	8.84	0.92	ND	100.00	9.7	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

REACH 1, 2 AND 3 GROUNDWATER MONITORING RESULTS

The September 2005 groundwater-monitoring event included the annual sampling event at the Reach 1, 2, and 3 monitoring network at the Moss-American site. These monitoring wells include MW-A, MW-B, MW-C, MW-D, MW-E, MW-F, MW-G, MW-H, MW-I, MW-J, and MW-K and are shown in Figures 4-1 through 4-3. Monitoring wells MW-A through MW-D were first sampled in September 2003 during the on-site Q3 2003 groundwater sampling event. The September 2005 Q3 sampling event was the first time monitoring wells MW-E through MW-K were sampled. Similar to the on-site wells, groundwater elevation measurements were collected from the Reach 1, 2, and 3 wells prior to sampling each monitoring well and groundwater elevations are presented on Table 4-1. DO measurements were also collected following the purging and sampling of each well.

Monitoring well MW-K was purged dry and failed to recharge. Therefore a groundwater sample could not be obtained from monitoring well MW-K. Additionally, due to DO probe malfuntion, DO readings could not be collected from monitoring wells MW-C and MW-3.

The results of the annual Reach 1, 2, and 3 groundwater sampling event are described in the following subsections.

4.1 GROUNDWATER SAMPLE ANALYTICAL RESULTS

Groundwater samples were collected from a total of 10 Reach 1, 2, and 3 groundwater monitoring wells: MW-A, MW-B, MW-C, MW-D, MW-E, MW-F, MW-G, MW-H, MW-I, and MW-J. A groundwater sample from MW-K could not be obtained, as the well was purged dry and did not recharge.

One duplicate sample was collected from MW-F, and one MS/MSD sample was collected from MW-G for quality control purposes. The QA/QC samples were collected in conjunction with the on-site groundwater monitoring network sampling effort.

4.1.1 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 each monitoring well subsequent to purging and sampling the well, with the exception of MW-C and MW-E. 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 4-2.

4.1.2 Laboratory Analyses

Each groundwater sample collected from the Reach 1, 2, and 3 monitoring well network during the September 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 4-3. The only constituent detected was anthracene in MW-E at a concentration of 0.072 ug/L, which is significantly below the PAL of 600 ug/L. BTEX constituents were not detected in any of the samples collected from Reach 1, 2, and 3 monitoring wells. The only detection from the September 2004 sampling event was toluene, which was not detected in September 2005 sampling event. Based on the above observations, the Reach 1, 2, and 3 monitoring wells do not show chemical impacts and continue to demonstrate effectiveness of the remedy. The results of the laboratory analyses performed on the Reach 1, 2, and 3 groundwater samples collected during September 2005 are provided in Appendix A.

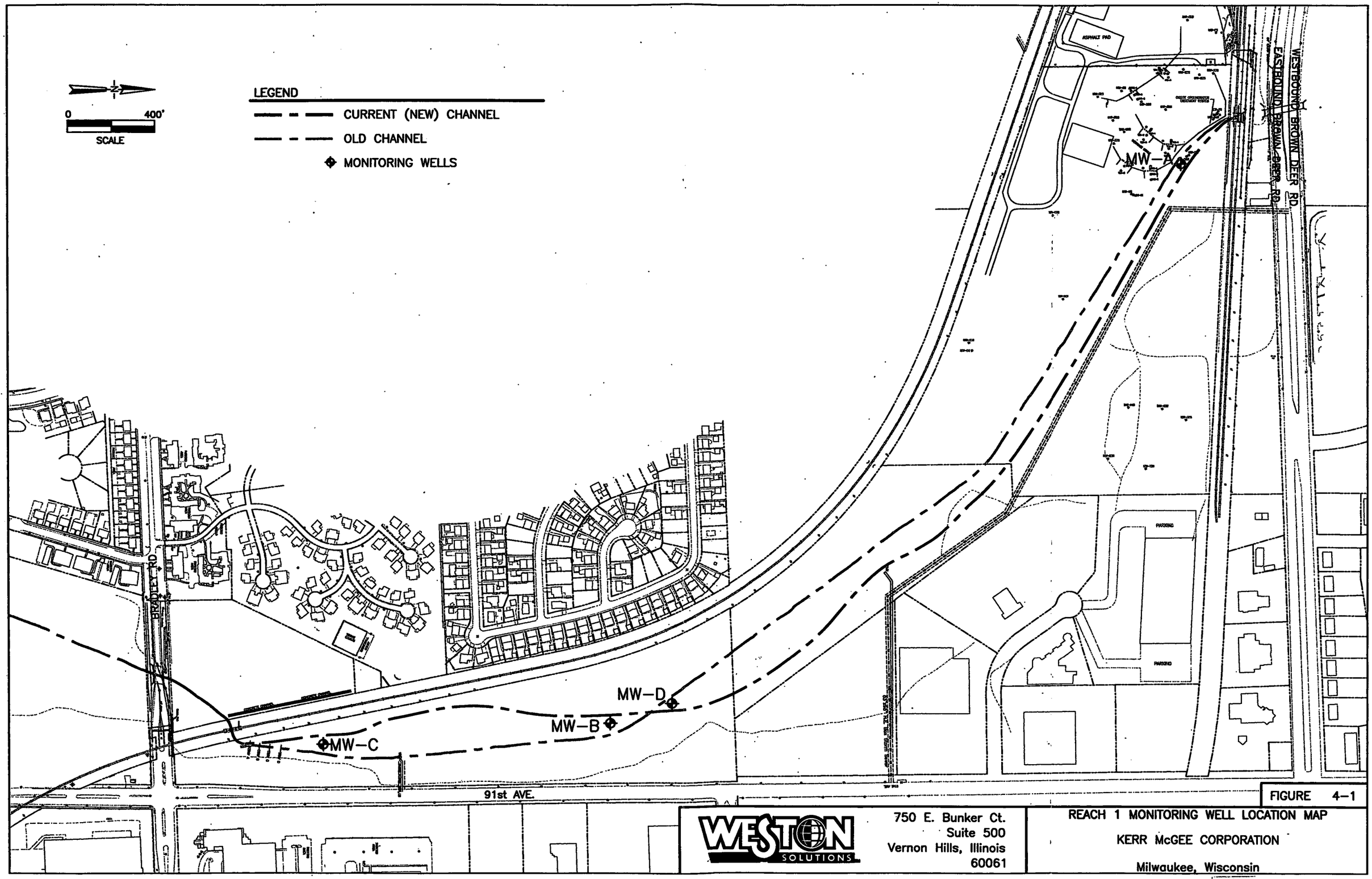


FIGURE 4-1

WESTON SOLUTIONS

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

REACH 1 MONITORING WELL LOCATION MAP

KERR McGEE CORPORATION

Milwaukee, Wisconsin

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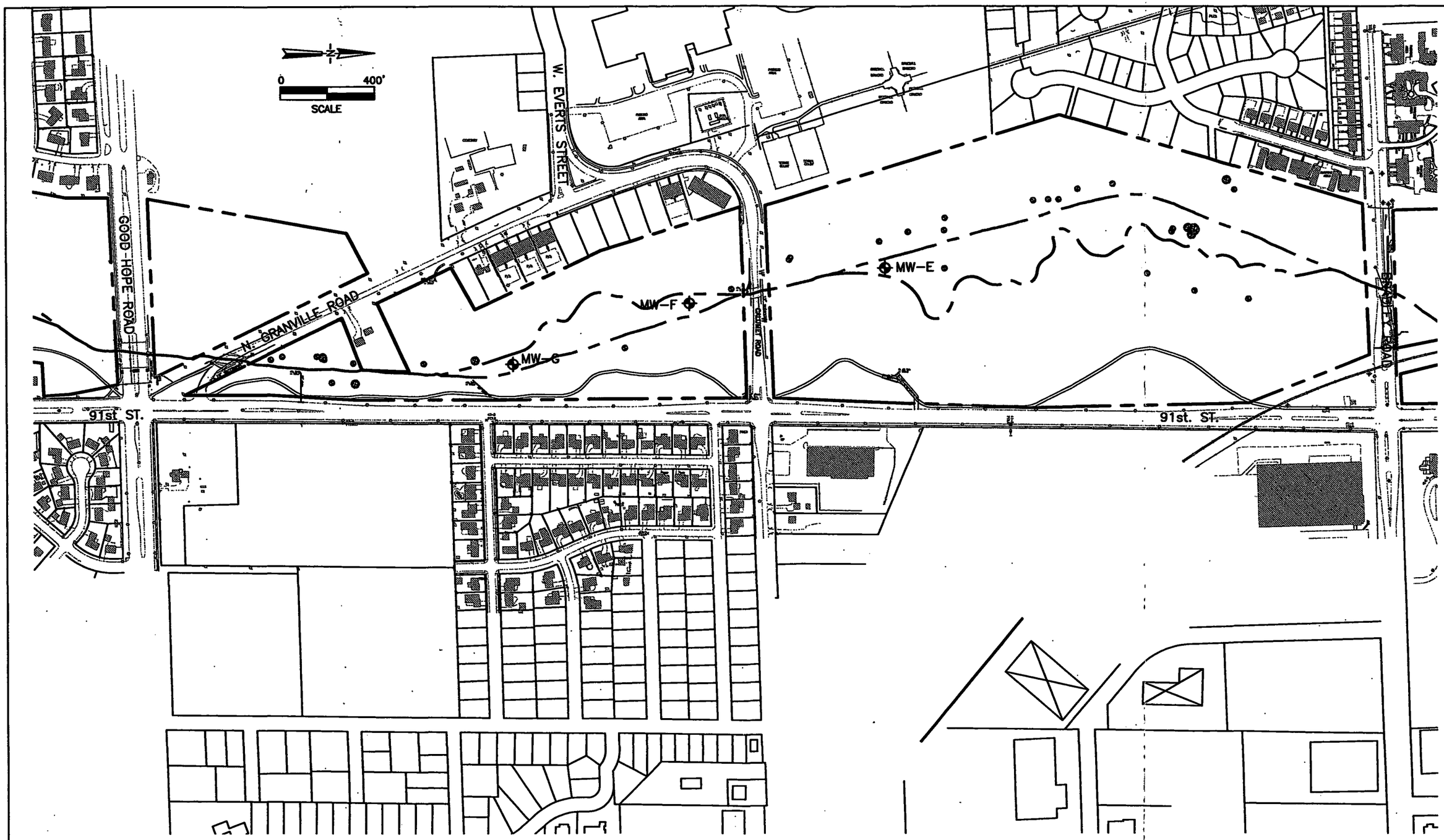

LEGEND

- CURRENT (NEW) CHANNEL
- OLD CHANNEL
- ◆ MONITORING WELLS

FIGURE 4-2

WESTON SOLUTIONS

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

REACH 2 MONITORING WELL LOCATION MAP

KERR McGEE CORPORATION

Milwaukee, Wisconsin

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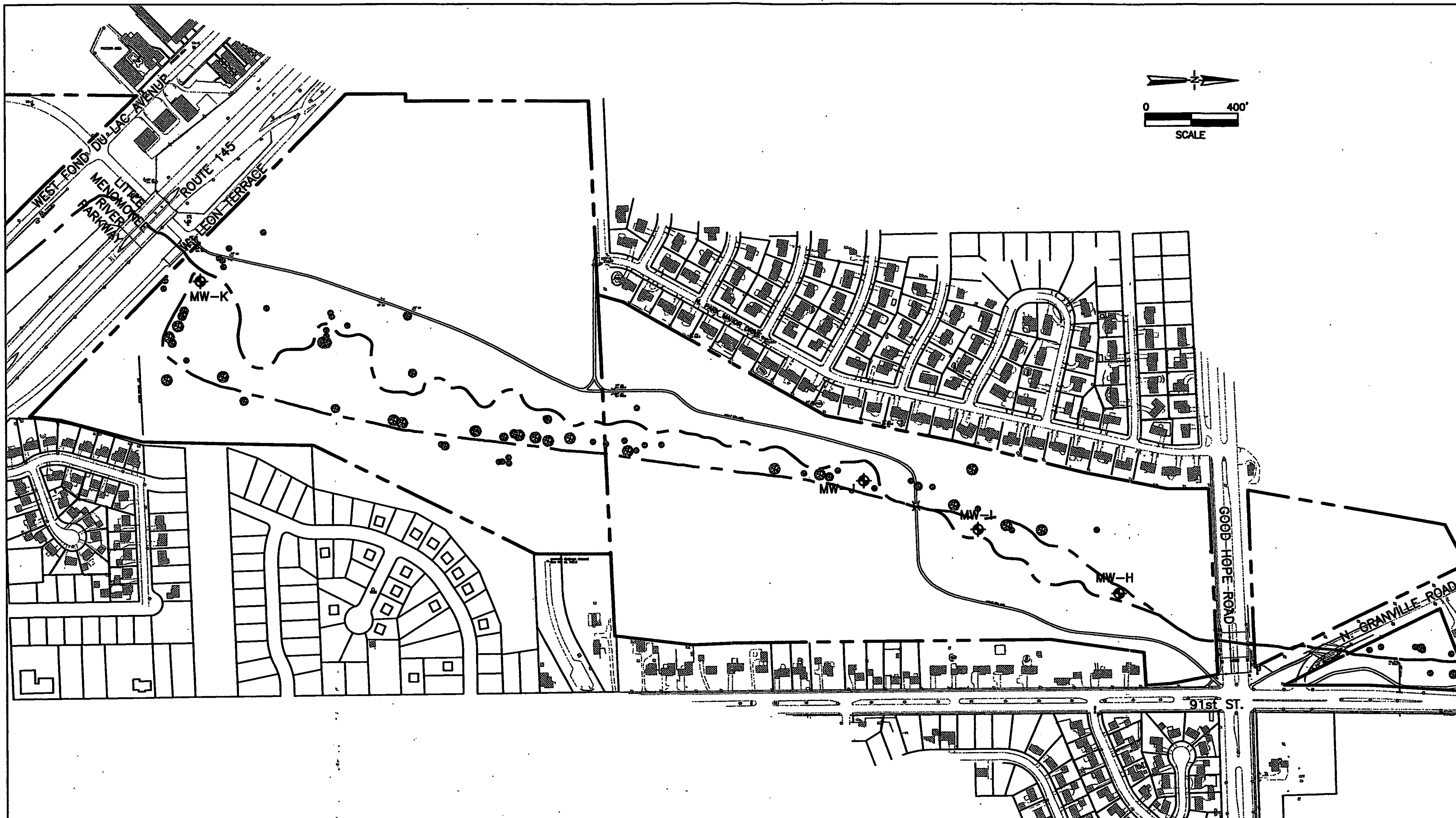

LEGEND

CURRENT (NEW) CHANNEL

OLD CHANNEL

MONITORING WELLS

WESTON SOLUTIONS

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

FIGURE 4-3

REACH 3 MONITORING WELL LOCATION MAP

KERR McGEE CORPORATION

Milwaukee, Wisconsin

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Table 4-1

Groundwater Elevation Measurements
Reach 1, 2, and 3 Monitoring Wells
Moss-American Site
Milwaukee, Wisconsin
Third Quarter 2005

Well ID	Ground Elevation	TOC Elevation	Depth to Water	Groundwater Elevation	Product Thickness
MW-A	716.73	716.15	4.54	711.61	None Detected
MW-B	714.92	714.49	2.31	712.18	
MW-C	714.18	713.82	4.02	709.80	
MW-D	716.21	715.85	3.1	712.75	
MW-E	713.26	712.83	3.17	709.66	
MW-F	713.52	713.10	4.22	708.88	
MW-G	713.21	712.75	5.61	707.14	
MW-H	710.40	710.07	3.9	706.17	
MW-I	710.27	709.92	4.79	705.13	
MW-J	710.08	709.85	4.25	705.60	
MW-K	707.13	706.70	2.28	704.42	

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 6 September 2005

Table 4-2

Field-Measured Parameters
Reaches 1, 2, and 3 Monitoring Wells
Moss-American Site
Milwaukee, Wisconsin
Third Quarter 2005

Well ID	Dissolved Oxygen (mg/L)	Redox Potential (mV)	pH (Standard Units)	Specific Conductance (mmho/cm)	Temperature (Deg C)	Turbidity (NTU)
MW-A	0.02	-51.2	7.02	0.966	17.9	0.73
MW-B	0.09	-79.2	6.87	1.304	16.49	1.9
MW-C	NM	-88.3	7.12	1.058	14.8	2.64
MW-D	0.02	-60.8	6.92	1.338	14.79	1.38
MW-E	NM	48.79	7.39	1.109	16.98	1.24
MW-F	0.05	-82.1	6.88	1.393	16.65	9.51
MW-G	0.86	-83.8	6.95	1.402	16.95	40.8
MW-H	0.11	-79.6	7.28	1.089	16.34	8.51
MW-I	0.07	-85.4	7.07	1.237	17.42	2.84
MW-J	0.02	-40.3	7.09	1.445	14.23	8.78

Notes:
NM - Not measured due to equipment failure.
uohm/cm - microhms per centimeter
Deg C - Degrees Celcius
mV - millivolt
mg/L - milligram per liter
NTU - Nephelometric Turbidity unit

Table 4-3

Groundwater Sample Analytical Results
Reach 1, 2, and 3 Monitoring Wells
Moss-American Site
Milwaukee, Wisconsin
Third Quarter 2005

Sample ID	MA3-MWA-091205-12	MA3-MWB-091205-13	MA3-MWC-091205-11	MA3-MWD-091205-7	WDNR PAL (ug/L)	WDNR ES (ug/L)
Well ID	MW-A	MW-B	MW-C	MW-D		
Matrix	WG	WG	WG	WG		
Date	9/12/2005	9/12/2005	9/12/2005	9/12/2005		
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	1.7 U	1.7 U	1.7 U	NA	NA
Acenaphthylene	1.7 U	1.7 U	1.7 U	1.7 U	NA	NA
Anthracene	0.042 U	0.041 U	0.042 U	0.042 U	600	3000
Benzo(a)anthracene	0.021 U	0.021 U	0.021 U	0.021 U	NA	NA
Benzo(a)pyrene	0.021 U	0.021 U	0.021 U	0.021 U	0.02	0.2
Benzo(b)fluoranthene	0.042 U	0.041 U	0.042 U	0.042 U	0.02	0.2
Benzo(g,h,i)perylene	0.10 U	0.10 U	0.10 U	0.10 U	NA	NA
Benzo(k)fluoranthene	0.021 U	0.021 U	0.021 U	0.021 U	NA	NA
Chrysene	0.084 U	0.083 U	0.083 U	0.083 U	0.02	0.2
Dibenz(a,h)anthracene	0.042 U	0.041 U	0.042 U	0.042 U	NA	NA
Fluoranthene	0.042 U	0.041 U	0.042 U	0.042 U	80	400
Fluorene	0.52 U	0.52 U	0.52 U	0.52 U	80	400
Indeno(1,2,3-cd)pyrene	0.084 U	0.083 U	0.083 U	0.083 U	NA	NA
Naphthalene	1.7 U	1.7 U	1.7 U	1.7 U	8	40
Phenanthrene	0.084 U	0.083 U	0.083 U	0.083 U	NA	NA
Pyrene	0.19 U	0.19 U	0.19 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 4-3 (Continued)

Groundwater Sample Analytical Results
Reach 1, 2, and 3 Monitoring Wells
Moss-American Site
Milwaukee, Wisconsin
Third Quarter 2005

Sample ID	MA3-MWE-091205-16	MA3-MWF-091305-2	MA3-MWF-091305-2-DP	MA3-MWG-091305-1	WDNR PAL (ug/L)	WDNR ES (ug/L)
Well ID	MW-E	MW-F	MW-F	MW-G		
Matrix	WG	WG	WQ	WG		
Date	9/12/2005	9/13/2005	9/13/2005	9/13/2005		
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	1.7 U	1.7 U	1.7 U	NA	NA
Acenaphthylene	1.7 U	1.7 U	1.7 U	1.7 U	NA	NA
Anthracene	0.072 J	0.042 U	0.042 U	0.042 U	600	3000
Benzo(a)anthracene	0.021 U	0.021 U	0.021 U	0.021 U	NA	NA
Benzo(a)pyrene	0.021 U	0.021 U	0.021 U	0.021 U	0.02	0.2
Benzo(b)fluoranthene	0.042 U	0.042 U	0.042 U	0.042 U	0.02	0.2
Benzo(g,h,i)perylene	0.11 U	0.11 U	0.11 U	0.11 U	NA	NA
Benzo(k)fluoranthene	0.021 U	0.021 U	0.021 U	0.021 U	NA	NA
Chrysene	0.084 U	0.085 U	0.084 U	0.084 U	0.02	0.2
Dibenz(a,h)anthracene	0.042 U	0.042 U	0.042 U	0.042 U	NA	NA
Fluoranthene	0.042 U	0.042 U	0.042 U	0.042 U	80	400
Fluorene	0.53 U	0.53 U	0.53 U	0.53 U	80	400
Indeno(1,2,3-cd)pyrene	0.084 U	0.085 U	0.084 U	0.084 U	NA	NA
Naphthalene	1.7 U	1.7 U	1.7 U	1.7 U	8	40
Phenanthrene	0.084 U	0.085 U	0.084 U	0.084 U	NA	NA
Pyrene	0.19 U	0.19 U	0.19 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 4-3 (Continued)

Groundwater Sample Analytical Results
Reach 1, 2, and 3 Monitoring Wells
Moss-American Site
Milwaukee, Wisconsin
Third Quarter 2005

Sample ID	MA3-MWH-091305-3	MA3-MWI-091305-4	MA3-MWJ-091305-5	WDNR PAL (ug/L)	WDNR ES (ug/L)
Well ID	MW-H	MW-I	MW-J		
Matrix	WG	WG	WG		
Date	9/13/2005	9/13/2005	9/13/2005		
Units	ug/l	ug/l	ug/l		
VOCs					
Benzene	0.2 U	0.2 U	0.2 U	0.5	5
Ethylbenzene	0.2 U	0.2 U	0.2 U	140	700
Toluene	0.2 U	0.2 U	0.2 U	68.6	343
Total Xylenes	0.6 U	0.6 U	0.6 U	124	650
PAHs					
Acenaphthene	1.7 U	1.6 U	1.7 U	NA	NA
Acenaphthylene	1.7 U	1.6 U	1.7 U	NA	NA
Anthracene	0.042 U	0.041 U	0.042 U	600	3000
Benzo(a)anthracene	0.021 U	0.021 U	0.021 U	NA	NA
Benzo(a)pyrene	0.021 U	0.021 U	0.021 U	0.02	0.2
Benzo(b)fluoranthene	0.042 U	0.041 U	0.042 U	0.02	0.2
Benzo(g,h,i)perylene	0.11 U	0.10 U	0.10 U	NA	NA
Benzo(k)fluoranthene	0.021 U	0.021 U	0.021 U	NA	NA
Chrysene	0.084 U	0.082 U	0.083 U	0.02	0.2
Dibenz(a,h)anthracene	0.042 U	0.041 U	0.042 U	NA	NA
Fluoranthene	0.042 U	0.041 U	0.042 U	80	400
Fluorene	0.53 U	0.52 U	0.52 U	80	400
Indeno(1,2,3-cd)pyrene	0.084 U	0.082 U	0.083 U	NA	NA
Naphthalene	1.7 U	1.6 U	1.7 U	8	40
Phenanthrene	0.084 U	0.082 U	0.083 U	NA	NA
Pyrene	0.19 U	0.19 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.

SECTION 5

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

September 2005 Groundwater Sample Analytical Results

Microbac

October 05, 2005

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

Work Order No.: ME0509330

RE: Kerr McGee - Moss American

Dear Tom Graan:

Microbac Laboratories, Inc. received 6 samples on 9/13/2005 9:20:00 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

Carey A. Gervase
Project Manager

Enclosures

Microbac

Work Order Sample Summary

Date: *Wednesday, October 05, 2005*

CLIENT: Weston Solutions, Inc.
Project: Kerr McGee - Moss American
Lab Order: ME0509330

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
ME0509330-01A	MA3-TG1-091205-1		9/12/2005 9:10:00 AM	9/13/2005
ME0509330-02A	MA3-TG1-2-091205-2		9/12/2005 9:15:00 AM	9/13/2005
ME0509330-03A	MA3-TG1-3-091205-3		9/12/2005 9:20:00 AM	9/13/2005
ME0509330-04A	MA3-TG5-1-091205-4		9/12/2005 10:55:00 AM	9/13/2005
ME0509330-05A	MA3-TG5-2-091205-5		9/12/2005 11:00:00 AM	9/13/2005
ME0509330-06A	MA3-TG5-3-091205-6		9/12/2005 11:05:00 AM	9/13/2005

Microbac

ANALYTICAL RESULTS

Date: *Wednesday, October 05, 2005*

Client:	Weston Solutions, Inc.	***Work Order:***	ME0509330
Client Project:	Kerr McGee - Moss American	***Received:***	09/13/05 09:20

Analyses	Result	Units	Qual	Analyzed	Tech	Method
01A MA3-TG1-091205-1 -						*Collected: 09/12/05 09:10*
Total Aerobic Degrader Bacteria	< 100	cfu/ml		09/14/05 09:00	NM	9215B MOD
Total Aerobic Bacteria	250	cfu/ml		09/14/05 09:00	NM	9215B MOD
02A MA3-TG1-2-091205-2 -						*Collected: 09/12/05 09:15*
Total Aerobic Degrader Bacteria	< 100	cfu/ml		09/14/05 09:00	NM	9215B MOD
Total Aerobic Bacteria	14000	cfu/ml		09/14/05 09:00	NM	9215B MOD
03A MA3-TG1-3-091205-3 -						*Collected: 09/12/05 09:20*
Total Aerobic Degrader Bacteria	< 100	cfu/ml		09/14/05 09:00	NM	9215B MOD
Total Aerobic Bacteria	4000	cfu/ml		09/14/05 09:00	NM	9215B MOD
04A MA3-TG5-1-091205-4 -						*Collected: 09/12/05 10:55*
Total Aerobic Degrader Bacteria	< 100	cfu/ml		09/14/05 09:00	NM	9215B MOD
Total Aerobic Bacteria	61000	cfu/ml		09/14/05 09:00	NM	9215B MOD
05A MA3-TG5-2-091205-5 -						*Collected: 09/12/05 11:00*
Total Aerobic Degrader Bacteria	210	cfu/ml		09/14/05 09:00	NM	9215B MOD
Total Aerobic Bacteria	9800	cfu/ml		09/14/05 09:00	NM	9215B MOD
06A MA3-TG5-3-091205-6 -						*Collected: 09/12/05 11:05*
Total Aerobic Degrader Bacteria	< 100	cfu/ml		09/14/05 09:00	NM	9215B MOD
Total Aerobic Bacteria	1400	cfu/ml		09/14/05 09:00	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 requirem ents of the applicable accreditation, unless otherwise noted. Com plete 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			

COC ID: COC-Ø91205-Microbac

Chain of Custody Record

WESTON SOLUTIONS

Client Kerr McGee

Site Name Moss American

W. O. 02687.007.007.0001

Lab

TAT

Contact Name Tom Grean

Contact Phone No. 847-918-4142

Lab Contact

Lab Phone

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	CLEA-W: Aromatic									
					Filtered										
					Container										
					Preservative										
															0509330
	MA3-TG1-1-091205-1	G		N	9/12/2005 09:10	1									01A
	MA3-TG1-2-091205-2	G		N	9/12/2005 09:15	1									02
	MA3-TG1-3-091205-3	G		N	9/12/2005 09:20	1									03
	MA3-TG5-1-091205-4	G		N	9/12/2005 10:55	1									04
	MA3-TG5-2-091205-5	G		N	9/12/2005 11:00	1									05
	MA3-TG5-3-091205-6	G		N	9/12/2005 11:05	1									06

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
		Ken Smith	9/13/05 0920				

Sampled By [signature]

Microbac Laboratories, Inc.

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

COOLER INSPECTION

Tuesday, September 13, 2005

Client Name **WESTON - VERNON HILLS**
Work Order Number **ME0509330**
Checklist completed by Ken Smith 9/13/05 (Signature / Date)

Date / Time Received: **9/13/2005 9:20:00 AM**
Received by KRS
Reviewed by (Initials) 9/14/05 (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: 5 °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
ME0509330-01A	MA3-TG1-091205-1		
ME0509330-02A	MA3-TG1-2-091205-2		
ME0509330-03A	MA3-TG1-3-091205-3		
ME0509330-04A	MA3-TG5-1-091205-4		
ME0509330-05A	MA3-TG5-2-091205-5		
ME0509330-06A	MA3-TG5-3-091205-6		

Sample ID	Client Sample ID	Cont. Lot #	Comments

Client representative contacted: _____ Date contacted: _____

Contacted by: _____ Regarding _____

Notes: _____

Microbac

RECEIVED
OCT 07 2005

October 03, 2005

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

Work Order No.: ME0509266

RE: Moss American

Dear Tom Graan:

Microbac Laboratories, Inc. received 12 samples on 9/9/2005 10:10:00 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

Carey A. Gervase
Project Manager

Enclosures

Microbac

Work Order Sample Summary

Date: *Monday, October 03, 2005*

CLIENT: Weston Solutions, Inc.
Project: Moss American
Lab Order: ME0509266

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
ME0509266-01A	MA3-TG2-1-090805-1		9/8/2005 10:20:00 AM	9/9/2005
ME0509266-02A	MA3-TG2-2-090805-2		9/8/2005 9:30:00 AM	9/9/2005
ME0509266-03A	MA3-TG2-3-090805-3		9/8/2005 9:45:00 AM	9/9/2005
ME0509266-04A	MA3-TG3-1-090805-4		9/8/2005 12:10:00 PM	9/9/2005
ME0509266-05A	MA3-TG3-2-090805-5		9/8/2005 12:15:00 PM	9/9/2005
ME0509266-06A	MA3-TG3-3-090805-6		9/8/2005 12:25:00 PM	9/9/2005
ME0509266-07A	MA3-TG4-1-090805-10		9/8/2005 4:05:00 PM	9/9/2005
ME0509266-08A	MA3-TG4-2-090805-11		9/8/2005 3:55:00 PM	9/9/2005
ME0509266-09A	MA3-TG4-3-090805-12		9/8/2005 4:00:00 PM	9/9/2005
ME0509266-10A	MA3-TG6-1-090805-7		9/8/2005 6:20:00 PM	9/9/2005
ME0509266-11A	MA3-TG6-2-090805-8		9/8/2005 6:15:00 PM	9/9/2005
ME0509266-12A	MA3-TG6-3-090805-9		9/8/2005 6:00:00 PM	9/9/2005

Microbac

ANALYTICAL RESULTS

Date: *Monday, October 03, 2005*

Client:	Weston Solutions, Inc.	***Work Order:***	ME0509266
Client Project:	Moss American	***Received:***	09/09/05 10:10

Analyses	Result	Units	Qual	Analyzed	Tech	Method
01A MA3-TG2-1-090805-1 -						*Collected: 09/08/05 10:20*
Total Aerobic Degrader Bacteria	1600	cfu/ml		09/09/05 16:30	NM	9215B MOD
Total Aerobic Bacteria	1000000	cfu/ml		09/09/05 16:30	NM	9215B MOD
02A MA3-TG2-2-090805-2 -						*Collected: 09/08/05 09:30*
Total Aerobic Degrader Bacteria	150	cfu/ml		09/09/05 16:30	NM	9215B MOD
Total Aerobic Bacteria	2300000	cfu/ml		09/09/05 16:30	NM	9215B MOD
03A MA3-TG2-3-090805-3 -						*Collected: 09/08/05 09:45*
Total Aerobic Degrader Bacteria	130	cfu/ml		09/09/05 16:30	NM	9215B MOD
Total Aerobic Bacteria	9000	cfu/ml		09/09/05 16:30	NM	9215B MOD
04A MA3-TG3-1-090805-4 -						*Collected: 09/08/05 12:10*
Total Aerobic Degrader Bacteria	< 100	cfu/ml		09/09/05 16:30	NM	9215B MOD
Total Aerobic Bacteria	65000	cfu/ml		09/09/05 16:30	NM	9215B MOD
05A MA3-TG3-2-090805-5 -						*Collected: 09/08/05 12:15*
Total Aerobic Degrader Bacteria	640	cfu/ml		09/09/05 16:30	NM	9215B MOD
Total Aerobic Bacteria	160000	cfu/ml		09/09/05 16:30	NM	9215B MOD
06A MA3-TG3-3-090805-6 -						*Collected: 09/08/05 12:25*
Total Aerobic Degrader Bacteria	< 100	cfu/ml		09/09/05 16:30	NM	9215B MOD
Total Aerobic Bacteria	2100	cfu/ml		09/09/05 16:30	NM	9215B MOD
07A MA3-TG4-1-090805-10 -						*Collected: 09/08/05 16:05*
Total Aerobic Degrader Bacteria	< 100	cfu/ml		09/09/05 16:30	NM	9215B MOD
Total Aerobic Bacteria	34000	cfu/ml		09/09/05 16:30	NM	9215B MOD
08A MA3-TG4-2-090805-11 -						*Collected: 09/08/05 15:55*
Total Aerobic Degrader Bacteria	170	cfu/ml		09/09/05 16:30	NM	9215B MOD
Total Aerobic Bacteria	5300	cfu/ml		09/09/05 16:30	NM	9215B MOD
09A MA3-TG4-3-090805-12 -						*Collected: 09/08/05 16:00*
Total Aerobic Degrader Bacteria	< 100	cfu/ml		09/09/05 16:30	NM	9215B MOD
Total Aerobic Bacteria	38000	cfu/ml		09/09/05 16:30	NM	9215B MOD
10A MA3-TG6-1-090805-7 -						*Collected: 09/08/05 18:20*
Total Aerobic Degrader Bacteria	< 100	cfu/ml		09/09/05 16:30	NM	9215B MOD
Total Aerobic Bacteria	22000	cfu/ml		09/09/05 16:30	NM	9215B MOD
11A MA3-TG6-2-090805-8 -						*Collected: 09/08/05 18:15*

Microbac

ANALYTICAL RESULTS

Date: *Monday, October 03, 2005*

Client:	Weston Solutions, Inc.	***Work Order:***	ME0509266
Client Project:	Moss American	***Received:***	09/09/05 10:10

Analyses	Result	Units	Qual	Analyzed	Tech	Method
Total Aerobic Degrader Bacteria	< 100	cfu/ml		09/09/05 16:30	NM	9215B MOD
Total Aerobic Bacteria	4400	cfu/ml		09/09/05 16:30	NM	9215B MOD
12A MA3-TG6-3-090805-9 -						*Collected: 09/08/05 18:00*
Total Aerobic Degrader Bacteria	< 100	cfu/ml		09/09/05 16:30	NM	9215B MOD
Total Aerobic Bacteria	< 100	cfu/ml		09/09/05 16:30	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			

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- 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)

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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			

Microbac Laboratories, Inc.

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

COOLER INSPECTION

Friday, September 09, 2005

Client Name WESTON - VERNON HILLS
Work Order Number ME0509266
Checklist completed by _____ 9-9-05
Signature | Date

Date / Time Received: 9/9/2005 10:10:00 AM
Received by: DR
Reviewed by _____ 9/9/05
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: 2 °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
ME0509266-01A	MA3-TG2-1-090805-1		
ME0509266-02A	MA3-TG2-2-090805-2		
ME0509266-03A	MA3-TG2-3-090805-3		
ME0509266-04A	MA3-TG3-1-090805-4		
ME0509266-05A	MA3-TG3-2-090805-5		
ME0509266-06A	MA3-TG3-3-090805-6		
ME0509266-07A	MA3-TG4-1-090805-10		
ME0509266-08A	MA3-TG4-2-090805-11		
ME0509266-09A	MA3-TG4-3-090805-12		
ME0509266-10A	MA3-TG6-1-090805-7		
ME0509266-11A	MA3-TG6-2-090805-8		

Sample ID	Client Sample ID	Cont. Lot #	Comments
ME0509266-12A	MA3-TG6-3-090805-9		

Client representative contacted: _____ Date contacted: _____

Contacted by: _____ Regarding: _____

Notes: _____

COC ID: COC-090805-MICR

Chain of Custody Record

WESTON SOLUTIONS

Client: Kerr McGee

Site Name: Moss American | Contact Name: Tom Graan

W. O.: 02687.007.006.0001 | Contact Phone No.: 847-918-4142

Lab: MICROBAC LABS | Lab Contact: N. MCDONALD

TAT: STANDARD | Lab Phone: 219-932-1770

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	MICROBIAL ENUMERATION									
						Filtered									
						Container	POLY-100mL								
						Preservative	N/A								
															0509266
	MA3-TG2-1-090805-1	G		N	9/8/2005 10:20	1									01-A
	MA3-TG2-2-090805-2	G		N	9/8/2005 09:30	1									02-A
	MA3-TG2-3-090805-3	G		N	9/8/2005 09:45	1									03-B
	MA3-TG3-1-090805-4	G		N	9/8/2005 12:10	1									04-B
	MA3-TG3-2-090805-5	G		N	9/8/2005 12:15	1									05-A
	MA3-TG3-3-090805-6	G		N	9/8/2005 12:25	1									06-B
	MA3-TG4-1-090805-10-MSD	G		Y	9/8/2005 16:05	3									07-A
	MA3-TG4-2-090805-11	G		N	9/8/2005 15:55	1									08-A
	MA3-TG4-3-090805-12	G		N	9/8/2005 16:00	1									09-B
	MA3-TG6-1-090805-7	G		N	9/8/2005 18:20	1									10-A
	MA3-TG6-2-090805-8	G		N	9/8/2005 18:15	1									11-A
	MA3-TG6-3-090805-9	G		N	9/8/2005 18:00	1									12-A

Remarks/Comments

deleted MS/MSD per Tom Graan 9/9/05 1124

Sampled By: NEELAMBARI SHAH

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
							9-9-05/1010

SDG# KMA69

Inter-Office Memorandum

TO: Tom Graan

FROM: Tania Shammo **DATE:** October 4, 2005

SUBJECT: Data Validation: SDG#: KMA69
Moss American Superfund Site

I have reviewed the analytical data for Kerr-McGee Corporation (Moss American Site- Grab Groundwater) water samples collected on 09/08/05, 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 # KMA69

1. Samples:

Client Sample Description:	Lab Sample Number	Matrix	Date Collected	Date Extracted	Date Analyzed
MA3-TG2-1-090805-1	4599855	Ground water	09/08/05	09/10/05	09/12/05
MA3-TG2-2-090805-2	4599856	Ground water	09/08/05	09/10/05	09/12/05
MA3-TG2-3-090805-3	4599857	Ground water	09/08/05	09/10/05	09/12/05
MA3-TG3-1-090805-4	4599858	Ground water	09/08/05	09/10/05	09/12/05
MA3-TG3-2-090805-5	4599859	Ground water	09/08/05	09/10/05	09/12/05
MA3-TG4-1-090805-10	4599861	Ground water	09/08/05	09/10/05	09/12/05
MA3-TG4-1-090805-10MS	4599862	Ground water	09/08/05	09/10/05	09/12/05
MA3-TG4-1-090805-10MSD	4599863	Ground water	09/08/05	09/10/05	09/12/05
MA3-FB-090805-14	4600427	Ground water	09/08/05	09/12/05	09/13/05
MA3-TG3-3-090805-6	4600434	Ground water	09/08/05	09/12/05	09/17/05
MA3-TG4-2-090805-11	4600439	Ground water	09/08/05	09/12/05	09/17/05
MA3-TG4-3-090805-12	4600440	Ground water	09/08/05	09/12/05	09/17/05
MA3-TG6-1-090805-7	4600441	Ground water	09/08/05	09/12/05	09/17/05
MA3-TG6-2-090805-8	4600442	Ground water	09/08/05	09/12/05	09/17/05
MA3-TG6-3-090805-9	4600443	Ground water	09/08/05	09/12/05	09/17/05

2. Holding Times:

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

3. Method Blank:
The method blank SBLKWD2522 was analyzed on 09/12/05 with samples 4599855 thru 4599859 and 4599861 thru 4599863 and the results were free of contamination.

The method blank SBLKWC2552 was analyzed on 09/16/05 with samples 4600427 and 4600434, 4600439 thru 4600443 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:
A matrix spike was performed on sample 4599861 and associated with 4599855 thru 4599859. The MS/MSD recoveries were within the quality control limit. Also, the RPD values were acceptable.

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 4600427 and 4600434, 4600439 thru 4600443.

6. Laboratory Control Sample:
The associated laboratories control sample with 4599855 thru 4599859 and 4599861 thru 4599863 recoveries were within the acceptance quality control limit.

The associated laboratories control sample/laboratories control sample duplicate with 4600427 and 4600434, 4600439 thru 4600443 recoveries were within the quality control limit. Also, the RPD values were acceptable.

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

8. Initial and Continuing Calibration:
The initial calibration and continuing calibration verification were all acceptable.

However, the retention time, initial and continuing calibration results were used in the calculation from two detectors: 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, and indeno (1, 2, 3-cd) pyrene were taken from fluorescence detector.

BETX (U.S. EPA Method 8021B)
SDG # MMA69

1.Samples:

Client Sample Description:	Lab Sample Number	Matrix	Date Collected	Date Prepared	Date Analyzed
MA3-FB-090805-14	4600427	Ground water	09/08/05	09/13/05	09/13/05
MA3-TB-090805-13	4600428	Ground water	09/08/05	09/13/05	09/13/05
MA3-TG2-1-090805-1	4600429	Ground water	09/08/05	09/13/05	09/13/05
MA3-TG2-2-090805-2	4600430	Ground water	09/08/05	09/13/05	09/13/05
MA3-TG2-3-090805-3	4600431	Ground water	09/08/05	09/13/05	09/13/05
MA3-TG3-1-090805-4	4600432	Ground water	09/08/05	09/13/05	09/13/05
MA3-TG3-2-090805-5	4600433	Ground water	09/08/05	09/13/05	09/13/05
MA3-TG3-3-090805-6	4600434	Ground water	09/08/05	09/12/05	09/12/05
MA3-TG4-1-090805-10	4600435	Ground water	09/08/05	09/12/05	09/12/05
MA3-TG4-1-090805-10MS	4600436	Ground water	09/08/05	09/12/05	09/12/05
MA3-TG4-1-090805-10MSD	4600437	Ground water	09/08/05	09/12/05	09/12/05
MA3-TG4-2-090805-11	4600439	Ground water	09/08/05	09/13/05	09/13/05
MA3-TG4-3-090805-12	4600440	Ground water	09/08/05	09/13/05	09/13/05
MA3-TG6-1-090805-7	4600441	Ground water	09/08/05	09/13/05	09/13/05
MA3-TG6-2-090805-8	4600442	Ground water	09/08/05	09/15/05	09/15/05
MA3-TG6-3-090805-9	4600443	Ground water	09/08/05	09/14/05	09/14/05

2. Holding Times:
The samples were prepared and analyzed within the required holding time. Sample MA3-TG3-3-090805-6 (4600434) had PH=7. No action was taken.

3. Method Blank:
Six methods blanks were associated with this SDG. The method blank **BLK1517** was analyzed on 09/12/05 with 4600434 thru 4600437 and LCS/LCSD; results were free of contamination.
The method blank **BLK1518** was analyzed on 09/13/05 with 4600427 thru 4600432 and results were free of contamination.
The method blank **BLK1519** was analyzed on 09/13/05 with 4600433, 4600439 thru 4600441 and results were free of contamination.
The method blank **BLK1520** was analyzed on 09/14/05 with 4600451, 4600452MS, 4600453MSD and LCS/LCSD; results were free of contamination.
The method blank **BLK1521** was analyzed on 09/14/05 with 4600443 and results were free of contamination.
The method blank **BLK1523** was analyzed on 09/15/05 with 4600442 and results were free of contamination.

4. Matrix Spike/Matrix Spike Duplicate :
The laboratory performed matrix spike/matrix spike duplicate on sample 4600435 associated with 4600427 thru 4600437 and 4600439 thru 4600441. The MS/MSD recoveries were within the quality control limit. Also, the RPD% values were acceptable.

The laboratory performed matrix spike/matrix spike duplicate on sample 4600451 associated with 4600442 and 4600443. The MS/MSD recoveries were within the quality control limit. Also, the RPD% values were acceptable.

5. Laboratory control Sample:
The associated laboratories control samples/laboratories control samples duplicates associated with 4600427 thru 4600437 and 4600439 thru 4600441 recoveries were within the control limit. Also, the RPD% values were acceptable.

The associated laboratories control samples/laboratories control samples duplicates associated with 4600442 and 4600443 recoveries were within the control limit. 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 # KMA69

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

Client Code	Lab Sample Number	Matrix	Date Collected	Date Digested	Date Analyzed
MA3-TG2-1-090805-1	4599855	Ground water	09/08/05	09/13/05	09/14/05
MA3-TG2-2-090805-2	4599856	Ground water	09/08/05	09/13/05	09/14/05
MA3-TG2-3-090805-3	4599857	Ground water	09/08/05	09/13/05	09/14/05
MA3-TG3-1-090805-4	4599858	Ground water	09/08/05	09/13/05	09/14/05
MA3-TG3-2-090805-5	4599859	Ground water	09/08/05	09/13/05	09/14/05
MA3-TG3-3-090805-6	4599860	Ground water	09/08/05	09/13/05	09/14/05
MA3-TG4-1-090805-10	4600435	Ground water	09/08/05	09/13/05	09/14/05
MA3-TG4-1-090805-10MS	4600436	Ground water	09/08/05	09/13/05	09/14/05
MA3-TG4-1-090805-10DUP	4600438	Ground water	09/08/05	09/13/05	09/14/05
MA3-TG4-2-090805-11	4600439	Ground water	09/08/05	09/13/05	09/14/05
MA3-TG4-3-090805-12	4600440	Ground water	09/08/05	09/13/05	09/14/05
MA3-TG6-1-090805-7	4600441	Ground water	09/08/05	09/13/05	09/14/05
MA3-TG6-2-090805-8	4600442	Ground water	09/08/05	09/13/05	09/14/05
MA3-TG6-3-090805-9	4600443	Ground water	09/08/05	09/13/05	09/14/05

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:
A matrix spike was performed on 4600436. The MS recoveries were within the quality control limit.
A matrix spike was performed on 4600443. The MS recoveries were within the quality control limit.

5. Duplicate Recovery:
The two duplicates samples 4600436 and 4600443 recoveries were within the quality control limit.

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-TG2-1-090805-1	4599855	Ground water	09/08/05	09/14/05	09/15/05
MA3-TG2-2-090805-2	4599856	Ground water	09/08/05	09/14/05	09/15/05
MA3-TG2-3-090805-3	4599857	Ground water	09/08/05	09/14/05	09/15/05
MA3-TG3-1-090805-4	4599858	Ground water	09/08/05	09/14/05	09/15/05
MA3-TG3-2-090805-5	4599859	Ground water	09/08/05	09/14/05	09/15/05
MA3-TG3-3-090805-6	4599860	Ground water	09/08/05	09/14/05	09/15/05
MA3-TG4-1-090805-10	4600435	Ground water	09/08/05	09/14/05	09/15/05
MA3-TG4-1-090805-10MS	4600436	Ground water	09/08/05	09/14/05	09/15/05
MA3-TG4-1-090805-10DUP	4600438	Ground water	09/08/05	09/14/05	09/15/05
MA3-TG4-2-090805-11	4600439	Ground water	09/08/05	09/14/05	09/15/05
MA3-TG4-3-090805-12	4600440	Ground water	09/08/05	09/14/05	09/15/05
MA3-TG6-1-090805-7	4600441	Ground water	09/08/05	09/14/05	09/15/05
MA3-TG6-2-090805-8	4600442	Ground water	09/08/05	09/14/05	09/15/05
MA3-TG6-3-090805-9	4600443	Ground water	09/08/05	09/14/05	09/15/05

2. Holding Times:
All samples were prepared 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 4600436. The MS recoveries were within the quality control limit.

5. Duplicate Recovery:
The duplicate sample 4600438 recoveries were within the quality control limits.

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-TG2-1-090805-1	4599855	Ground water	09/08/05	09/12/05
MA3-TG2-2-090805-2	4599856	Ground water	09/08/05	09/12/05
MA3-TG2-3-090805-3	4599857	Ground water	09/08/05	09/12/05
MA3-TG3-1-090805-4	4599858	Ground water	09/08/05	09/12/05
MA3-TG3-2-090805-5	4599859	Ground water	09/08/05	09/12/05
MA3-TG3-3-090805-6	4599860	Ground water	09/08/05	09/12/05
MA3-TG4-1-090805-10	4600435	Ground water	09/08/05	09/12/05
MA3-TG4-1-090805-10MS	4600436	Ground water	09/08/05	09/12/05
MA3-TG4-1-090805-10MSD	4600437	Ground water	09/08/05	09/12/05
MA3-TG4-1-090805-10DUP	4600438	Ground water	09/08/05	09/12/05
MA3-TG4-2-090805-11	4600439	Ground water	09/08/05	09/12/05
MA3-TG4-3-090805-12	4600440	Ground water	09/08/05	09/12/05
MA3-TG6-1-090805-7	4600441	Ground water	09/08/05	09/12/05
MA3-TG6-2-090805-8	4600442	Ground water	09/08/05	09/12/05
MA3-TG6-3-090805-9	4600443	Ground water	09/08/05	09/12/05

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

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

4. Duplicate Recovery:
The duplicate sample 4600438 results were acceptable.

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

6. Matrix Spike Recovery:
A matrix spike was performed on 4600435. The matrix spike/matrix spike duplicate recoveries were within the quality control limits. Also, the relative percent difference (RPD %) recovery was acceptable.

Ortho-Phosphate as P Analysis EPA 365.3:

1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Analyzed
MA3-TG2-1-090805-1	4599855	Ground water	09/08/05	09/10/05
MA3-TG2-2-090805-2	4599856	Ground water	09/08/05	09/10/05
MA3-TG2-3-090805-3	4599857	Ground water	09/08/05	09/10/05
MA3-TG3-1-090805-4	4599858	Ground water	09/08/05	09/10/05
MA3-TG3-2-090805-5	4599859	Ground water	09/08/05	09/10/05
MA3-TG3-3-090805-6	4599860	Ground water	09/08/05	09/10/05
MA3-TG3-3-090805-6	4600434	Ground water	09/08/05	09/10/05
MA3-TG4-1-090805-10	4600435	Ground water	09/08/05	09/10/05
MA3-TG4-1-090805-10MS	4600436	Ground water	09/08/05	09/10/05
MA3-TG4-1-090805-10MSD	4600437	Ground water	09/08/05	09/10/05
MA3-TG4-1-090805-10DUP	4600438	Ground water	09/08/05	09/10/05
MA3-TG4-2-090805-11	4600439	Ground water	09/08/05	09/10/05
MA3-TG4-3-090805-12	4600440	Ground water	09/08/05	09/10/05
MA3-TG6-1-090805-7	4600441	Ground water	09/08/05	09/10/05
MA3-TG6-2-090805-8	4600442	Ground water	09/08/05	09/10/05
MA3-TG6-3-090805-9	4600443	Ground water	09/08/05	09/10/05

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 4600435 and 4599859. The two matrix spikes/matrix spike duplicates recoveries were within the quality control limits. Also, the relative percent difference (RPD %) recoveries were acceptable.

5. Duplicate Recovery:

The two duplicates samples 4600435 and 4599859 results were acceptable.

6. Laboratory Control Sample Recovery:

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

Chemical Oxygen Demand Analysis (COD) EPA 410.2:

1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Analyzed
MA3-TG2-1-090805-1	4599855	Ground water	09/08/05	09/14/05
MA3-TG2-2-090805-2	4599856	Ground water	09/08/05	09/14/05
MA3-TG2-3-090805-3	4599857	Ground water	09/08/05	09/14/05
MA3-TG3-1-090805-4	4599858	Ground water	09/08/05	09/14/05
MA3-TG3-2-090805-5	4599859	Ground water	09/08/05	09/14/05
MA3-TG3-3-090805-6	4599860	Ground water	09/08/05	09/14/05
MA3-TG4-1-090805-10	4600435	Ground water	09/08/05	09/14/05
MA3-TG4-1-090805-10MS	4600436	Ground water	09/08/05	09/14/05
MA3-TG4-1-090805-10MSD	4600437	Ground water	09/08/05	09/14/05
MA3-TG4-1-090805-10DUP	4600438	Ground water	09/08/05	09/14/05
MA3-TG4-2-090805-11	4600439	Ground water	09/08/05	09/14/05
MA3-TG4-3-090805-12	4600440	Ground water	09/08/05	09/14/05
MA3-TG6-1-090805-7	4600441	Ground water	09/08/05	09/14/05
MA3-TG6-2-090805-8	4600442	Ground water	09/08/05	09/14/05
MA3-TG6-3-090805-9	4600443	Ground water	09/08/05	09/14/05

2. Holding Times:

All samples were analyzed within the required holding times.

3. Matrix Spike Recovery:

A matrix spike was performed on 4600435. The matrix spike/matrix spike duplicate recoveries were outside the quality control limits. However, the relative percent difference (RPD %) recovery was acceptable. Therefore, qualify the COD result in 4600435 as estimated (J).

4. Duplicate Recovery:

The duplicate sample 4600438 recovery was within the quality control limit.

5. Laboratory Control Sample Recovery:

The laboratory control sample recoveries were within the quality control limit.

Nitrite Nitrogen Analysis EPA 353.2:

1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Analyzed
MA3-TG2-1-090805-1	4600429	Ground water	09/08/05	09/10/05
MA3-TG2-2-090805-2	4600430	Ground water	09/08/05	09/10/05
MA3-TG2-3-090805-3	4600431	Ground water	09/08/05	09/10/05
MA3-TG3-1-090805-4	4600432	Ground water	09/08/05	09/10/05
MA3-TG3-2-090805-5	4600433	Ground water	09/08/05	09/10/05
MA3-TG4-1-090805-10	4600435	Ground water	09/08/05	09/12/05
MA3-TG4-1-090805-10MS	4600436	Ground water	09/08/05	09/12/05
MA3-TG4-1-090805-10DUP	4600438	Ground water	09/08/05	09/12/05
MA3-TG4-2-090805-11	4600439	Ground water	09/08/05	09/12/05
MA3-TG4-3-090805-12	4600440	Ground water	09/08/05	09/12/05
MA3-TG6-1-090805-7	4600441	Ground water	09/08/05	09/12/05
MA3-TG6-2-090805-8	4600442	Ground water	09/08/05	09/12/05
MA3-TG6-3-090805-9	4600443	Ground water	09/08/05	09/12/05

2. Holding Time:

All samples were analyzed within the required holding time. All samples were analyzed within the required holding time, except samples 4600435, 4600436, 4600438, 4600441 and 4600442 were analyzed past the 48 hrs. Therefore, qualify the results for 4600435, 4600436, 4600438, 4600441 and 4600442 as (J/UJ).

3. Method Blank:

The two associated method blanks results were free of contamination.

4. Matrix Spike Recovery:

The matrix spike was performed on 4600436. The MS recovery was within the quality control limit.

5. Laboratory Control Sample Recovery:

The laboratory control sample recovery was within the control limit.

6. Duplicate Recovery:

The duplicate result 4600438 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-TG2-1-090805-1	4600429	Ground water	09/08/05	09/16/05
MA3-TG2-2-090805-2	4600430	Ground water	09/08/05	09/16/05
MA3-TG2-3-090805-3	4600431	Ground water	09/08/05	09/16/05
MA3-TG3-1-090805-4	4600432	Ground water	09/08/05	09/16/05
MA3-TG3-2-090805-5	4600433	Ground water	09/08/05	09/16/05
MA3-TG3-3-090805-6	4600434	Ground water	09/08/05	09/16/05
MA3-TG4-1-090805-10	4600435	Ground water	09/08/05	09/16/05
MA3-TG4-1-090805-10MS	4600436	Ground water	09/08/05	09/16/05
MA3-TG4-1-090805-10DUP	4600438	Ground water	09/08/05	09/16/05
MA3-TG4-2-090805-11	4600439	Ground water	09/08/05	09/16/05
MA3-TG4-3-090805-12	4600440	Ground water	09/08/05	09/16/05
MA3-TG6-1-090805-7	4600441	Ground water	09/08/05	09/16/05
MA3-TG6-2-090805-8	4600442	Ground water	09/08/05	09/16/05
MA3-TG6-3-090805-9	4600443	Ground water	09/08/05	09/16/05

2. Holding Time:

All samples were analyzed within the required holding time.

3. Method Blank:

The associated method blank result was free of contamination.

4. Matrix Spike Recovery:

A matrix spike was performed on 4600429. The MS recovery was within the acceptance control limit.

Another matrix spike was performed on 4600436. The MS recovery was within the acceptance control limit.

5. Duplicate Recovery:

The two duplicates results 4600438 and 4600429 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

Biochemical Oxygen Demand (BOD) Method EPA 405.1:

1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Analyzed
MA3-TG2-1-090805-1	4600429	Ground water	09/08/05	09/10/05
MA3-TG2-2-090805-2	4600430	Ground water	09/08/05	09/10/05
MA3-TG2-3-090805-3	4600431	Ground water	09/08/05	09/10/05
MA3-TG3-1-090805-4	4600432	Ground water	09/08/05	09/10/05
MA3-TG3-2-090805-5	4600433	Ground water	09/08/05	09/10/05
MA3-TG3-3-090805-6	4600434	Ground water	09/08/05	09/10/05
MA3-TG4-1-090805-10	4600435	Ground water	09/08/05	09/10/05
MA3-TG4-1-090805-10MS	4600436	Ground water	09/08/05	09/10/05
MA3-TG4-1-090805-10MSD	4600437	Ground water	09/08/05	09/10/05
MA3-TG4-1-090805-10DUP	4600438	Ground water	09/08/05	09/10/05
MA3-TG4-2-090805-11	4600439	Ground water	09/08/05	09/10/05
MA3-TG4-3-090805-12	4600440	Ground water	09/08/05	09/10/05
MA3-TG6-1-090805-7	4600441	Ground water	09/08/05	09/10/05
MA3-TG6-2-090805-8	4600442	Ground water	09/08/05	09/10/05
MA3-TG6-3-090805-9	4600443	Ground water	09/08/05	09/10/05

2. Holding Time:

All samples were analyzed within the required holding time, except samples 4600429 thru 4600434 were analyzed past the 48 hrs due to insufficient time remaining upon sample receipt. Therefore, qualify the results for 4600429 thru 4600434 as (J/UJ).

3. Matrix Spike Recovery:

A matrix spike was performed on 4600435. The matrix spike/matrix spike duplicate recoveries were within the quality control limits. Also, the relative percent difference (RPD %) recovery was acceptable.

4. Laboratory Control Sample Recovery:

The laboratory control sample/laboratory control sample duplicate recoveries were within the quality control limit. Also, the RPD value was acceptable.

Total Organic Carbon (TOC) Method EPA 415.1:

1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Analyzed
MA3-TG2-1-090805-1	4600429	Ground water	09/08/05	09/14/05
MA3-TG2-2-090805-2	4600430	Ground water	09/08/05	09/14/05
MA3-TG2-3-090805-3	4600431	Ground water	09/08/05	09/13/05
MA3-TG3-1-090805-4	4600432	Ground water	09/08/05	09/13/05
MA3-TG3-2-090805-5	4600433	Ground water	09/08/05	09/13/05
MA3-TG3-3-090805-6	4600434	Ground water	09/08/05	09/13/05
MA3-TG4-1-090805-10	4600435	Ground water	09/08/05	09/13/05
MA3-TG4-1-090805-10MS	4600436	Ground water	09/08/05	09/13/05
MA3-TG4-1-090805-10DUP	4600438	Ground water	09/08/05	09/13/05
MA3-TG4-2-090805-11	4600439	Ground water	09/08/05	09/13/05
MA3-TG4-3-090805-12	4600440	Ground water	09/08/05	09/13/05
MA3-TG6-1-090805-7	4600441	Ground water	09/08/05	09/13/05
MA3-TG6-2-090805-8	4600442	Ground water	09/08/05	09/13/05
MA3-TG6-3-090805-9	4600443	Ground water	09/08/05	09/13/05

2. Holding Time:

All samples were analyzed within the required holding time.

3. Method Blank:

The associated method blank result was free of contamination.

4. Matrix Spike Recovery:

A matrix spike was performed on 4600436. The MS recoveries were within the quality control limit.
A matrix spike was performed on 4600443. The MS recoveries were within the quality control limit.

5. Duplicate Recovery:

The two duplicates samples 4600438 and 4600443 result was acceptable.

6. Laboratory Control Sample Recovery:

The laboratory control sample recovery was within the acceptance QC control limits.

7. Initial and Continuing Verification Calibration:

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

Summary

Results of this review:

1. All sample results in this sample group are considered usable.

Data Reviewed by: Tania Shammo Date: 10/05/05

7802/958761/4600427-43

COC ID: COC-080805-7

Chain of Custody Record

WESTON SOLUTIONS

Client: Kerr McGee
Site Name: Moss American
W. O.: 02687.007.006.0001
Lab: LANCASTER LABS
TAT:

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	EPA 353.2-NO2	EPA 353.2-NO3	SW846 8021B-BTEX							
						Filtered									
						Container	40 ml Vials	40 ml Vials	40 ml Vials						
						Preservative	N/A	H2SO4	HCl						
	MA3-FB-080805-14	G		N	9/8/2005 19:00			3							
	MA3-TB-080805-13	G		N	9/8/2005			3							
	MA3-TG2-1-080805-1	G		N	9/8/2005 10:20	1	1	3							
	MA3-TG2-2-080805-2	G		N	9/8/2005 09:30	1	1	3							
	MA3-TG2-3-080805-3	G		N	9/8/2005 09:45	1	1	3							
	MA3-TG3-1-080805-4	G		N	9/8/2005 12:10	1	1	3							
	MA3-TG3-2-080805-5	G		N	9/8/2005 12:15	1	1	3							
	MA3-TG3-3-080805-6	G		N	9/8/2005 12:25	1	1	3							
	MA3-TG4-1-080805-10-MSD	G		Y	9/8/2005 16:05	3	3	9							
	MA3-TG4-2-080805-11	G		N	9/8/2005 15:55	1	1	3							
	MA3-TG4-3-080805-12	G		N	9/8/2005 16:00	1	1	3							
	MA3-TG6-1-080805-7	G		N	9/8/2005 18:20	1	1	3							
	MA3-TG6-2-080805-8	G		N	9/8/2005 18:15	1	1	3							
	MA3-TG6-3-080805-9	G		N	9/8/2005 18:00	1	1	3							

Remarks/Comments

Sampled By: N. Lane

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 we 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
							9/8/05 0913

7802/958761/4600427-43

COC ID: COC-090805-8

Chain of Custody Record

WESTON SOLUTIONS

Client: Kerr McGee
Site Name: Moss American
W. O.: 02687.007.006.0001
Lab: MICROBAC LABS
TAT:

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

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	EPA 365.3-ORTHO P, EPA 405.1-BOD	EPA 415.1-TOC	SW846 8310-PAHS							
						Filtered									
						Container	500-ml Poly	250 ml Glass	1-L Amber						
						Preservative	N/A	H3PO4	N/A						
	MA3-FB-090805-14	G		N	9/8/2005 19:00			2							
	MA3-TG2-1-090805-1	G		N	9/8/2005 10:20	1	1								
	MA3-TG2-2-090805-2	G		N	9/8/2005 09:30	1	1								
	MA3-TG2-3-090805-3	G		N	9/8/2005 09:45	1	1								
	MA3-TG3-1-090805-4	G		N	9/8/2005 12:10	1	1								
	MA3-TG3-2-090805-5	G		N	9/8/2005 12:15	1	1								
	MA3-TG3-3-090805-6	G		N	9/8/2005 12:25	1	1								
	MA3-TG4-1-090805-10-MSD	G		Y	9/8/2005 16:05	3	3								
	MA3-TG4-2-090805-11	G		N	9/8/2005 15:55	1	1								
	MA3-TG4-3-090805-12	G		N	9/8/2005 16:00	1	1								
	MA3-TG6-1-090805-7	G		N	9/8/2005 18:20	1	1								
	MA3-TG6-2-090805-8	G		N	9/8/2005 18:15	1	1								
	MA3-TG6-3-090805-9	G		N	9/8/2005 18:00	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
							9/8/05 0955

Sampled By: M Lane

7802/958761/4600427-43

COC ID: COC-090805-5

Chain of Custody Record

WESTON SOLUTIONS

Client: Kerr McGee

Site Name: Moss American | Contact Name: Tom Graan

W. O.: 02687.007.006.0001 | Contact Phone No.: 847-918-4142

Lab: LANCASTER LABS | Lab Contact: C. SWEIGART

TAT | Lab Phone: 717-656-2308 X1527

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	EPA 350.2-NH3	SW846 8310-PAHS	TKN, TP PO4, COD							
						Filtered									
						Container	1-L Glass	1-L Amber	1-L Glass							
						Preservative	H2SO4	N/A	N/A							
	MA3-TG4-1-090805-10-MSD	G		Y	9/8/2005 16:05	3		3							
	MA3-TG4-2-090805-11	G		N	9/8/2005 15:55	1									
	MA3-TG4-3-090805-12	G		N	9/8/2005 16:00	1									
	MA3-TG6-3-090805-9	G		N	9/8/2005 18:00		2								

Remarks/Comments

Sampled By: N. Saine

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
							9/8/05 0845

7802/958761/4600427-43

COC ID: COC-090805-6

Chain of Custody Record

WESTON SOLUTIONS

Client: Kerr McGee

Site Name: Moss American | Contact Name: Tom Graan

W. O.: 02687.007.006.0001 | Contact Phone No.: 847-918-4142

Lab: LANCASTER LABS | Lab Contact: C. SWEIGART

TAT: STANDARD | Lab Phone: 717-656-2308 X152Z

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	EPA 350.2-NH3	TKN, TP PO4,COD								
						Filtered									
						Container	1-L Glass	1-L Glass							
						Preservative	H2SO4	N/A							
	MA3-TG4-2-090805-11	G		N	9/8/2005 15:55		1								
	MA3-TG4-3-090805-12	G		N	9/8/2005 16:00		1								
	MA3-TG6-1-090805-7	G		N	9/8/2005 18:20	1	1								
	MA3-TG6-2-090805-8	G		N	9/8/2005 18:15	1	1								
	MA3-TG6-3-090805-9	G		N	9/8/2005 18:00	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
							9/8/05 0815

Sampled By: N. Saue

7802/953761/4600427-43

COC ID: COC-090805-4

Chain of Custody Record

WESTON SOLUTIONS

Client: Kerr McGee
Site Name: Moss American
W. O.: 02697.007.006.0001
Lab: LANCASTER LABS
TAT:

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	SW846 8310-PAHS									
						Filtered									
						Container	1-L Amber								
						Preservative	N/A								
	MA3-TG3-3-090805-6	G		N	9/8/2005 12:25	2									
	MA3-TG4-2-090805-11	G		N	9/8/2005 15:55	2									
	MA3-TG4-3-090805-12	G		N	9/8/2005 16:00	2									
	MA3-TG6-1-090805-7	G		N	9/8/2005 18:20	2									
	MA3-TG6-2-090805-8	G		N	9/8/2005 18:15	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 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
							9/8/05 0915

Sampled By: N. Sauve

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 958761. Samples arrived at the laboratory on Saturday, September 10, 2005. The PO# for this group is ZAKW1KEOK0A90089.

Client Description		Lancaster Labs Number
MA3-FB-090805-14	Groundwater	4600427
MA3-TB-090805-13	Groundwater	4600428
MA3-TG2-1-090805-1	Groundwater	4600429
MA3-TG2-2-090805-2	Groundwater	4600430
MA3-TG2-3-090805-3	Groundwater	4600431
MA3-TG3-1-090805-4	Groundwater	4600432
MA3-TG3-2-090805-5	Groundwater	4600433
MA3-TG3-3-090805-6	Groundwater	4600434
MA3-TG4-1-090805-10	Groundwater	4600435
MA3-TG4-1-090805-10-MS	Groundwater	4600436
MA3-TG4-1-090805-10-MSD	Groundwater	4600437
MA3-TG4-1-090805-10-DUP	Groundwater	4600438
MA3-TG4-2-090805-11	Groundwater	4600439
MA3-TG4-3-090805-12	Groundwater	4600440
MA3-TG6-1-090805-7	Groundwater	4600441
MA3-TG6-2-090805-8	Groundwater	4600442
MA3-TG6-3-090805-9	Groundwater	4600443

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	Kerr-McGee Corporation	Attn: Roy Widmann
1 COPY TO	Data Package Group	

Lancaster Laboratories

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

Respectfully Submitted,

Rachel R. Cochis
Group Leader

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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600427

MA3-FB-090805-14 Groundwater
090805-7,8 02687.007.006.0001
Moss American
Collected:09/08/2005 19:00 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/22/2005 at 14:26
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

3FB14 SDG#: KMA69-08FB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	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.	0.081	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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/13/2005 06:05	Kathie J Bowman	1
00774	PAH's in Water by HPLC	SW-846 8310	1	09/17/2005 02:40	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/13/2005 06:05	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/12/2005 16:00	Kerrie A Greenfield	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600427

MA3-FB-090805-14 Groundwater
090805-7,8 02687.007.006.0001
Moss American
Collected:09/08/2005 19:00 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/22/2005 at 14:26
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

3FB14 SDG#: KMA69-08FB

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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600428

MA3-TB-090805-13 Groundwater
090805-7 02687.007.006.0001
Moss American
Collected:09/08/2005

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/22/2005 at 14:27
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

3TB13 SDG#: KMA69-09TB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/13/2005 03:26	Kathie J Bowman	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/13/2005 03:26	Kathie J Bowman	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600429

MA3-TG2-1-090805-1 Groundwater
090805-7,8 02687.007.006.0001
Moss American
Collected:09/08/2005 10:20 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/22/2005 at 14:27
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

321-1 SDG#: KMA69-10

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
00235	Biochemical Oxygen Demand	n.a.	N.D.	1.8	mg/l	1
	This sample was analyzed past the 48-hour hold time for BOD due to insufficient time remaining upon sample receipt.					
00273	Total Organic Carbon	n.a.	3.1	0.50	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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00219	Nitrite Nitrogen	EPA 353.2	1	09/10/2005 10:59	Kristina E Kleintop	1
00220	Nitrate Nitrogen	EPA 353.2	1	09/16/2005 11:18	Kristina E Kleintop	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/10/2005 12:58	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	09/14/2005 11:09	Nicole M Kepley	1
08213	BTEX (8021)	SW-846 8021B	1	09/13/2005 06:45	Kathie J Bowman	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/13/2005 06:45	Kathie J Bowman	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600430

MA3-TG2-2-090805-2 Groundwater
090805-7,8 02687.007.006.0001
Moss American
Collected:09/08/2005 09:30 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/22/2005 at 14:27
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

322-- SDG#: KMA69-11

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
	This sample was submitted without sufficient time to meet the 48 hour holding time for nitrite.					
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	2.6	mg/l	1
	This sample was analyzed past the 48-hour hold time for BOD due to insufficient time remaining upon sample receipt.					
00273	Total Organic Carbon	n.a.	10.7	0.50	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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00219	Nitrite Nitrogen	EPA 353.2	1	09/10/2005 10:57	Kristina E Kleintop	1
00220	Nitrate Nitrogen	EPA 353.2	1	09/16/2005 11:34	Kristina E Kleintop	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/10/2005 12:58	Nicole R. Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	09/14/2005 11:17	Nicole M Kepley	1
08213	BTEX (8021)	SW-846 8021B	1	09/13/2005 07:24	Kathie J Bowman	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/13/2005 07:24	Kathie J Bowman	1

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 4600431

MA3-TG2-3-090805-3 Groundwater
090805-7,8 02687.007.006.0001
Moss American
Collected:09/08/2005 09:45 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/22/2005 at 14:27
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

323-- SDG#: KMA69-12

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
	This sample was submitted without sufficient time to meet the 48 hour holding time for nitrite.					
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	5.3	mg/l	1
	This sample was analyzed past the 48-hour hold time for BOD due to insufficient time remaining upon sample receipt.					
00273	Total Organic Carbon	n.a.	5.1	0.50	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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00219	Nitrite Nitrogen	EPA 353.2	1	09/10/2005 10:58	Kristina E Kleintop	1
00220	Nitrate Nitrogen	EPA 353.2	1	09/16/2005 11:32	Kristina E Kleintop	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/10/2005 12:58	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	09/13/2005 15:55	Nicole M Kepley	1
08213	BTEX (8021)	SW-846 8021B	1	09/13/2005 08:04	Kathie J Bowman	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/13/2005 08:04	Kathie J Bowman	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600432

MA3-TG3-1-090805-4 Groundwater
090805-7,8 02687.007.006.0001
Moss American
Collected:09/08/2005 12:10 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/22/2005 at 14:27
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

3314- SDG#: KMA69-13

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
00235	Biochemical Oxygen Demand	n.a.	N.D.	4.0	mg/l	1
	This sample was analyzed past the 48-hour hold time for BOD due to insufficient time remaining upon sample receipt.					
00273	Total Organic Carbon	n.a.	11.2	0.50	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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00219	Nitrite Nitrogen	EPA 353.2	1	09/10/2005 11:01	Kristina E Kleintop	1
00220	Nitrate Nitrogen	EPA 353.2	1	09/16/2005 11:35	Kristina E Kleintop	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/10/2005 12:58	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	09/13/2005 16:03	Nicole M Kepley	1
08213	BTEX (8021)	SW-846 8021B	1	09/13/2005 08:44	Kathie J Bowman	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/13/2005 08:44	Kathie J Bowman	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600433

MA3-TG3-2-090805-5 Groundwater
090805-7,8 02687.007.006.0001
Moss American
Collected:09/08/2005 12:15 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/22/2005 at 14:27
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

332-5 SDG#: KMA69-14

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	0.088 J	0.040	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	5.1	mg/l	1
	This sample was analyzed past the 48-hour hold time for BOD due to insufficient time remaining upon sample receipt.					
00273	Total Organic Carbon	n.a.	9.9	0.50	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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00219	Nitrite Nitrogen	EPA 353.2	1	09/10/2005 11:02	Kristina E Kleintop	1
00220	Nitrate Nitrogen	EPA 353.2	1	09/16/2005 11:36	Kristina E Kleintop	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/10/2005 12:58	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	09/13/2005 16:12	Nicole M Kepley	1
08213	BTEX (8021)	SW-846 8021B	1	09/13/2005 11:23	Kathie J Bowman	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/13/2005 11:23	Kathie J Bowman	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600434

MA3-TG3-3-090805-6 Groundwater
090805-4,7,8 02687.007.006.0001
Moss American
Collected:09/08/2005 12:25 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/22/2005 at 14:27
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

333-6 SDG#: KMA69-15

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
00226	Ortho-Phosphate as P	7723-14-0	0.11	0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	9.7	0.80	mg/l	1
	This sample was analyzed past the 48-hour hold time for BOD due to insufficient time remaining upon sample receipt.					
00273	Total Organic Carbon	n.a.	12.3	0.50	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
	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 = 7.					
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.	0.52	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	0.099 J	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.	0.082	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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600434

MA3-TG3-3-090805-6 Groundwater
090805-4,7,8 02687.007.006.0001
Moss American
Collected:09/08/2005 12:25 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/22/2005 at 14:27
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

333-6 SDG#: KMA69-15

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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00219	Nitrite Nitrogen	EPA 353.2	1	09/10/2005 11:03	Kristina E Kleintop	1
00220	Nitrate Nitrogen	EPA 353.2	1	09/16/2005 11:37	Kristina E Kleintop	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/10/2005 10:40	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/10/2005 12:58	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	09/13/2005 16:20	Nicole M Kepley	1
08213	BTEX (8021)	SW-846 8021B	1	09/12/2005 22:07	Kathie J Bowman	1
00774	PAH's in Water by HPLC	SW-846 8310	1	09/17/2005 03:19	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/12/2005 22:07	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/12/2005 16:00	Kerrie A Greenfield	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600435

MA3-TG4-1-090805-10 Groundwater
090805-5,7,8 02687.007.006.0001
Moss American
Collected:09/08/2005 16:05 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/22/2005 at 14:27
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

34110 SDG#: KMA69-16BKG

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
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l	1
	This sample was analyzed past the 48 hour hold time for nitrite nitrogen.					
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	0.75	0.11	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	0.027 J	0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	2.3	mg/l	1
00273	Total Organic Carbon	n.a.	7.8	0.50	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	3.9	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.	57.4	2.1	mg/l	1
	Matrix QC was performed on this sample for the COD analysis. Please see the attached QC Summary report for the parameter showing a matrix bias.					
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
00217	Kjeldahl Nitrogen	EPA 351.2	1	09/14/2005 11:04	Kristina E Kleintop	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/12/2005 14:59	Kristina E Kleintop	1
00220	Nitrate Nitrogen	EPA 353.2	1	09/16/2005 11:39	Kristina E Kleintop	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/12/2005 18:30	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/10/2005 10:40	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/10/2005 12:58	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	09/13/2005 16:28	Nicole M Kepley	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600435

MA3-TG4-1-090805-10 Groundwater
090805-5,7,8 02687.007.006.0001
Moss American
Collected:09/08/2005 16:05 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/22/2005 at 14:27
Discard: 11/22/2005

Kerr-McGee Corporation
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Livonia MI 48150

34110 SDG#: KMA69-16BKG

00345	Total Phosphorus as PO4 water	EPA 365.1	1	09/15/2005 13:56	Kristina E Kleintop	1
01553	Chemical Oxygen Demand	EPA 410.2	1	09/14/2005 07:45	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	09/12/2005 22:47	Kathie J Bowman	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/12/2005 22:47	Kathie J Bowman	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	09/13/2005 15:50	Nancy J Shoop	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	09/14/2005 15:50	Nancy J Shoop	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600436

MA3-TG4-1-090805-10-MS Groundwater
090805-5,7,8 02687.007.006.0001
Moss American
Collected:09/08/2005 16:05 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/22/2005 at 14:27
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

34110 SDG#: KMA69-16MS

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	6.5	0.50	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	0.21	0.015	mg/l	1
	This sample was analyzed past the 48 hour hold time for nitrite nitrogen.					
00220	Nitrate Nitrogen	14797-55-8	0.81	0.040	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	14.4	0.11	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	0.43	0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	50.4	0.80	mg/l	1
00273	Total Organic Carbon	n.a.	17.8	0.50	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	7.1	0.25	mg/l	1
01553	Chemical Oxygen Demand	n.a.	39.8	2.1	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	22.	0.2	ug/l	1
00777	Toluene	108-88-3	23.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	23.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	66.	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
00217	Kjeldahl Nitrogen	EPA 351.2	1	09/14/2005 11:07	Kristina E Kleintop	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/12/2005 15:02	Kristina E Kleintop	1
00220	Nitrate Nitrogen	EPA 353.2	1	09/16/2005 11:40	Kristina E Kleintop	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/12/2005 18:30	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/10/2005 10:40	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/10/2005 12:58	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	09/13/2005 16:36	Nicole M Kepley	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	09/15/2005 13:57	Kristina E Kleintop	1
01553	Chemical Oxygen Demand	EPA 410.2	1	09/14/2005 07:45	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	09/12/2005 23:27	Kathie J Bowman	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/12/2005 23:27	Kathie J Bowman	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600436

MA3-TG4-1-090805-10-MS Groundwater
090805-5,7,8 02687.007.006.0001
Moss American
Collected:09/08/2005 16:05 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/22/2005 at 14:27
Discard: 11/22/2005

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PO Box 3048
Livonia MI 48150

34110 SDG#: KMA69-16MS

01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	09/13/2005 15:50	Nancy J Shoop	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	09/14/2005 15:50	Nancy J Shoop	1

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Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600437

MA3-TG4-1-090805-10-MSD Groundwater
090805-5,7,8 02687.007.006.0001
Moss American
Collected:09/08/2005 16:05 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/22/2005 at 14:27
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

34110 SDG#: KMA69-16MSD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00221	Ammonia Nitrogen	7664-41-7	14.3	0.11	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	0.44	0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	48.8	0.80	mg/l	1
01553	Chemical Oxygen Demand	n.a.	27.3	2.1	mg/l	1
08213	BTEX (8021)					
00776	Benzene	71-43-2	21.	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

State of Wisconsin Lab Certification No. EN 748

Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis Trial#	Analysis Date and Time	Analyst	Dilution Factor
00221	Ammonia Nitrogen	EPA 350.2	1	09/12/2005 18:30	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/10/2005 10:40	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/10/2005 12:58	Nicole R Rohrer	1
01553	Chemical Oxygen Demand	EPA 410.2	1	09/14/2005 07:45	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	09/13/2005 00:07	Kathie J Bowman	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/13/2005 00:07	Kathie J Bowman	1

MEMBER ACIL
Lancaster Laboratories, Inc.
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PO Box 12425
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Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600438

MA3-TG4-1-090805-10-DUP Groundwater
090805-5,7,8 02687.007.006.0001
Moss American
Collected:09/08/2005 16:05 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/22/2005 at 14:27
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

34110 SDG#: KMA69-16DUP

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	1.0	0.50	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l	1
	This sample was analyzed past the 48 hour hold time for nitrite nitrogen.					
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	0.80	0.11	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	0.043	0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	2.0	mg/l	1
00273	Total Organic Carbon	n.a.	7.1	0.50	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	4.0	0.25	mg/l	1
01553	Chemical Oxygen Demand	n.a.	58.6	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	09/14/2005 11:05	Kristina E Kleintop	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/12/2005 15:01	Kristina E Kleintop	1
00220	Nitrate Nitrogen	EPA 353.2	1	09/16/2005 11:41	Kristina E Kleintop	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/12/2005 18:30	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/10/2005 10:40	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/10/2005 12:58	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	09/13/2005 17:00	Nicole M Kepley	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	09/15/2005 13:58	Kristina E Kleintop	1
01553	Chemical Oxygen Demand	EPA 410.2	1	09/14/2005 07:45	Susan A Engle	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	09/13/2005 15:50	Nancy J Shoop	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	09/14/2005 15:50	Nancy J Shoop	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600439

MA3-TG4-2-090805-11 Groundwater
090805-4,5,6,7,8 02687.007.006.0001
Moss American
Collected:09/08/2005 15:55 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/22/2005 at 14:27
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

34211 SDG#: KMA69-17

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	1.4		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	0.021	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.	10.3		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.	27.7		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.		1.6	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	0.34		0.041	ug/l	1
00811	Pyrene	129-00-0	0.27	J	0.18	ug/l	1
00812	Benzo(a)anthracene	56-55-3	0.021	J	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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600439

MA3-TG4-2-090805-11 Groundwater
090805-4,5,6,7,8 02687.007.006.0001
Moss American
Collected:09/08/2005 15:55 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/22/2005 at 14:27
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

34211 SDG#: KMA69-17

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	09/14/2005 11:08	Kristina E Kleintop	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/10/2005 11:04	Kristina E Kleintop	1
00220	Nitrate Nitrogen	EPA 353.2	1	09/16/2005 11:42	Kristina E Kleintop	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/12/2005 18:30	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/10/2005 10:40	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/10/2005 12:58	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	09/13/2005 17:08	Nicole M Kepley	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	09/15/2005 14:00	Kristina E Kleintop	1
01553	Chemical Oxygen Demand	EPA 410.2	1	09/14/2005 07:45	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	09/13/2005 12:03	Kathie J Bowman	1
00774	PAH's in Water by HPLC	SW-846 8310	1	09/17/2005 03:57	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/13/2005 12:03	Kathie J Bowman	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	09/13/2005 15:50	Nancy J Shoop	1
03337	PAH Water Extraction	SW-846 3510C	1	09/12/2005 16:00	Kerrie A Greenfield	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	09/14/2005 15:50	Nancy J Shoop	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600440

MA3-TG4-3-090805-12 Groundwater
090805-4,5,6,7,8 02687.007.006.0001
Moss American
Collected:09/08/2005 16:00 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/22/2005 at 14:27
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

34312 SDG#: KMA69-18

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
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	0.97	0.11	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	0.015 J	0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	4.2	mg/l	1
00273	Total Organic Carbon	n.a.	8.3	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.	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.	0.088	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 4600440

MA3-TG4-3-090805-12 Groundwater
090805-4,5,6,7,8 02687.007.006.0001
Moss American
Collected:09/08/2005 16:00 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/22/2005 at 14:27
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

34312 SDG#: KMA69-18

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	09/14/2005 11:09	Kristina E Kleintop	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/10/2005 11:06	Kristina E Kleintop	1
00220	Nitrate Nitrogen	EPA 353.2	1	09/16/2005 11:44	Kristina E Kleintop	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/12/2005 18:30	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/10/2005 10:40	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/10/2005 12:58	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	09/13/2005 17:16	Nicole M Kepley	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	09/15/2005 14:01	Kristina E Kleintop	1
01553	Chemical Oxygen Demand	EPA 410.2	1	09/14/2005 07:45	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	09/13/2005 12:43	Kathie J Bowman	1
00774	PAH's in Water by HPLC	SW-846 8310	1	09/17/2005 04:36	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/13/2005 12:43	Kathie J Bowman	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	09/13/2005 15:50	Nancy J Shoop	1
03337	PAH Water Extraction	SW-846 3510C	1	09/12/2005 16:00	Kerrie A Greenfield	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	09/14/2005 15:50	Nancy J Shoop	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600441

MA3-TG6-1-090805-7 Groundwater
090805-4,6,7,8 02687.007.006.0001
Moss American
Collected:09/08/2005 18:20 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/22/2005 at 14:28
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

3617- SDG#: KMA69-19

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	2.0	0.50	mg/l	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	mg/l	1
	This sample was analyzed past the 48 hour hold time for nitrite nitrogen.					
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	1.6	0.11	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	0.056	0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	3.1	mg/l	1
00273	Total Organic Carbon	n.a.	11.6	0.50	mg/l	1
00345	Total Phosphorus as PO4 water	14265-44-2	0.51	0.25	mg/l	1
01553	Chemical Oxygen Demand	n.a.	31.3	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.	1.7	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	0.086 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.	0.084	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.					

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600441

MA3-TG6-1-090805-7 Groundwater
090805-4,6,7,8 02687.007.006.0001
Moss American
Collected:09/08/2005 18:20 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/22/2005 at 14:28
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

3617- SDG#: KMA69-19

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	09/14/2005 11:28	Kristina E Kleintop	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/12/2005 15:03	Kristina E Kleintop	1
00220	Nitrate Nitrogen	EPA 353.2	1	09/16/2005 11:47	Kristina E Kleintop	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/12/2005 18:30	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/10/2005 10:40	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/10/2005 12:58	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	09/13/2005 17:24	Nicole M Kepley	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	09/15/2005 14:02	Kristina E Kleintop	1
01553	Chemical Oxygen Demand	EPA 410.2	1	09/14/2005 07:45	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	09/13/2005 13:23	Kathie J Bowman	1
00774	PAH's in Water by HPLC	SW-846 8310	1	09/17/2005 05:14	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/13/2005 13:23	Kathie J Bowman	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	09/13/2005 16:10	Nancy J Shoop	1
03337	PAH Water Extraction	SW-846 3510C	1	09/12/2005 16:00	Kerrie A Greenfield	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	09/14/2005 15:50	Nancy J Shoop	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600442

MA3-TG6-2-090805-8 Groundwater
090805-4,6,7,8 02687.007.006.0001
Moss American
Collected:09/08/2005 18:15 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/22/2005 at 14:28
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

3628- SDG#: KMA69-20

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
	This sample was analyzed past the 48 hour hold time for nitrite nitrogen.						
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	0.023	J	0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.		2.4	mg/l	1
00273	Total Organic Carbon	n.a.	7.9		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.	19.9		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.		0.041	ug/l	1
00807	Fluoranthene	206-44-0	0.13	J	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.						

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600442

MA3-TG6-2-090805-8 Groundwater
090805-4,6,7,8 02687.007.006.0001
Moss American
Collected:09/08/2005 18:15 by NS Account Number: 07802

Submitted: 09/10/2005 09:55 Kerr-McGee Corporation
Reported: 09/22/2005 at 14:28 PO Box 3048
Discard: 11/22/2005 Livonia MI 48150

3628- SDG#: KMA69-20

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	09/14/2005 11:29	Kristina E Kleintop	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/12/2005 15:04	Kristina E Kleintop	1
00220	Nitrate Nitrogen	EPA 353.2	1	09/16/2005 11:49	Kristina E Kleintop	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/12/2005 18:30	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/10/2005 10:40	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/10/2005 12:58	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	09/13/2005 17:32	Nicole M Kepley	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	09/15/2005 14:03	Kristina E Kleintop	1
01553	Chemical Oxygen Demand	EPA 410.2	1	09/14/2005 07:45	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	09/15/2005 00:40	Kathie J Bowman	1
00774	PAH's in Water by HPLC	SW-846 8310	1	09/17/2005 05:53	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/15/2005 00:40	Kathie J Bowman	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	09/13/2005 16:10	Nancy J Shoop	1
03337	PAH Water Extraction	SW-846 3510C	1	09/12/2005 16:00	Kerrie A Greenfield	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	09/14/2005 15:50	Nancy J Shoop	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600443

MA3-TG6-3-090805-9 Groundwater
090805-5,6,7,8 02687.007.006.0001
Moss American
Collected:09/08/2005 18:00 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/22/2005 at 14:28
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

3639- SDG#: KMA69-21*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	1.0	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	0.93	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.	1.7	mg/l	1
00273	Total Organic Carbon	n.a.	7.5	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.	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.	1.6	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	0.078 J	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

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 4600443

MA3-TG6-3-090805-9 Groundwater
090805-5,6,7,8 02687.007.006.0001
Moss American
Collected:09/08/2005 18:00 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/22/2005 at 14:28
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

3639- SDG#: KMA69-21*

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	09/14/2005 11:30	Kristina E Kleintop	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/10/2005 11:07	Kristina E Kleintop	1
00220	Nitrate Nitrogen	EPA 353.2	1	09/16/2005 11:50	Kristina E Kleintop	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/12/2005 18:30	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/10/2005 10:40	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/10/2005 12:58	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	09/13/2005 17:40	Nicole M Kepley	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	09/15/2005 14:04	Kristina E Kleintop	1
01553	Chemical Oxygen Demand	EPA 410.2	1	09/14/2005 07:45	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	09/14/2005 08:30	Kathie J Bowman	1
00774	PAH's in Water by HPLC	SW-846 8310	1	09/17/2005 06:32	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/14/2005 08:30	Kathie J Bowman	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	09/13/2005 16:10	Nancy J Shoop	1
03337	PAH Water Extraction	SW-846 3510C	1	09/12/2005 16:00	Kerrie A Greenfield	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	09/14/2005 15:50	Nancy J Shoop	1

Lancaster Laboratories

Quality Control Summary

Client Name: Kerr-McGee Corporation
Reported: 09/22/05 at 02:28 PM

Group Number: 958761

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: 05253022602A	Sample number(s): 4600434-4600443							
Ortho-Phosphate as P	N.D.	0.010	mg/l	103		95-105		
Batch number: 05253023501A	Sample number(s): 4600429-4600443							
Biochemical Oxygen Demand				102	103	85-115	0	8
Batch number: 05253105101B	Sample number(s): 4600429-4600434,4600439-4600440,4600443							
Nitrite Nitrogen	N.D.	0.015	mg/l	100		90-110		
Batch number: 05255022101A	Sample number(s): 4600435-4600443							
Ammonia Nitrogen	N.D.	0.11	mg/l	97		91-100		
Batch number: 05255105101A	Sample number(s): 4600435-4600436,4600438,4600441-4600442							
Nitrite Nitrogen	N.D.	0.015	mg/l	98		90-110		
Batch number: 05255A15A	Sample number(s): 4600434-4600437							
Benzene	N.D.	0.2	ug/l	107	104	86-119	3	30
Toluene	N.D.	0.2	ug/l	108	105	82-119	3	30
Ethylbenzene	N.D.	0.2	ug/l	107	105	81-119	2	30
Total Xylenes	N.D.	0.6	ug/l	106	104	82-120	2	30
Batch number: 05255A15B	Sample number(s): 4600427-4600432							
Benzene	N.D.	0.2	ug/l	107	104	86-119	3	30
Toluene	N.D.	0.2	ug/l	108	105	82-119	3	30
Ethylbenzene	N.D.	0.2	ug/l	107	105	81-119	2	30
Total Xylenes	N.D.	0.6	ug/l	106	104	82-120	2	30
Batch number: 05255A15C	Sample number(s): 4600433,4600439-4600441							
Benzene	N.D.	0.2	ug/l	107	104	86-119	3	30
Toluene	N.D.	0.2	ug/l	108	105	82-119	3	30
Ethylbenzene	N.D.	0.2	ug/l	107	105	81-119	2	30
Total Xylenes	N.D.	0.6	ug/l	106	104	82-120	2	30
Batch number: 05255WAC026	Sample number(s): 4600427,4600434,4600439-4600443							
Naphthalene	N.D.	1.6	ug/l	77	76	57-109	2	30
Acenaphthylene	N.D.	1.6	ug/l	82	80	67-99	1	30
Acenaphthene	N.D.	1.6	ug/l	84	84	60-116	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: 958761
Reported: 09/22/05 at 02:28 PM

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Fluorene	N.D.	0.50	ug/l	88	87	61-116	1	30
Phenanthrene	N.D.	0.080	ug/l	91	91	67-115	1	30
Anthracene	N.D.	0.040	ug/l	84	85	68-113	0	30
Fluoranthene	N.D.	0.040	ug/l	92	91	70-112	1	30
Pyrene	N.D.	0.18	ug/l	91	90	69-113	0	30
Benzo(a)anthracene	N.D.	0.020	ug/l	94	94	73-114	1	30
Benzo(b)fluoranthene	N.D.	0.040	ug/l	95	93	72-113	2	30
Benzo(a)pyrene	N.D.	0.020	ug/l	88	90	68-112	2	30
Dibenz(a,h)anthracene	N.D.	0.040	ug/l	87	86	19-129	0	30
Indeno(1,2,3-cd)pyrene	N.D.	0.080	ug/l	86	89	67-106	3	30
Benzo(g,h,i)perylene	N.D.	0.10	ug/l	84	82	7-126	2	30
Chrysene	N.D.	0.080	ug/l	92	92	70-111	0	30
Benzo(k)fluoranthene	N.D.	0.020	ug/l	94	94	72-119	1	30
Batch number: 05256108101B	Sample number(s): 4600435-4600436,4600438-4600440							
Kjeldahl Nitrogen	N.D.	0.50	mg/l	99		90-110		
Batch number: 05256108102A	Sample number(s): 4600441-4600443							
Kjeldahl Nitrogen	N.D.	0.50	mg/l	101		90-110		
Batch number: 05256113012A	Sample number(s): 4600429-4600436,4600438-4600439							
Total Organic Carbon	N.D.	0.50	mg/l	98		84-115		
Batch number: 05256113012B	Sample number(s): 4600440-4600443							
Total Organic Carbon	N.D.	0.50	mg/l	98		84-115		
Batch number: 05256A15B	Sample number(s): 4600443							
Benzene	N.D.	0.2	ug/l	108	101	86-119	7	30
Toluene	N.D.	0.2	ug/l	106	104	82-119	2	30
Ethylbenzene	N.D.	0.2	ug/l	106	103	81-119	3	30
Total Xylenes	N.D.	0.6	ug/l	104	101	82-120	3	30
Batch number: 05256A15D	Sample number(s): 4600442							
Benzene	N.D.	0.2	ug/l	108	101	86-119	7	30
Toluene	N.D.	0.2	ug/l	106	104	82-119	2	30
Ethylbenzene	N.D.	0.2	ug/l	106	103	81-119	3	30
Total Xylenes	N.D.	0.6	ug/l	104	101	82-120	3	30
Batch number: 05257110101A	Sample number(s): 4600435-4600436,4600438-4600441							
Total Phosphorus as PO4 water	N.D.	0.25	mg/l	98		89-110		
Batch number: 05257110101B	Sample number(s): 4600442-4600443							
Total Phosphorus as PO4 water	N.D.	0.25	mg/l	98		89-110		
Batch number: 05257155301A	Sample number(s): 4600435-4600443							
Chemical Oxygen Demand				96		87-102		

*- 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: 958761
Reported: 09/22/05 at 02:28 PM

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 05259106101A	Sample number(s): 4600429-4600433							
Nitrate Nitrogen	N.D.	0.040	mg/l	99		89-110		
Batch number: 05259106101B	Sample number(s): 4600434-4600436,4600438-4600443							
Nitrate Nitrogen	N.D.	0.040	mg/l	99		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: 05253022602A	Sample number(s): 4600434-4600443								
Ortho-Phosphate as P	100	102	88-113	2	5	0.027 J	0.043	44* (1)	8
Batch number: 05253023501A	Sample number(s): 4600429-4600443								
Biochemical Oxygen Demand	102	99	67-144	3	9	N.D.	N.D.	33* (1)	9
Batch number: 05253105101B	Sample number(s): 4600429-4600434,4600439-4600440,4600443								
Nitrite Nitrogen	100		90-110			N.D.	N.D.	0 (1)	20
Batch number: 05255022101A	Sample number(s): 4600435-4600443								
Ammonia Nitrogen	98	97	64-128	1	8	0.75	0.80	6* (1)	2
Batch number: 05255105101A	Sample number(s): 4600435-4600436,4600438,4600441-4600442								
Nitrite Nitrogen	104		90-110			N.D.	N.D.	0 (1)	20
Batch number: 05255A15A	Sample number(s): 4600434-4600437								
Benzene	110	106	78-131	4	30				
Toluene	113	109	78-129	3	30				
Ethylbenzene	113	110	75-133	3	30				
Total Xylenes	110	108	80-134	3	30				
Batch number: 05255A15B	Sample number(s): 4600427-4600432								
Benzene	110	106	78-131	4	30				
Toluene	113	109	78-129	3	30				
Ethylbenzene	113	110	75-133	3	30				
Total Xylenes	110	108	80-134	3	30				
Batch number: 05255A15C	Sample number(s): 4600433,4600439-4600441								
Benzene	110	106	78-131	4	30				
Toluene	113	109	78-129	3	30				
Ethylbenzene	113	110	75-133	3	30				
Total Xylenes	110	108	80-134	3	30				
Batch number: 05256108101B	Sample number(s): 4600435-4600436,4600438-4600440								

*- 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: 958761
Reported: 09/22/05 at 02:28 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
Kjeldahl Nitrogen	108		90-110			1.1	1.0	5 (1)	7
Batch number: 05256108102A	Sample number(s): 4600441-4600443								
Kjeldahl Nitrogen	107		90-110			1.0	1.1	9* (1)	7
Batch number: 05256113012A	Sample number(s): 4600429-4600436,4600438-4600439								
Total Organic Carbon	100		67-130			7.8	7.1	8* (1)	4
Batch number: 05256113012B	Sample number(s): 4600440-4600443								
Total Organic Carbon	124		67-130			7.5	7.6	2 (1)	4
Batch number: 05256A15B	Sample number(s): 4600443								
Benzene	112	112	78-131	0	30				
Toluene	111	112	78-129	1	30				
Ethylbenzene	111	112	75-133	1	30				
Total Xylenes	108	109	80-134	1	30				
Batch number: 05256A15D	Sample number(s): 4600442								
Benzene	112	112	78-131	0	30				
Toluene	111	112	78-129	1	30				
Ethylbenzene	111	112	75-133	1	30				
Total Xylenes	108	109	80-134	1	30				
Batch number: 05257110101A	Sample number(s): 4600435-4600436,4600438-4600441								
Total Phosphorus as PO4 water	52*		90-110			3.9	4.0	1	3
Batch number: 05257110101B	Sample number(s): 4600442-4600443								
Total Phosphorus as PO4 water	104		90-110			N.D.	N.D.	56* (1)	3
Batch number: 05257155301A	Sample number(s): 4600435-4600443								
Chemical Oxygen Demand	(2)	(2)	60-129	37*	5	57.4	58.6	2	8
Batch number: 05259106101A	Sample number(s): 4600429-4600433								
Nitrate Nitrogen	101		90-110			N.D.	N.D.	0 (1)	2
Batch number: 05259106101B	Sample number(s): 4600434-4600436,4600438-4600443								
Nitrate Nitrogen	102		90-110			N.D.	N.D.	200* (1)	2

Surrogate Quality Control

Analysis Name: BTEX (8021)
Batch number: 05255A15A
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: 958761
Reported: 09/22/05 at 02:28 PM

Surrogate Quality Control

4600434	120
4600435	121
4600436	122
4600437	120
Blank	123
LCS	123
LCSD	122
MS	122
MSD	120
Limits:	69-129

Analysis Name: BTEX (8021)
Batch number: 05255A15B
Trifluorotoluene-P

4600427	124
4600428	122
4600429	121
4600430	121
4600431	121
4600432	119
Blank	122
LCS	123
LCSD	122
MS	122
MSD	120
Limits:	69-129

Analysis Name: BTEX (8021)
Batch number: 05255A15C
Trifluorotoluene-P

4600433	120
4600439	121
4600440	120
4600441	119
Blank	122
LCS	123
LCSD	122
MS	122
MSD	120
Limits:	69-129

Analysis Name: PAH's in Water by HPLC
Batch number: 05255WAC026
Nitrobenzene Triphenylene

*- 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: 958761
Reported: 09/22/05 at 02:28 PM

Surrogate Quality Control

4600427	112	101
4600434	107	100
4600439	116	101
4600440	109	95
4600441	105	97
4600442	118	100
4600443	113	100
Blank	112	102
LCS	111	102
LCSD	114	104
Limits:	63-154	55-130

Analysis Name: BTEX (8021)
Batch number: 05256A15B
Trifluorotoluene-P

4600443	120
Blank	122
LCS	123
LCSD	121
MS	122
MSD	120
Limits:	69-129

Analysis Name: BTEX (8021)
Batch number: 05256A15D
Trifluorotoluene-P

4600442	125
Blank	121
LCS	123
LCSD	121
MS	122
MSD	120
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

Account#07802 Group# 958658 Sample # 4599855-63

COC ID: COC-090805-1

Chain of Custody Record

WESTON SOLUTIONS

RECEIVED
SEP 23 2005

Client	Kerr McGee		
Site Name	Moss American	Contact Name	Tom Green
W. O.	02687.007.006.0001	Contact Phone No.	847-918-4142
Lab	LANCASTER LABS	Lab Contact	C. SWEIGART
TAT	STANDARD	Lab Phone	717-656-2308 X1527

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	EPA 350.2-NH3	SW846 8310-PAHS								
						Filtered									
						Container	1-L Glass	1-L Amber							
						Preservative	H2SO4	N/A							
	MA3-TG2-1-090805-1	G		N	9/8/2005 10:20	1	2								
	MA3-TG2-2-090805-2	G		N	9/8/2005 09:30	1	2								
	MA3-TG2-3-090805-3	G		N	9/8/2005 09:45	1	2								

Remarks/Comments

Sampled By N. Sarne

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
							9/9/05 0900

Account#07802 Group#958658 Sample#4599855-63

COC ID: COC-090805-2

Chain of Custody Record

WESTON SOLUTIONS

Client: Kerr McGee

Site Name: Moss American | Contact Name: Tom Green

W. O.: 02687.007.006.0001 | Contact Phone No.: 847-918-4142

Lab: LANCASTER LABS | Lab Contact: C. SWEIGART

TAT | Lab Phone: 717-656-2308 X1527

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	EPA 350.2-NH3	TKN, TP PO4,COD								
						Filtered									
						Container	1-L Glass	1-L Glass							
						Preservative	H2SO4	N/A							
	MA3-TG2-1-090805-1	G		N	9/8/2005 10:20		1								
	MA3-TG2-2-090805-2	G		N	9/8/2005 09:30		1								
	MA3-TG2-3-090805-3	G		N	9/8/2005 09:45		1								
	MA3-TG3-1-090805-4	G		N	9/8/2005 12:10	1	1								
	MA3-TG3-2-090805-5	G		N	9/8/2005 12:15	1	1								
	MA3-TG3-3-090805-6	G		N	9/8/2005 12:25	1	1								

Remarks/Comments

Sampled By: N. Lane

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
							9/9/05 0902

Account# 07802 Group# 958658 Sample# 4599855-63

COC ID: COC-090805-3

Chain of Custody Record

WESTON SOLUTIONS

Client: Kerr McGee
Site Name: Moss American
W. O.: 02687.007.006.0001
Lab: LANCASTER LABS
TAT:

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	SW846 8310-PAHS									
						Filtered									
						Container	1-L Amber								
						Preservative	N/A								
	MA3-TG3-1-090805-4	G		N	9/8/2005 12:10	2									
	MA3-TG3-2-090805-5	G		N	9/8/2005 12:15	2									
	MA3-TG4-1-090805-10-MSD	G		Y	9/8/2005 16:05	6									

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
							9/9/05 0900

Sampled By: N. Bauer

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 958658. Samples arrived at the laboratory on Friday, September 09, 2005. The PO# for this group is ZAKW1KEOK0A90089.

Client Description		Lancaster Labs Number
MA3-TG2-1-090805-1	Groundwater	4599855
MA3-TG2-2-090805-2	Groundwater	4599856
MA3-TG2-3-090805-3	Groundwater	4599857
MA3-TG3-1-090805-4	Groundwater	4599858
MA3-TG3-2-090805-5	Groundwater	4599859
MA3-TG3-3-090805-6	Groundwater	4599860
MA3-TG4-1-090805-10	Groundwater	4599861
MA3-TG4-1-090805-10-MS	Groundwater	4599862
MA3-TG4-1-090805-10-MSD	Groundwater	4599863

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	Kerr-McGee Corporation	Attn: Roy Widmann
1 COPY TO	Data Package Group	

Lancaster Laboratories

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

Respectfully Submitted,

Michele J. Smith

Michele J. Smith
Group Leader

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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4599855

MA3-TG2-1-090805-1 Groundwater
090805-1,2 02687.007.006.0001
Moss American
Collected:09/08/2005 10:20 by NS

Account Number: 07802

Submitted: 09/09/2005 09:00
Reported: 09/19/2005 at 09:52
Discard: 11/19/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

TG2-1 SDG#: KMA69-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	N.D.	0.50	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	0.28 J	0.11	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	0.019 J	0.010	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.	13.3	2.1	mg/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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilutio Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	09/14/2005 10:54	Kristina E Kleintop	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/12/2005 18:30	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/10/2005 07:55	Daniel S Smith	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4599855

MA3-TG2-1-090805-1 Groundwater
090805-1,2 02687.007.006.0001
Moss American
Collected:09/08/2005 10:20 by NS

Account Number: 07802

Submitted: 09/09/2005 09:00
Reported: 09/19/2005 at 09:52
Discard: 11/19/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

TG2-1 SDG#: KMA69-01

00345	Total Phosphorus as PO4 water	EPA 365.1	1	09/15/2005 13:47	Kristina E Kleintop	1
01553	Chemical Oxygen Demand	EPA 410.2	1	09/14/2005 07:45	Susan A Engle	1
00774	PAH's in Water by HPLC	SW-846 8310	1	09/12/2005 10:20	Mark A Clark	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	09/13/2005 15:50	Nancy J Shoop	1
03337	PAH Water Extraction	SW-846 3510C	1	09/10/2005 09:45	Mark P Mastropietro	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	09/14/2005 15:50	Nancy J Shoop	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4599856

MA3-TG2-2-090805-2 Groundwater
090805-1,2 02687.007.006.0001
Moss American
Collected:09/08/2005 09:30 by NS

Account Number: 07802

Submitted: 09/09/2005 09:00
Reported: 09/19/2005 at 09:52
Discard: 11/19/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

TG2-2 SDG#: KMA69-02

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
00221	Ammonia Nitrogen	7664-41-7	0.62		0.11	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	0.023	J	0.010	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.	7.8	J	2.1	mg/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	0.13	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	0.027	J	0.021	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	0.058	J	0.043	ug/l	1
00823	Benzo(a)pyrene	50-32-8	0.045	J	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	0.024	J	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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	09/14/2005 10:58	Kristina E Kleintop	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/12/2005 18:30	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/10/2005 07:55	Daniel S Smith	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4599856

MA3-TG2-2-090805-2 Groundwater
090805-1,2 02687.007.006.0001
Moss American
Collected:09/08/2005 09:30 by NS

Account Number: 07802

Submitted: 09/09/2005 09:00
Reported: 09/19/2005 at 09:52
Discard: 11/19/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

TG2-2 SDG#: KMA69-02

00345	Total Phosphorus as PO4 water	EPA 365.1	1	09/15/2005 13:48	Kristina E Kleintop	1
01553	Chemical Oxygen Demand	EPA 410.2	1	09/14/2005 07:45	Susan A Engle	1
00774	PAH's in Water by HPLC	SW-846 8310	1	09/12/2005 10:59	Mark A Clark	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	09/13/2005 15:50	Nancy J Shoop	1
03337	PAH Water Extraction	SW-846 3510C	1	09/10/2005 09:45	Mark P Mastropietro	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	09/14/2005 15:50	Nancy J Shoop	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4599857

MA3-TG2-3-090805-3 Groundwater
090805-1,2 02687.007.006.0001
Moss American
Collected:09/08/2005 09:45 by NS

Account Number: 07802

Submitted: 09/09/2005 09:00
Reported: 09/19/2005 at 09:52
Discard: 11/19/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

TG2-3 SDG#: KMA69-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	1.4	0.50	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	N.D.	0.11	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	0.030	0.010	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.	26.2	2.1	mg/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	0.046 J	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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	09/14/2005 10:59	Kristina E Kleintop	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/12/2005 18:30	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/10/2005 07:55	Daniel S Smith	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4599857

MA3-TG2-3-090805-3 Groundwater
090805-1,2 02687.007.006.0001
Moss American
Collected:09/08/2005 09:45 by NS

Account Number: 07802

Submitted: 09/09/2005 09:00
Reported: 09/19/2005 at 09:52
Discard: 11/19/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

TG2-3 SDG#: KMA69-03

00345	Total Phosphorus as PO4 water	EPA 365.1	1	09/15/2005 13:49	Kristina E Kleintop	1
01553	Chemical Oxygen Demand	EPA 410.2	1	09/14/2005 07:45	Susan A Engle	1
00774	PAH's in Water by HPLC	SW-846 8310	1	09/12/2005 11:37	Mark A Clark	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	09/13/2005 15:50	Nancy J Shoop	1
03337	PAH Water Extraction	SW-846 3510C	1	09/10/2005 09:45	Mark P Mastropietro	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	09/14/2005 15:50	Nancy J Shoop	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4599858

MA3-TG3-1-090805-4 Groundwater
090805-2,3 02687.007.006.0001
Moss American
Collected:09/08/2005 12:10 by NS

Account Number: 07802

Submitted: 09/09/2005 09:00
Reported: 09/19/2005 at 09:52
Discard: 11/19/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

TG3-1 SDG#: KMA69-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	0.72 J	0.50	mg/l	1
00221	Ammonia Nitrogen	7664-41-7	0.31 J	0.11	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	0.037	0.010	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.	20.3	2.1	mg/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	0.050 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.	0.022	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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	09/14/2005 11:00	Kristina E Kleintop	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/12/2005 18:30	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/10/2005 07:55	Daniel S Smith	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 4599858

MA3-TG3-1-090805-4 Groundwater
090805-2,3 02687.007.006.0001
Moss American
Collected:09/08/2005 12:10 by NS

Account Number: 07802

Submitted: 09/09/2005 09:00
Reported: 09/19/2005 at 09:52
Discard: 11/19/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

TG3-1 SDG#: KMA69-04

00345	Total Phosphorus as PO4 water	EPA 365.1	1	09/15/2005 13:50	Kristina E Kleintop	1
01553	Chemical Oxygen Demand	EPA 410.2	1	09/14/2005 07:45	Susan A Engle	1
00774	PAH's in Water by HPLC	SW-846 8310	1	09/12/2005 12:16	Mark A Clark	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	09/13/2005 15:50	Nancy J Shoop	1
03337	PAH Water Extraction	SW-846 3510C	1	09/10/2005 09:45	Mark P Mastropietro	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	09/14/2005 15:50	Nancy J Shoop	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4599859

MA3-TG3-2-090805-5 Groundwater
090805-2,3 02687.007.006.0001
Moss American
Collected:09/08/2005 12:15 by NS Account Number: 07802

Submitted: 09/09/2005 09:00 Kerr-McGee Corporation
Reported: 09/19/2005 at 09:52 PO Box 3048
Discard: 11/19/2005 Livonia MI 48150

TG3-2 SDG#: KMA69-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	1.0	0.50	mg/l	1
	The results 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	1.1	0.11	mg/l	1
00226	Ortho-Phosphate as P	7723-14-0	0.025 J	0.010	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.	23.8	2.1	mg/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.	0.081	ug/l	1
00789	Anthracene	120-12-7	N.D.	0.041	ug/l	1
00807	Fluoranthene	206-44-0	0.049 J	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.	0.081	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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	09/14/2005 11:02	Kristina E Kleintop	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/12/2005 18:30	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/10/2005 07:55	Daniel S Smith	1

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 4599859

MA3-TG3-2-090805-5 Groundwater
090805-2,3 02687.007.006.0001
Moss American
Collected:09/08/2005 12:15 by NS

Account Number: 07802

Submitted: 09/09/2005 09:00
Reported: 09/19/2005 at 09:52
Discard: 11/19/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

TG3-2 SDG#: KMA69-05

00345	Total Phosphorus as PO4 water	EPA 365.1	1	09/15/2005 13:51	Kristina E Kleintop	1
01553	Chemical Oxygen Demand	EPA 410.2	1	09/14/2005 07:45	Susan A Engle	1
00774	PAH's in Water by HPLC	SW-846 8310	1	09/12/2005 12:55	Mark A Clark	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	09/13/2005 15:50	Nancy J Shoop	1
03337	PAH Water Extraction	SW-846 3510C	1	09/10/2005 09:45	Mark P Mastropietro	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	09/14/2005 15:50	Nancy J Shoop	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4599860

MA3-TG3-3-090805-6 Groundwater
090805-2 02687.007.006.0001
Moss American
Collected:09/08/2005 12:25 by NS Account Number: 07802

Submitted: 09/09/2005 09:00 Kerr-McGee Corporation
Reported: 09/19/2005 at 09:52 PO Box 3048
Discard: 11/19/2005 Livonia MI 48150

TG3-3 SDG#: KMA69-06

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
	The results 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	1.8	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.	30.9	2.1	mg/l	1

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilutio Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	09/14/2005 11:03	Kristina E Kleintop	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/12/2005 18:30	Luz M Groff	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	09/15/2005 13:55	Kristina E Kleintop	1
01553	Chemical Oxygen Demand	EPA 410.2	1	09/14/2005 07:45	Susan A Engle	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	09/13/2005 15:50	Nancy J Shoop	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	09/14/2005 15:50	Nancy J Shoop	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4599861

MA3-TG4-1-090805-10 Groundwater
090805-3 02687.007.006.0001
Moss American
Collected:09/08/2005 16:05 by NS Account Number: 07802

Submitted: 09/09/2005 09:00 Kerr-McGee Corporation
Reported: 09/19/2005 at 09:52 PO Box 3048
Discard: 11/19/2005 Livonia MI 48150

TG4-1 SDG#: KMA69-07BKG

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
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.	0.52	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.	0.19	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.	0.082	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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00774	PAH's in Water by HPLC	SW-846 8310	1	09/12/2005 01:20	Mark A Clark	1
03337	PAH Water Extraction	SW-846 3510C	1	09/10/2005 09:45	Mark P Mastropietro	1

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Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4599862

MA3-TG4-1-090805-10-MS Groundwater
090805-3 02687.007.006.0001
Moss American
Collected:09/08/2005 16:05 by NS

Account Number: 07802

Submitted: 09/09/2005 09:00
Reported: 09/19/2005 at 09:52
Discard: 11/19/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

TG4-1 SDG#: KMA69-07MS

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	190.	1.6	ug/l	1
00782	Acenaphthylene	208-96-8	180.	1.6	ug/l	1
00783	Acenaphthene	83-32-9	180.	1.6	ug/l	1
00784	Fluorene	86-73-7	19.	0.52	ug/l	1
00785	Phenanthrene	85-01-8	5.9	0.082	ug/l	1
00789	Anthracene	120-12-7	2.9	0.041	ug/l	1
00807	Fluoranthene	206-44-0	2.9	0.041	ug/l	1
00811	Pyrene	129-00-0	19.	0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	1.5	0.021	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	1.2	0.041	ug/l	1
00823	Benzo(a)pyrene	50-32-8	1.5	0.021	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	2.9	0.041	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	5.8	0.082	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	11.	0.10	ug/l	1
07409	Chrysene	218-01-9	5.7	0.082	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	1.2	0.021	ug/l	1

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilutio Factor
00774	PAH's in Water by HPLC	SW-846 8310	1	09/12/2005 01:58	Mark A Clark	1
03337	PAH Water Extraction	SW-846 3510C	1	09/10/2005 09:45	Mark P Mastropietro	1

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Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4599863

MA3-TG4-1-090805-10-MSD Groundwater
090805-3 02687.007.006.0001
Moss American
Collected:09/08/2005 16:05 by NS

Account Number: 07802

Submitted: 09/09/2005 09:00
Reported: 09/19/2005 at 09:52
Discard: 11/19/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

TG4-1 SDG#: KMA69-07MSD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	190.	1.6	ug/l	1
00782	Acenaphthylene	208-96-8	190.	1.6	ug/l	1
00783	Acenaphthene	83-32-9	190.	1.6	ug/l	1
00784	Fluorene	86-73-7	20.	0.52	ug/l	1
00785	Phenanthrene	85-01-8	6.1	0.082	ug/l	1
00789	Anthracene	120-12-7	3.0	0.041	ug/l	1
00807	Fluoranthene	206-44-0	3.0	0.041	ug/l	1
00811	Pyrene	129-00-0	19.	0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	1.5	0.021	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	1.2	0.041	ug/l	1
00823	Benzo(a)pyrene	50-32-8	1.5	0.021	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	3.0	0.041	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	5.9	0.082	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	11.	0.10	ug/l	1
07409	Chrysene	218-01-9	5.9	0.082	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	1.2	0.021	ug/l	1

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00774	PAH's in Water by HPLC	SW-846 8310	1	09/12/2005 02:37	Mark A Clark	1
03337	PAH Water Extraction	SW-846 3510C	1	09/10/2005 09:45	Mark P Mastropietro	1

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Quality Control Summary

Client Name: Kerr-McGee Corporation
Reported: 09/19/05 at 09:53 AM

Group Number: 958658

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: 05252WAD026	Sample number(s): 4599855-4599859,4599861-4599863							
Naphthalene	N.D.	1.6	ug/l	86		57-109		
Acenaphthylene	N.D.	1.6	ug/l	89		67-99		
Acenaphthene	N.D.	1.6	ug/l	89		60-116		
Fluorene	N.D.	0.50	ug/l	95		61-116		
Phenanthrene	N.D.	0.080	ug/l	97		67-115		
Anthracene	N.D.	0.040	ug/l	94		68-113		
Fluoranthene	N.D.	0.040	ug/l	96		70-112		
Pyrene	N.D.	0.18	ug/l	93		69-113		
Benzo(a)anthracene	N.D.	0.020	ug/l	98		73-114		
Benzo(b)fluoranthene	N.D.	0.040	ug/l	98		72-113		
Benzo(a)pyrene	N.D.	0.020	ug/l	95		68-112		
Dibenz(a,h)anthracene	N.D.	0.040	ug/l	94		19-129		
Indeno(1,2,3-cd)pyrene	N.D.	0.080	ug/l	95		67-106		
Benzo(g,h,i)perylene	N.D.	0.10	ug/l	85		7-126		
Chrysene	N.D.	0.080	ug/l	95		70-111		
Benzo(k)fluoranthene	N.D.	0.020	ug/l	99		72-119		
Batch number: 05253022601A	Sample number(s): 4599855-4599859							
Ortho-Phosphate as P	N.D.	0.010	mg/l	399		380-420		
Batch number: 05255022101A	Sample number(s): 4599855-4599860							
Ammonia Nitrogen	N.D.	0.11	mg/l	97		91-100		
Batch number: 05256108101A	Sample number(s): 4599855-4599859							
Kjeldahl Nitrogen	N.D.	0.50	mg/l	99		90-110		
Batch number: 05256108101B	Sample number(s): 4599860							
Kjeldahl Nitrogen	N.D.	0.50	mg/l	99		90-110		
Batch number: 05257110101A	Sample number(s): 4599855-4599860							
Total Phosphorus as PO4 water	N.D.	0.25	mg/l	98		89-110		
Batch number: 05257155301A	Sample number(s): 4599855-4599860							
Chemical Oxygen Demand				96		87-102		

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

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Quality Control Summary

Client Name: Kerr-McGee Corporation Group Number: 958658
Reported: 09/19/05 at 09:53 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: 05252WAD026	Sample number(s): 4599855-4599859,4599861-4599863								
Naphthalene	90	93	54-112	4	30				
Acenaphthylene	89	92	63-104	4	30				
Acenaphthene	90	92	59-114	3	30				
Fluorene	94	97	71-99	4	30				
Phenanthrene	96	99	66-115	3	30				
Anthracene	94	97	68-104	3	30				
Fluoranthene	94	97	67-104	3	30				
Pyrene	91	94	66-106	3	30				
Benzo(a)anthracene	96	98	63-111	2	30				
Benzo(b)fluoranthene	96	99	71-106	3	30				
Benzo(a)pyrene	95	96	69-109	1	30				
Dibenz(a,h)anthracene	95	97	35-129	2	30				
Indeno(1,2,3-cd)pyrene	93	96	56-112	3	30				
Benzo(g,h,i)perylene	89	90	35-126	1	30				
Chrysene	93	95	60-107	3	30				
Benzo(k)fluoranthene	97	99	70-109	2	30				
Batch number: 05253022601A	Sample number(s): 4599855-4599859								
Ortho-Phosphate as P	102	104	88-113	2	5	0.025 J	0.019 J	28* (1)	8
Batch number: 05255022101A	Sample number(s): 4599855-4599860								
Ammonia Nitrogen	98	97	64-128	1	8	0.75	0.80	6* (1)	2
Batch number: 05256108101A	Sample number(s): 4599855-4599859								
Kjeldahl Nitrogen	108		90-110			1.7	1.5	11* (1)	7
Batch number: 05256108101B	Sample number(s): 4599860								
Kjeldahl Nitrogen	108		90-110			1.1	1.0	5 (1)	7
Batch number: 05257110101A	Sample number(s): 4599855-4599860								
Total Phosphorus as PO4 water	52*		90-110			3.9	4.0	1	3
Batch number: 05257155301A	Sample number(s): 4599855-4599860								
Chemical Oxygen Demand	(2)	(2)	60-129	37*	5	57.4	58.6	2	8

Surrogate Quality Control

Analysis Name: PAH's in Water by HPLC
Batch number: 05252WAD026

	Nitrobenzene	Triphenylene
4599855	115	101

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

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Lancaster Laboratories

Quality Control Summary

Client Name: Kerr-McGee Corporation Group Number: 958658
Reported: 09/19/05 at 09:53 AM

Surrogate Quality Control

4599856	113	99
4599857	119	97
4599858	116	98
4599859	122	97
4599861	125	100
4599862	114	102
4599863	109	101
Blank	111	104
LCS	112	102
MS	114	102
MSD	109	101
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.

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Inter-Office Memorandum

TO: Tom Graan

FROM: Tania Shammo **DATE:** October 5, 2005

SUBJECT: Data Validation: SDG#: KMA70
Moss American Superfund Site

I have reviewed the analytical data for Kerr-McGee Corporation (Moss American Site- Grab Groundwater) water samples collected on 09/09/05, which were provided by Lancaster Laboratories. The samples were analyzed for Polynuclear Aromatic Hydrocarbons PAHs, and Petroleum analyses (BETX).

Polynuclear Aromatic Hydrocarbons (PAHs by HPLC, U.S. EPA Method 8310)
Moss American Site
SDG # KMA70

1. Samples:

Client Sample Description:	Lab Sample Number	Matrix	Date Collected	Date Extracted	Date Analyzed
MA3-FB-090905-12	4600444	Ground water	09/09/05	09/12/05	09/17/05
MA3-MW27S-090905-8	4600445	Ground water	09/09/05	09/12/05	09/17/05
MA3-MW28S-090905-9	4600446	Ground water	09/09/05	09/12/05	09/17/05
MA3-MW28S-090905-9-DP	4600447	Ground water	09/09/05	09/12/05	09/17/05
MA3-MW29S-090905-1	4600448	Ground water	09/09/05	09/12/05	09/17/05
MA3-MW29S-090905-1-DP	4600449	Ground water	09/09/05	09/12/05	09/17/05
MA3-MW30S-090905-5	4600450	Ground water	09/09/05	09/12/05	09/17/05
MA3-MW31S-090905-11	4600451	Ground water	09/09/05	09/12/05	09/17/05
MA3-MW31S-090905-11-MS	4600452	Ground water	09/09/05	09/12/05	09/17/05
MA3-MW31S-090905-11-MSD	4600453	Ground water	09/09/05	09/12/05	09/17/05
MA3-MW32S-090905-7	4600454	Ground water	09/09/05	09/12/05	09/17/05
MA3-MW33S-090905-6	4600455	Ground water	09/09/05	09/12/05	9/17&9/20
MA3-MW33S-090905-8-DP	4600456	Ground water	09/09/05	09/12/05	9/17&9/20
MA3-MW36S-090905-3	4600457	Ground water	09/09/05	09/12/05	09/17/05
MA3-MW37S-090905-2	4600458	Ground water	09/09/05	09/12/05	09/17/05
MA3-MW5S-090905-4	4600459	Ground water	09/09/05	09/12/05	09/17/05
MA3-MW6S-090905-10	4600460	Ground water	09/09/05	09/12/05	09/17/05

2. Holding Times:

The samples were extracted and analyzed within the required holding times. Samples 4600455 and 4600456 were reanalyzed on 09/20/05 with a dilution.

3. Method Blank:
The method blank SBLKWB2552 was analyzed on 09/17/05 with samples 4600444 thru 4600460 and the results were free of contamination.

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

5. Matrix Spike/Matrix Spike Duplicate Recovery:
A matrix spike was performed on sample 4600451 and associated with 4600444 thru 4600460. The MS/MSD recoveries were within the quality control limit. Also, the RPD values were acceptable.

6. Laboratory Control Sample:
The associated laboratories control sample with 4600444 thru 4600460 recoveries was within the acceptance quality control limit.

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

8. Initial and Continuing Calibration:
The initial calibration and continuing calibration verification were all acceptable.

However, the retention time, initial and continuing calibration results were used in the calculation from two detectors: 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, and indeno (1, 2, 3-cd) pyrene were taken from fluorescence detector.

BETX (U.S. EPA Method 8021B)
SDG # MMA70

1.Samples:

Client Sample Description:	Lab Sample Number	Matrix	Date Collected	Date Prepared	Date Analyzed
MA3-FB-090905-12	4600444	Ground water	09/09/05	09/14/05	09/14/05
MA3-MW27S-090905-8	4600445	Ground water	09/09/05	09/14/05	09/14/05
MA3-MW28S-090905-9	4600446	Ground water	09/09/05	09/14/05	09/14/05
MA3-MW28S-090905-9-DP	4600447	Ground water	09/09/05	09/14/05	09/14/05
MA3-MW29S-090905-1	4600448	Ground water	09/09/05	09/14/05	09/14/05
MA3-MW29S-090905-1-DP	4600449	Ground water	09/09/05	09/14/05	09/14/05
MA3-MW30S-090905-5	4600450	Ground water	09/09/05	09/14/05	09/14/05
MA3-MW31S-090905-11	4600451	Ground water	09/09/05	09/14/05	09/14/05
MA3-MW31S-090905-11-MS	4600452	Ground water	09/09/05	09/14/05	09/14/05
MA3-MW31S-090905-11-MSD	4600453	Ground water	09/09/05	09/14/05	09/14/05
MA3-MW32S-090905-7	4600454	Ground water	09/09/05	09/14/05	09/14/05
MA3-MW33S-090905-6	4600455	Ground water	09/09/05	09/15/05	09/15/05
MA3-MW33S-090905-8-DP	4600456	Ground water	09/09/05	09/15/05	09/15/05
MA3-MW36S-090905-3	4600457	Ground water	09/09/05	09/14/05	09/14/05
MA3-MW37S-090905-2	4600458	Ground water	09/09/05	09/14/05	09/14/05
MA3-MW5S-090905-4	4600459	Ground water	09/09/05	09/15/05	09/15/05
MA3-MW6S-090905-10	4600460	Ground water	09/09/05	09/14/05	09/14/05
MA3-TB-090905-13	4600461	Ground water	09/09/05	09/14/05	09/14/05

2. Holding Times:
The samples were prepared and analyzed within the required holding time. Sample MA3-MW29S-090905-1 (4600448) had PH=5. No action was taken.

3. Method Blank:
Four methods blanks were associated with this SDG. The method blank **BLK1520** was analyzed on 09/14/05 with 4600451, MS/MSD, LCS/LCSD and results were free of contamination.

The method blank **BLK1521** was analyzed on 09/14/05 with 4600444 thru 4600450, 4600454, 4600457 and results were free of contamination.

The method blank **BLK1522** was analyzed on 09/14/05 with 4600458, 4600460, 4600461 and results were free of contamination.

The method blank **BLK1523** was analyzed on 09/15/05 with 4600455, 4600456, 4600459 and results were free of contamination.

4. Matrix Spike/Matrix Spike Duplicate :
The laboratory performed matrix spike/matrix spike duplicate on sample 4600451 associated with 4600444 thru 4600461. The MS/MSD recoveries were within the quality control limit. Also, the RPD% values were acceptable.

5. Laboratory control Sample:
The associated laboratories control samples/laboratories control samples duplicates associated with 4600444 thru 4600461 recoveries were within the control limit. 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.

Summary
Results of this review:

1. All sample results in this sample group are considered usable.

Data Reviewed by: Tania Shammo Date: 10/05/05

7802/958762/4600444-61

COC ID: COC-090905-BTEX

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: STANDARD | Lab Phone: 717-656-2308 X1527

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	SW846 8021B BTEX								
						Filtered								
						Container	40 ml Vials							
						Preservative	HCl							
	MA3-FB-090905-12	G		N	9/9/2005 17:00	3								
	MA3-MW27S-090905-8	G		N	9/9/2005 12:10	3								
	MA3-MW28S-090905-9	G		N	9/9/2005 14:55	3								
	MA3-MW28S-090905-9-DP	G		N	9/9/2005 14:55	3								
	MA3-MW29S-090905-1	G		N	9/9/2005 09:05	3								
	MA3-MW29S-090905-1-DP	G		N	9/9/2005 09:05	3								
	MA3-MW30S-090905-5	G		N	9/9/2005 11:00	3								
	MA3-MW31S-090905-11	G		N	9/9/2005 14:55	3								
	MA3-MW31S-090905-11-MSD	G		Y	9/9/2005 14:55	6								
	MA3-MW32S-090905-7	G		N	9/9/2005 12:00	3								
	MA3-MW33S-090905-6	G		N	9/9/2005 12:05	3								
	MA3-MW33S-090905-8-DP	G		N	9/9/2005 12:05	3								
	MA3-MW36S-090905-3	G		N	9/9/2005 09:15	3								
	MA3-MW37S-090905-2	G		N	9/9/2005 09:10	3								
	MA3-MW5S-090905-4	G		N	9/9/2005 10:50	3								
	MA3-MW6S-090905-10	G		N	9/9/2005 14:50	3								
	MA3-TB-090905-13	G		N	9/9/2005 17:05	~~3~~ 2								

Remarks/Comments

Sampled By: N. Sauer

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
							9/6/05 0915

RECEIVED
SEP 26 2005

7802/958762/4600444-61

COC ID: COC-080905-1

Chain of Custody Record

WESTON SOLUTIONS

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

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	SW846 8310-PAHS									
						Filtered									
						Container	1-L Amber								
						Preservative	N/A								
	MA3-MW29S-090905-1	G		N	9/9/2005 09:05	2									
	MA3-MW29S-090905-1-DP	G		N	9/9/2005 09:05	2									
	MA3-MW36S-090905-3	G		N	9/9/2005 09:15	2									
	MA3-MW37S-090905-2	G		N	9/9/2005 09:10	2									
	MA3-MW3S-090905-4	G		N	9/9/2005 10:50	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 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
							9/10/05 0955

Sampled By: N. Sauce

7802/958762/4600444-61

COC ID: COC-090905-2

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: STANDARD | Lab Phone: 717-656-2308 X1527

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	SW846 8310-PAHS									
						Filtered									
						Container	1-L Amber								
						Preservative	N/A								
	MA3-MW27S-090905-8	G		N	9/9/2005 12:10	2									
	MA3-MW30S-090905-5	G		N	9/9/2005 11:00	2									
	MA3-MW32S-090905-7	G		N	9/9/2005 12:00	2									
	MA3-MW33S-090905-6	G		N	9/9/2005 12:05	2									
	MA3-MW33S-090905-8-DP	G		N	9/9/2005 12:05	2									

Remarks/Comments

Sampled By: N. Saur

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 we 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
							9/6/05 0955

7802/95376 2/46004449-61

COC ID: COC-090905-4

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: STANDARD | Lab Phone: 717-656-2308 X1527

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	SW846 8310-PAHS									
						Filtered									
						Container	1-L Amber								
						Preservative	N/A								
	MA3-MW28S-090905-9	G		N	9/9/2005 14:55	2									
	MA3-MW28S-090905-9-DP	G		N	9/9/2005 14:55	2									
	MA3-MW6S-090905-10	G		N	9/9/2005 14:50	2									

Remarks/Comments

Sampled By: N. Lane

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
							0955

9/6/05

7802/958762/4600444.61

COC ID: COC-090905-5

Chain of Custody Record

WESTON SOLUTIONS

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

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	SW846 8310-PAHS								
						Filtered								
						Container	1-L Amber							
						Preservative	N/A							
	MA3-FB-090905-12	G		N	9/9/2005 17:00	2								
	MA3-MW31S-090905-11	G		N	9/9/2005 14:55	2								
	MA3-MW31S-090905-11-MSD	G		Y	9/9/2005 14:55	4								

Remarks/Comments

Sampled By: N. Sava

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 we 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
							9/6/05 0955

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 958762. Samples arrived at the laboratory on Saturday, September 10, 2005. The PO# for this group is ZAKW1KEOK0A90089.

Client Description		Lancaster Labs Number
MA3-FB-090905-12	Groundwater	4600444
MA3-MW27S-090905-8	Groundwater	4600445
MA3-MW28S-090905-9	Groundwater	4600446
MA3-MW28S-090905-9-DP	Groundwater	4600447
MA3-MW29S-090905-1	Groundwater	4600448
MA3-MW29S-090905-1-DP	Groundwater	4600449
MA3-MW30S-090905-5	Groundwater	4600450
MA3-MW31S-090905-11	Groundwater	4600451
MA3-MW31S-090905-11-MS	Groundwater	4600452
MA3-MW31S-090905-11-MSD	Groundwater	4600453
MA3-MW32S-090905-7	Groundwater	4600454
MA3-MW33S-090905-6	Groundwater	4600455
MA3-MW33S-090905-8-DP	Groundwater	4600456
MA3-MW36S-090905-3	Groundwater	4600457
MA3-MW37S-090905-2	Groundwater	4600458
MA3-MW5S-090905-4	Groundwater	4600459
MA3-MW6S-090905-10	Groundwater	4600460
MA3-TB-090905-13	Groundwater	4600461

METHODOLOGY

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

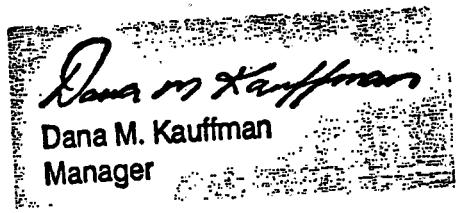
1 COPY TO	Weston Solutions, Inc.	Attn: Tom Graan
1 COPY TO	Kerr-McGee Corporation	Attn: Roy Widmann

Lancaster Laboratories

1 COPY TO Data Package Group

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

Respectfully Submitted,



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 4600444

MA3-FB-090905-12 Groundwater
090905-BTEX,5 02687.007.007.0001
Moss American
Collected:09/09/2005 17:00 by NS Account Number: 07802

Submitted: 09/10/2005 09:55 Kerr-McGee Corporation
Reported: 09/21/2005 at 22:27 PO Box 3048
Discard: 11/21/2005 Livonia MI 48150

3FB12 SDG#: KMA70-01FB

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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/14/2005 09:09	Kathie J Bowman	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 4600444

MA3-FB-090905-12 Groundwater
090905-BTEX,5 02687.007.007.0001
Moss American
Collected:09/09/2005 17:00 by NS Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/21/2005 at 22:27
Discard: 11/21/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

3FB12 SDG#: KMA70-01FB

00774	PAH's in Water by HPLC	SW-846 8310	1	09/17/2005 13:36	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/14/2005 09:09	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/12/2005 20:00	Elia R Botrous	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600445

MA3-MW27S-090905-8 Groundwater
090905-BTEX,2 02687.007.007.0001
Moss American
Collected:09/09/2005 12:10 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/21/2005 at 22:27
Discard: 11/21/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

327S8 SDG#: KMA70-02

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.	1.7	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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/14/2005 09:49	Kathie J Bowman	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 4600445

MA3-MW27S-090905-8 Groundwater
090905-BTEX,2 02687.007.007.0001
Moss American
Collected:09/09/2005 12:10 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/21/2005 at 22:27
Discard: 11/21/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

327S8 SDG#: KMA70-02

00774	PAH's in Water by HPLC	SW-846 8310	1	09/17/2005 14:53	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/14/2005 09:49	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/12/2005 20:00	Elia R Botrous	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600446

MA3-MW28S-090905-9 Groundwater
090905-BTEX,4 02687.007.007.0001
Moss American
Collected:09/09/2005 14:55 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/21/2005 at 22:27
Discard: 11/21/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

328S9 SDG#: KMA70-03

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.	1.7	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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/14/2005 10:29	Kathie J Bowman	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 4600446

MA3-MW28S-090905-9 Groundwater
090905-BTEX,4 02687.007.007.0001
Moss American
Collected:09/09/2005 14:55 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/21/2005 at 22:27
Discard: 11/21/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

328S9 SDG#: KMA70-03

00774	PAH's in Water by HPLC	SW-846 8310	1	09/17/2005 15:32	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/14/2005 10:29	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/12/2005 20:00	Elia R Botrous	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600447

MA3-MW28S-090905-9-DP Groundwater
090905-BTEX,4 02687.007.007.0001
Moss American
Collected:09/09/2005 14:55 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/21/2005 at 22:27
Discard: 11/21/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

328SD SDG#: KMA70-04FD

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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/14/2005 11:09	Kathie J Bowman	1

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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 4600447

MA3-MW28S-090905-9-DP Groundwater
090905-BTEX,4 02687.007.007.0001
Moss American
Collected:09/09/2005 14:55 by NS Account Number: 07802

Submitted: 09/10/2005 09:55 Kerr-McGee Corporation
Reported: 09/21/2005 at 22:27 PO Box 3048
Discard: 11/21/2005 Livonia MI 48150

328SD SDG#: KMA70-04FD

00774	PAH's in Water by HPLC	SW-846 8310	1	09/17/2005 16:10	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/14/2005 11:09	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/12/2005 20:00	Elia R Botrous	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600448

MA3-MW29S-090905-1 Groundwater
090905-BTEX,1 02687.007.007.0001
Moss American
Collected:09/09/2005 09:05 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/21/2005 at 22:27
Discard: 11/21/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

329S1 SDG#: KMA70-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	0.2 J	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1
	The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt. The pH of this sample was pH = 5.					
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.					

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600448

MA3-MW29S-090905-1 Groundwater
090905-BTEX,1 02687.007.007.0001
Moss American
Collected:09/09/2005 09:05 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/21/2005 at 22:27
Discard: 11/21/2005

Kerr-McGee Corporation
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Livonia MI 48150

329S1 SDG#: KMA70-05

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/14/2005 11:49	Kathie J Bowman	1
00774	PAH's in Water by HPLC	SW-846 8310	1	09/17/2005 16:49	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/14/2005 11:49	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/12/2005 20:00	Elia R Botrous	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600449

MA3-MW29S-090905-1-DP Groundwater
090905-BTEX,1 02687.007.007.0001
Moss American
Collected:09/09/2005 09:05 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/21/2005 at 22:28
Discard: 11/21/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

329SD SDG#: KMA70-06FD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	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.	0.041	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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/14/2005 12:29	Kathie J Bowman	1

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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600449

MA3-MW29S-090905-1-DP Groundwater
090905-BTEX,1 02687.007.007.0001
Moss American
Collected:09/09/2005 09:05 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/21/2005 at 22:28
Discard: 11/21/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

329SD SDG#: KMA70-06FD

00774	PAH's in Water by HPLC	SW-846 8310	1	09/17/2005 17:27	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/14/2005 12:29	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/12/2005 20:00	Elia R Botrous	1

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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600450

MA3-MW30S-090905-5 Groundwater
090905-BTEX,2 02687.007.007.0001
Moss American
Collected:09/09/2005 11:00 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/21/2005 at 22:28
Discard: 11/21/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

330S5 SDG#: KMA70-07

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.	0.55	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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/14/2005 13:09	Kathie J Bowman	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 4600450

MA3-MW30S-090905-5 Groundwater
090905-BTEX,2 02687.007.007.0001
Moss American
Collected:09/09/2005 11:00 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/21/2005 at 22:28
Discard: 11/21/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

330S5 SDG#: KMA70-07

00774	PAH's in Water by HPLC	SW-846 8310	1	09/17/2005 18:06	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/14/2005 13:09	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/12/2005 20:00	Elia R Botrous	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600451

MA3-MW31S-090905-11 Groundwater
090905-BTEX,5 02687.007.007.0001
Moss American
Collected:09/09/2005 14:55 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/21/2005 at 22:28
Discard: 11/21/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

33111 SDG#: KMA70-08BKG

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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/14/2005 03:11	Kathie J Bowman	1

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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 4600451

MA3-MW31S-090905-11 Groundwater
090905-BTEX,5 02687.007.007.0001
Moss American
Collected:09/09/2005 14:55 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/21/2005 at 22:28
Discard: 11/21/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

33111 SDG#: KMA70-08BKG

00774	PAH's in Water by HPLC	SW-846 8310	1	09/17/2005 09:44	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/14/2005 03:11	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/12/2005 20:00	Elia R Botrous	1

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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 4600452

MA3-MW31S-090905-11-MS Groundwater
090905-BTEX,5 02687.007.007.0001
Moss American
Collected:09/09/2005 14:55 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/21/2005 at 22:28
Discard: 11/21/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

33111 SDG#: KMA70-08MS

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	180.	1.7	ug/l	1
00782	Acenaphthylene	208-96-8	180.	1.7	ug/l	1
00783	Acenaphthene	83-32-9	190.	1.7	ug/l	1
00784	Fluorene	86-73-7	20.	0.53	ug/l	1
00785	Phenanthrene	85-01-8	6.0	0.084	ug/l	1
00789	Anthracene	120-12-7	3.0	0.042	ug/l	1
00807	Fluoranthene	206-44-0	3.0	0.042	ug/l	1
00811	Pyrene	129-00-0	20.	0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	1.5	0.021	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	1.2	0.042	ug/l	1
00823	Benzo(a)pyrene	50-32-8	1.5	0.021	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	2.8	0.042	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	5.5	0.084	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	10.	0.11	ug/l	1
07409	Chrysene	218-01-9	5.9	0.084	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	1.2	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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/14/2005 05:11	Kathie J Bowman	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 4600452

MA3-MW31S-090905-11-MS Groundwater
090905-BTEX,5 02687.007.007.0001
Moss American
Collected:09/09/2005 14:55 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/21/2005 at 22:28
Discard: 11/21/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

33111 SDG#: KMA70-08MS

00774	PAH's in Water by HPLC	SW-846 8310	1	09/17/2005 10:23	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/14/2005 05:11	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/12/2005 20:00	Elia R Botrous	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600453

MA3-MW31S-090905-11-MSD Groundwater
090905-BTEX,5 02687.007.007.0001
Moss American
Collected:09/09/2005 14:55 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/21/2005 at 22:28
Discard: 11/21/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

33111 SDG#: KMA70-08MSD

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	66.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	190.	1.7	ug/l	1
00782	Acenaphthylene	208-96-8	180.	1.7	ug/l	1
00783	Acenaphthene	83-32-9	190.	1.7	ug/l	1
00784	Fluorene	86-73-7	20.	0.53	ug/l	1
00785	Phenanthrene	85-01-8	6.1	0.084	ug/l	1
00789	Anthracene	120-12-7	3.0	0.042	ug/l	1
00807	Fluoranthene	206-44-0	3.0	0.042	ug/l	1
00811	Pyrene	129-00-0	20.	0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	1.6	0.021	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	1.2	0.042	ug/l	1
00823	Benzo(a)pyrene	50-32-8	1.5	0.021	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	2.7	0.042	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	5.4	0.084	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	10.	0.11	ug/l	1
07409	Chrysene	218-01-9	6.0	0.084	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	1.2	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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/14/2005 05:50	Kathie J Bowman	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 4600453

MA3-MW31S-090905-11-MSD Groundwater
090905-BTEX,5 02687.007.007.0001
Moss American
Collected:09/09/2005 14:55 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/21/2005 at 22:28
Discard: 11/21/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

33111 SDG#: KMA70-08MSD

00774	PAH's in Water by HPLC	SW-846 8310	1	09/17/2005 11:02	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/14/2005 05:50	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/12/2005 20:00	Elia R Botrous	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600454

MA3-MW32S-090905-7 Groundwater
090905-BTEX,2 02687.007.007.0001
Moss American
Collected:09/09/2005 12:00 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/21/2005 at 22:28
Discard: 11/21/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

332S7 SDG#: KMA70-09

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.	1.7	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.	0.086	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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/14/2005 13:48	Kathie J Bowman	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 4600454

MA3-MW32S-090905-7 Groundwater
090905-BTEX,2 02687.007.007.0001
Moss American
Collected:09/09/2005 12:00 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/21/2005 at 22:28
Discard: 11/21/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

332S7 SDG#: KMA70-09

00774	PAH's in Water by HPLC	SW-846 8310	1	09/17/2005 18:44	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/14/2005 13:48	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/12/2005 20:00	Elia R Botrous	1

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Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600455

MA3-MW33S-090905-6 Groundwater
090905-BTEX,2 02687.007.007.0001
Moss American
Collected:09/09/2005 12:05 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/21/2005 at 22:28
Discard: 11/21/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

333S6 SDG#: KMA70-10

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)						
00776	Benzene	71-43-2	N.D.		0.2	ug/l	1
00777	Toluene	108-88-3	0.3	J	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	6.9		0.2	ug/l	1
00779	Total Xylenes	1330-20-7	5.8		0.6	ug/l	1
00774	PAH's in Water by HPLC						
00775	Naphthalene	91-20-3	290.		1.7	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.		17.	ug/l	1
00783	Acenaphthene	83-32-9	160.		1.7	ug/l	1
00784	Fluorene	86-73-7	56.		2.6	ug/l	5
00785	Phenanthrene	85-01-8	14.		0.084	ug/l	1
00789	Anthracene	120-12-7	0.42		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.		0.10	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.

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.

Lancaster Laboratories, Inc.
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Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600455

MA3-MW33S-090905-6 Groundwater
090905-BTEX,2 02687.007.007.0001
Moss American
Collected:09/09/2005 12:05 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/21/2005 at 22:28
Discard: 11/21/2005

Kerr-McGee Corporation
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333S6 SDG#: KMA70-10

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/15/2005 02:39	Kathie J Bowman	1
00774	PAH's in Water by HPLC	SW-846 8310	1	09/17/2005 19:23	Mark A Clark	1
00774	PAH's in Water by HPLC	SW-846 8310	1	09/20/2005 03:37	Mark A Clark	5
01146	GC VOA Water Prep	SW-846 5030B	1	09/15/2005 02:39	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/12/2005 20:00	Elia R Botrous	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600456

MA3-MW33S-090905-8-DP Groundwater
090905-BTEX,2 02687.007.007.0001
Moss American
Collected:09/09/2005 12:05 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/21/2005 at 22:28
Discard: 11/21/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

333SD SDG#: KMA70-11FD

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	0.2	J	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	6.2		0.2	ug/l	1
00779	Total Xylenes	1330-20-7	5.1		0.6	ug/l	1
00774	PAH's in Water by HPLC						
00775	Naphthalene	91-20-3	270.		1.7	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.		17.	ug/l	1
00783	Acenaphthene	83-32-9	150.		1.7	ug/l	1
00784	Fluorene	86-73-7	61.		2.6	ug/l	5
00785	Phenanthrene	85-01-8	13.		0.084	ug/l	1
00789	Anthracene	120-12-7	0.38		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.		0.10	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.

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.

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600456

MA3-MW33S-090905-8-DP Groundwater
090905-BTEX,2 02687.007.007.0001
Moss American
Collected:09/09/2005 12:05 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/21/2005 at 22:28
Discard: 11/21/2005

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333SD SDG#: KMA70-11FD

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/15/2005 01:19	Kathie J Bowman	1
00774	PAH's in Water by HPLC	SW-846 8310	1	09/17/2005 20:02	Mark A Clark	1
00774	PAH's in Water by HPLC	SW-846 8310	1	09/20/2005 04:19	Mark A Clark	5
01146	GC VOA Water Prep	SW-846 5030B	1	09/15/2005 01:19	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/12/2005 20:00	Elia R Botrous	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600457

MA3-MW36S-090905-3 Groundwater
090905-BTEX,1 02687.007.007.0001
Moss American
Collected:09/09/2005 09:15 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/21/2005 at 22:28
Discard: 11/21/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

336S3 SDG#: KMA70-12

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.	0.53	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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/14/2005 14:28	Kathie J Bowman	1

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Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600457

MA3-MW36S-090905-3 Groundwater
090905-BTEX,1 02687.007.007.0001
Moss American
Collected:09/09/2005 09:15 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/21/2005 at 22:28
Discard: 11/21/2005

Kerr-McGee Corporation
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Livonia MI 48150

336S3 SDG#: KMA70-12

00774	PAH's in Water by HPLC	SW-846 8310	1	09/17/2005 20:40	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/14/2005 14:28	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/12/2005 20:00	Elia R Botrous	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600458

MA3-MW37S-090905-2 Groundwater
090905-BTEX,1 02687.007.007.0001
Moss American
Collected:09/09/2005 09:10 by NS Account Number: 07802

Submitted: 09/10/2005 09:55 Kerr-McGee Corporation
Reported: 09/21/2005 at 22:28 PO Box 3048
Discard: 11/21/2005 Livonia MI 48150

337S2 SDG#: KMA70-13

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.	1.7	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.	0.044	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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/14/2005 18:28	Kathie J Bowman	1

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Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600458

MA3-MW37S-090905-2 Groundwater
090905-BTEX,1 02687.007.007.0001
Moss American
Collected:09/09/2005 09:10 by NS Account Number: 07802

Submitted: 09/10/2005 09:55 Kerr-McGee Corporation
Reported: 09/21/2005 at 22:28 PO Box 3048
Discard: 11/21/2005 Livonia MI 48150

337S2 SDG#: KMA70-13

00774	PAH's in Water by HPLC	SW-846 8310	1	09/17/2005 21:57	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/14/2005 18:28	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/12/2005 20:00	Elia R Botrous	1

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Lancaster, PA 17605-2425
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Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600459

MA3-MW5S-090905-4 Groundwater
090905-BTEX,1 02687.007.007.0001
Moss American
Collected:09/09/2005 10:50 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/21/2005 at 22:28
Discard: 11/21/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

35S4- SDG#: KMA70-14

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	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.	0.57	ug/l	1
00785	Phenanthrene	85-01-8	N.D.	0.091	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.	0.091	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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/15/2005 01:59	Kathie J Bowman	1

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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600459

MA3-MW5S-090905-4 Groundwater
090905-BTEX,1 02687.007.007.0001
Moss American
Collected:09/09/2005 10:50 by NS Account Number: 07802

Submitted: 09/10/2005 09:55 Kerr-McGee Corporation
Reported: 09/21/2005 at 22:28 PO Box 3048
Discard: 11/21/2005 Livonia MI 48150

35S4- SDG#: KMA70-14

00774	PAH's in Water by HPLC	SW-846 8310	1	09/17/2005 22:36	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/15/2005 01:59	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/12/2005 20:00	Elia R Botrous	1

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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600460

MA3-MW6S-090905-10 Groundwater
090905-BTEX,4 02687.007.007.0001
Moss American
Collected:09/09/2005 14:50 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/21/2005 at 22:28
Discard: 11/21/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

36S10 SDG#: KMA70-15

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.	0.53	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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/14/2005 17:48	Kathie J Bowman	1

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Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600460

MA3-MW6S-090905-10 Groundwater
090905-BTEX,4 02687.007.007.0001
Moss American
Collected:09/09/2005 14:50 by NS

Account Number: 07802

Submitted: 09/10/2005 09:55
Reported: 09/21/2005 at 22:28
Discard: 11/21/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

36S10 SDG#: KMA70-15

00774	PAH's in Water by HPLC	SW-846 8310	1	09/17/2005 23:14	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/14/2005 17:48	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/12/2005 20:00	Elia R Botrous	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4600461

MA3-TB-090905-13 Groundwater
090905-BTEX 02687.007.007.0001
Moss American
Collected:09/09/2005 17:05 Account Number: 07802

Submitted: 09/10/2005 09:55 Kerr-McGee Corporation
Reported: 09/21/2005 at 22:28 PO Box 3048
Discard: 11/21/2005 Livonia MI 48150

-TB13 SDG#: KMA70-16TB*

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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/14/2005 17:08	Kathie J Bowman	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/14/2005 17:08	Kathie J Bowman	1

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Quality Control Summary

Client Name: Kerr-McGee Corporation
Reported: 09/21/05 at 10:29 PM

Group Number: 958762

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: 05255WAB026	Sample number(s): 4600444-4600460							
Naphthalene	N.D.	1.6	ug/l	84		57-109		
Acenaphthylene	N.D.	1.6	ug/l	84		67-99		
Acenaphthene	N.D.	1.6	ug/l	89		60-116		
Fluorene	N.D.	0.50	ug/l	93		61-116		
Phenanthrene	N.D.	0.080	ug/l	95		67-115		
Anthracene	N.D.	0.040	ug/l	93		68-113		
Fluoranthene	N.D.	0.040	ug/l	94		70-112		
Pyrene	N.D.	0.18	ug/l	93		69-113		
Benzo(a)anthracene	N.D.	0.020	ug/l	98		73-114		
Benzo(b)fluoranthene	N.D.	0.040	ug/l	98		72-113		
Benzo(a)pyrene	N.D.	0.020	ug/l	100		68-112		
Dibenz(a,h)anthracene	N.D.	0.040	ug/l	99		19-129		
Indeno(1,2,3-cd)pyrene	N.D.	0.080	ug/l	99		67-106		
Benzo(g,h,i)perylene	N.D.	0.10	ug/l	91		7-126		
Chrysene	N.D.	0.080	ug/l	95		70-111		
Benzo(k)fluoranthene	N.D.	0.020	ug/l	98		72-119		
Batch number: 05256A15A	Sample number(s): 4600451-4600453							
Benzene	N.D.	0.2	ug/l	108	101	86-119	7	30
Toluene	N.D.	0.2	ug/l	106	104	82-119	2	30
Ethylbenzene	0.2 J	0.2	ug/l	106	103	81-119	3	30
Total Xylenes	N.D.	0.6	ug/l	104	101	82-120	3	30
Batch number: 05256A15B	Sample number(s): 4600444-4600450,4600454,4600457							
Benzene	N.D.	0.2	ug/l	108	101	86-119	7	30
Toluene	N.D.	0.2	ug/l	106	104	82-119	2	30
Ethylbenzene	N.D.	0.2	ug/l	106	103	81-119	3	30
Total Xylenes	N.D.	0.6	ug/l	104	101	82-120	3	30
Batch number: 05256A15C	Sample number(s): 4600458,4600460-4600461							
Benzene	N.D.	0.2	ug/l	108	101	86-119	7	30
Toluene	N.D.	0.2	ug/l	106	104	82-119	2	30
Ethylbenzene	N.D.	0.2	ug/l	106	103	81-119	3	30
Total Xylenes	N.D.	0.6	ug/l	104	101	82-120	3	30
Batch number: 05256A15D	Sample number(s): 4600455-4600456,4600459							

*- 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: 958762
Reported: 09/21/05 at 10:29 PM

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Benzene	N.D.	0.2	ug/l	108	101	86-119	7	30
Toluene	N.D.	0.2	ug/l	106	104	82-119	2	30
Ethylbenzene	N.D.	0.2	ug/l	106	103	81-119	3	30
Total Xylenes	N.D.	0.6	ug/l	104	101	82-120	3	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: 05255WAB026	Sample number(s): 4600444-4600460								
Naphthalene	86	88	54-112	2	30				
Acenaphthylene	86	87	63-104	2	30				
Acenaphthene	90	91	59-114	2	30				
Fluorene	93	95	71-99	2	30				
Phenanthrene	96	97	66-115	2	30				
Anthracene	95	96	68-104	2	30				
Fluoranthene	94	96	67-104	2	30				
Pyrene	93	95	66-106	1	30				
Benzo(a)anthracene	97	99	63-111	2	30				
Benzo(b)fluoranthene	94	95	71-106	1	30				
Benzo(a)pyrene	96	96	69-109	0	30				
Dibenz(a,h)anthracene	87	85	35-129	2	30				
Indeno(1,2,3-cd)pyrene	87	86	56-112	2	30				
Benzo(g,h,i)perylene	82	80	35-126	3	30				
Chrysene	94	95	60-107	1	30				
Benzo(k)fluoranthene	94	94	70-109	0	30				
Batch number: 05256A15A	Sample number(s): 4600451-4600453								
Benzene	112	112	78-131	0	30				
Toluene	111	112	78-129	1	30				
Ethylbenzene	111	112	75-133	1	30				
Total Xylenes	108	109	80-134	1	30				
Batch number: 05256A15B	Sample number(s): 4600444-4600450,4600454,4600457								
Benzene	112	112	78-131	0	30				
Toluene	111	112	78-129	1	30				
Ethylbenzene	111	112	75-133	1	30				
Total Xylenes	108	109	80-134	1	30				
Batch number: 05256A15C	Sample number(s): 4600458,4600460-4600461								
Benzene	112	112	78-131	0	30				
Toluene	111	112	78-129	1	30				
Ethylbenzene	111	112	75-133	1	30				
Total Xylenes	108	109	80-134	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.

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Quality Control Summary

Client Name: Kerr-McGee Corporation Group Number: 958762
Reported: 09/21/05 at 10:29 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: 05256A15D	Sample number(s): 4600455-4600456,4600459								
Benzene	112	112	78-131	0	30				
Toluene	111	112	78-129	1	30				
Ethylbenzene	111	112	75-133	1	30				
Total Xylenes	108	109	80-134	1	30				

Surrogate Quality Control

Analysis Name: PAH's in Water by HPLC
Batch number: 05255WAB026

	Nitrobenzene	Triphenylene
4600444	116	100
4600445	126	102
4600446	124	100
4600447	121	102
4600448	120	96
4600449	120	95
4600450	117	97
4600451	125	102
4600452	117	102
4600453	120	103
4600454	113	97
4600455	116	99
4600456	124	100
4600457	120	96
4600458	115	102
4600459	125	100
4600460	114	97
Blank	119	100
LCS	122	105
MS	117	102
MSD	120	103
Limits:	63-154	55-130

Analysis Name: BTEX (8021)
Batch number: 05256A15A

	Trifluorotoluene-P
4600451	117
4600452	122
4600453	120

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

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Quality Control Summary

Client Name: Kerr-McGee Corporation Group Number: 958762
Reported: 09/21/05 at 10:29 PM

Surrogate Quality Control

Blank	123
LCS	123
LCSD	121
MS	122
MSD	120
Limits:	69-129

Analysis Name: BTEX (8021)
Batch number: 05256A15B
Trifluorotoluene-P

4600444	121
4600445	120
4600446	120
4600447	119
4600448	119
4600449	119
4600450	120
4600454	123
4600457	126
Blank	122
LCS	123
LCSD	121
MS	122
MSD	120
Limits:	69-129

Analysis Name: BTEX (8021)
Batch number: 05256A15C
Trifluorotoluene-P

4600458	118
4600460	125
4600461	116
Blank	121
LCS	123
LCSD	121
MS	122
MSD	120
Limits:	69-129

Analysis Name: BTEX (8021)
Batch number: 05256A15D
Trifluorotoluene-P

4600455	119
4600456	118

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

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Quality Control Summary

Client Name: Kerr-McGee Corporation Group Number: 958762
Reported: 09/21/05 at 10:29 PM

Surrogate Quality Control

4600459	122
Blank	121
LCS	123
LCSD	121
MS	122
MSD	120
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.

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SDG# KMA71

Inter-Office Memorandum

TO: Tom Graan

FROM: Tania Shammo **DATE:** October 6, 2005

SUBJECT: Data Validation: SDG#: KMA71
Moss American Superfund Site

I have reviewed the analytical data for Kerr-McGee Corporation (Moss American Site- Grab Groundwater) water samples collected on 09/12/05, 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 # KMA71

1. Samples:

Client Sample Description:	Lab Sample Number	Matrix	Date Collected	Date Extracted	Date Analyzed
MA3-MW34S-091205-10	4601029	Ground water	09/12/05	09/14/04	9/19&9/20
MA3-TG1-1-091205-1	4601030	Ground water	09/12/05	09/14/04	9/19&9/20
MA3-MW35S-091205-9	4601031	Ground water	09/12/05	09/14/04	09/18/05
MA3-MW7S-091205-8	4601032	Ground water	09/12/05	09/14/04	9/18&9/20
MA3-MW9S-091205-14	4601033	Ground water	09/12/05	09/14/04	09/18/05
MA3-MWA-091205-12	4601034	Ground water	09/12/05	09/14/04	09/18/05
MA3-MWB-091205-13	4601035	Ground water	09/12/05	09/14/04	09/18/05
MA3-MWC-091205-11	4601036	Ground water	09/12/05	09/14/04	09/18/05
MA3-MWD-091205-7	4601037	Ground water	09/12/05	09/14/04	09/18/05
MA3-TG1-2-091205-2	4601038	Ground water	09/12/05	09/14/04	09/19/05
MA3-TG1-3-091205-3	4601039	Ground water	09/12/05	09/14/04	09/19/05
MA3-TG5-1-091205-4	4601040	Ground water	09/12/05	09/14/04	09/19/05
MA3-TG5-2-091205-5	4601041	Ground water	09/12/05	09/14/04	09/19/05
MA3-TG5-3-091205-6	4601042	Ground water	09/12/05	09/14/04	09/19/05

2. Holding Times:

The samples were extracted and analyzed within the required holding times. Samples 4601029, 4601030 were analyzed with initial 50X dilution and reanalyzed with 250X as a secondary dilution and 4601032 were re-analyzed with a 20X as a secondary dilution.

3. Method Blank:
The method blank SBLKWJ2562 was analyzed on 09/18/05 with samples 4601029 thru 4601042 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 4601029, 4601029DL, 4601030 and 4601030DL had triphenylene diluted out. No action was applied.

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 4601029 thru 4601042.

6. Laboratory Control Sample:
The associated laboratories control sample/laboratories control sample duplicate with 4601029 thru 4601042 recoveries were within the quality control limit. Also, the RPD values were acceptable.

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

8. Initial and Continuing Calibration:
The initial calibration and continuing calibration verification were all acceptable.

However, the retention time, initial and continuing calibration results were used in the calculation from two detectors: 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, and indeno (1, 2, 3-cd) pyrene were taken from fluorescence detector.

BETX (U.S. EPA Method 8021B)
SDG # MMA71

1.Samples:

Client Sample Description:	Lab Sample Number	Matrix	Date Collected	Date Prepared	Date Analyzed
MA3-MW34S-091205-10	4601029	Ground water	09/12/05	09/16/04	09/16/05
MA3-TG1-1-091205-1	4601030	Ground water	09/12/05	09/16/04	09/16/05
MA3-MW35S-091205-9	4601031	Ground water	09/12/05	09/15/04	09/15/05
MA3-MW7S-091205-8	4601032	Ground water	09/12/05	09/16/04	09/16/05
MA3-MW9S-091205-14	4601033	Ground water	09/12/05	09/15/05	09/15/05
MA3-MWA-091205-12	4601034	Ground water	09/12/05	09/15/04	09/15/05
MA3-MWB-091205-13	4601035	Ground water	09/12/05	09/16/04	09/16/04
MA3-MWC-091205-11	4601036	Ground water	09/12/05	09/16/04	09/16/04
MA3-MWD-091205-7	4601037	Ground water	09/12/05	09/16/04	09/16/04
MA3-TG1-2-091205-2	4601038	Ground water	09/12/05	09/16/04	09/16/04
MA3-TG1-3-091205-3	4601039	Ground water	09/12/05	09/16/04	09/16/04
MA3-TG5-1-091205-4	4601040	Ground water	09/12/05	09/16/04	09/16/04
MA3-TG5-2-091205-5	4601041	Ground water	09/12/05	09/16/04	09/16/04
MA3-TG5-3-091205-6	4601042	Ground water	09/12/05	09/16/04	09/16/04
MA3-TB-091205-15	4601043	Ground water	09/12/05	09/15/04	09/15/04

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

3. Method Blank:
Three methods blanks were associated with this SDG. The method blank **BLK1523** was analyzed on 09/15/05 with 4601031, 4601033, 4601034, 4601043 and results were free of contamination.
The method blank **BLK1524** was analyzed on 09/16/05 with 4601029, 4601030, 4601032, 4601035 thru 4601041 and results were free of contamination.
The method blank **BLK1525** was analyzed on 09/16/05 with 4601042, 4602056, MS/MSD and results were free of contamination.

4. Matrix Spike/Matrix Spike Duplicate :
The laboratory performed matrix spike/matrix spike duplicate on sample 4602056 from different SDG associated with 4601029 thru 4601043. The MS/MSD recoveries were within the quality control limit. Also, the RPD% values were acceptable.

5. Laboratory control Sample:
The associated laboratories control samples/laboratories control samples duplicates associated with 4601029 thru 4601043 recoveries were within the control limit. 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 # KMA71

Kjeldahl Nitrogen Analysis (TKN) EPA 351.2:

1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Digested	Date Analyzed
MA3-TG1-1-091205-1	4601030	Ground water	09/12/05	09/15/04	09/16/05
MA3-TG1-2-091205-2	4601038	Ground water	09/12/05	09/15/04	09/16/04
MA3-TG1-3-091205-3	4601039	Ground water	09/12/05	09/15/04	09/16/04
MA3-TG5-1-091205-4	4601040	Ground water	09/12/05	09/15/04	09/16/04
MA3-TG5-2-091205-5	4601041	Ground water	09/12/05	09/15/04	09/16/04
MA3-TG5-3-091205-6	4601042	Ground water	09/12/05	09/15/04	09/16/04

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:
A matrix spike was performed on P601019, 4601041 and P601024. The three MS recoveries were within the quality control limit.

5. Duplicate Recovery:
The three duplicates samples P601019, 4601041 and P601024 recoveries were within the quality control limit.

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.

Total Phosphorus as (PO4) EPA 365.1:

1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Extracted	Date Analyzed
MA3-TG1-1-091205-1	4601030	Ground water	09/12/05	09/14/04	09/15/05
MA3-TG1-2-091205-2	4601038	Ground water	09/12/05	09/14/04	09/15/04
MA3-TG1-3-091205-3	4601039	Ground water	09/12/05	09/14/04	09/15/04
MA3-TG5-1-091205-4	4601040	Ground water	09/12/05	09/14/04	09/15/04
MA3-TG5-2-091205-5	4601041	Ground water	09/12/05	09/14/04	09/15/04
MA3-TG5-3-091205-6	4601042	Ground water	09/12/05	09/14/04	09/15/04

2. Holding Times:

All 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:

A matrix spike was performed on 4601042. The MS recoveries were within the quality control limit.

5. Duplicate Recovery:

The duplicate sample 4601042 recoveries were within the quality control limit.

6. Laboratory Control Sample Recovery:

The laboratory control sample recovery was 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.

Ammonia Nitrogen Analysis EPA 350.2:

1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Analyzed
MA3-TG1-1-091205-1	4601030	Ground water	09/12/05	09/13/04
MA3-TG1-2-091205-2	4601038	Ground water	09/12/05	09/13/04
MA3-TG1-3-091205-3	4601039	Ground water	09/12/05	09/13/04
MA3-TG5-1-091205-4	4601040	Ground water	09/12/05	09/13/04
MA3-TG5-2-091205-5	4601041	Ground water	09/12/05	09/13/04
MA3-TG5-3-091205-6	4601042	Ground water	09/12/05	09/13/04

2. Holding Times:

All 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 P600832 result was acceptable.

5. Laboratory Control Sample Recovery:
The laboratory control sample/ laboratory control sample duplicate recovery was within the quality control limit. Also, the RPD value was 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-TG1-1-091205-1	4601030	Ground water	09/12/05	09/13/04
MA3-TG1-2-091205-2	4601038	Ground water	09/12/05	09/13/04
MA3-TG1-3-091205-3	4601039	Ground water	09/12/05	09/13/04
MA3-TG5-1-091205-4	4601040	Ground water	09/12/05	09/13/04
MA3-TG5-2-091205-5	4601041	Ground water	09/12/05	09/13/04
MA3-TG5-3-091205-6	4601042	Ground water	09/12/05	09/13/04

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 4601040. The matrix spikes/matrix spike duplicates recoveries were within the quality control limits. Also, the relative percent difference (RPD %) recoveries were 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 limit.

Chemical Oxygen Demand Analysis (COD) EPA 410.2:

1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Analyzed
MA3-TG1-1-091205-1	4601030	Ground water	09/12/05	09/20/04
MA3-TG1-2-091205-2	4601038	Ground water	09/12/05	09/20/04
MA3-TG1-3-091205-3	4601039	Ground water	09/12/05	09/20/04
MA3-TG5-1-091205-4	4601040	Ground water	09/12/05	09/20/04
MA3-TG5-2-091205-5	4601041	Ground water	09/12/05	09/20/04
MA3-TG5-3-091205-6	4601042	Ground water	09/12/05	09/20/04

2. Holding Times:

All samples were analyzed within the required holding time.

3. Matrix Spike Recovery:

A matrix spike was performed on P6023333 from different SDG. The matrix spike/matrix spike duplicate recoveries were outside the quality control limits. Also, the relative percent difference (RPD %) recovery was acceptable.

4. Duplicate Recovery:

The duplicate sample P602333 recovery was within the quality control limit.

5. Laboratory Control Sample Recovery:

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

Nitrite Nitrogen Analysis EPA 353.2:

1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Analyzed
MA3-TG1-1-091205-1	4601030	Ground water	09/12/05	09/13/04
MA3-TG1-2-091205-2	4601038	Ground water	09/12/05	09/13/04
MA3-TG1-3-091205-3	4601039	Ground water	09/12/05	09/13/04
MA3-TG5-1-091205-4	4601040	Ground water	09/12/05	09/13/04
MA3-TG5-2-091205-5	4601041	Ground water	09/12/05	09/13/04
MA3-TG5-3-091205-6	4601042	Ground water	09/12/05	09/13/04

2. Holding Time:

All samples were analyzed within the required holding time.

3. Method Blank:

The associated method blank result was free of contamination.

4. Matrix Spike Recovery:

The matrix spike was performed on P601024 from different SDG. The MS recovery was within the quality control limit.

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

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 limit.

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-TG1-1-091205-1	4601030	Ground water	09/12/05	09/16/04
MA3-TG1-2-091205-2	4601038	Ground water	09/12/05	09/16/04
MA3-TG1-3-091205-3	4601039	Ground water	09/12/05	09/16/04
MA3-TG5-1-091205-4	4601040	Ground water	09/12/05	09/16/04
MA3-TG5-2-091205-5	4601041	Ground water	09/12/05	09/16/04
MA3-TG5-3-091205-6	4601042	Ground water	09/12/05	09/16/04

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

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

4. Matrix Spike Recovery:
A matrix spike was performed on 4601041. The MS recovery was within the acceptance control limit.

5. Duplicate Recovery:
The duplicate result was acceptable.

6. Laboratory Control Sample Recovery:
The laboratory control sample recovery was 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-TG1-1-091205-1	4601030	Ground water	09/12/05	09/13/04
MA3-TG1-2-091205-2	4601038	Ground water	09/12/05	09/13/04
MA3-TG1-3-091205-3	4601039	Ground water	09/12/05	09/13/04
MA3-TG5-1-091205-4	4601040	Ground water	09/12/05	09/13/04
MA3-TG5-2-091205-5	4601041	Ground water	09/12/05	09/13/04
MA3-TG5-3-091205-6	4601042	Ground water	09/12/05	09/13/04

2. Holding Time:

All samples were analyzed within the required holding time.

3. Matrix Spike Recovery:

A matrix spike was performed on P600990 from different SDG. The matrix spike/matrix spike duplicate recoveries were within the quality control limits. Also, the relative percent difference (RPD %) recovery was acceptable.

4. Laboratory Control Sample Recovery:

The laboratory control sample/laboratory control sample duplicate recoveries were within the quality control limit. Also, the RPD value was acceptable.

5. Duplicate Recovery:

The duplicate sample P601493 recovery was within the quality control limit.

Total Organic Carbon (TOC) Method EPA 415.1:

1. Samples:

Client Code	Lab Sample Number	Matrix	Date Collected	Date Analyzed
MA3-TG1-1-091205-1	4601030	Ground water	09/12/05	09/14/04
MA3-TG1-2-091205-2	4601038	Ground water	09/12/05	09/14/04
MA3-TG1-3-091205-3	4601039	Ground water	09/12/05	09/14/04
MA3-TG5-1-091205-4	4601040	Ground water	09/12/05	09/14/04
MA3-TG5-2-091205-5	4601041	Ground water	09/12/05	09/14/04
MA3-TG5-3-091205-6	4601042	Ground water	09/12/05	09/14/04

2. Holding Time:

All samples were analyzed within the required holding time.

3. Method Blank:

The associated method blank result was free of contamination.

4. Matrix Spike Recovery:

A matrix spike was performed on P600990 from different SDG. The MS recoveries were within the quality control limit.

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

6. Laboratory Control Sample Recovery:
The laboratory control sample recovery was 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.

Data Reviewed by: Tania Shammo Date: 10/06/05

Account# 07802 Group# 958917 Sample# 4001029-43

COC ID: COC-091205-4

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 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	EPA 353.2-NO2	EPA 353.2-NO3	SW846 8021B-BTEX							
						Filtered									
						Container	40 ml Vials	40 ml Vials	40 ml Vials							
						Preservative	N/A	H2SO4	HCl							
	MA3-MW34S-091205-10	G		N	9/12/2005 14:50			3							
	MA3-MW35S-091205-9	G		N	9/12/2005 14:30			3							
	MA3-MW7S-091205-8	G		N	9/12/2005 14:20			3							
	MA3-MW9S-091205-14	G		N	9/12/2005 16:20			3							
	MA3-MWA-091205-12	G		N	9/12/2005 15:45			3							
	MA3-MWB-091205-13	G		N	9/12/2005 16:05			3							
	MA3-MWC-091205-11	G		N	9/12/2005 15:15			3							
	MA3-MWD-091205-7	G		N	9/12/2005 14:10			3							
	MA3-TG1-1-091205-1	G		N	9/12/2005 09:10	1	1	3							
	MA3-TG1-2-091205-2	G		N	9/12/2005 09:15	1	1	3							
	MA3-TG1-3-091205-3	G		N	9/12/2005 09:20	1	1	3							
	MA3-TG5-1-091205-4	G		N	9/12/2005 10:55	1	1	3							
	MA3-TG5-2-091205-5	G		N	9/12/2005 11:00	1	1	3							
	MA3-TG5-3-091205-6	G		N	9/12/2005 11:05	1	1	3							
	MA3-TB-091205-1516	N		N	9/12/2005 1916			2							

Remarks/Comments
Follow chain labels for ending sample ID digits rather than the sample container labels

Lab Use Only: 6 coolers
Temp of Cooler when Received, C: 3.0-5.0C
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 → N/A

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
							9/13/05 0910

Sampled By

Account# 07802 Group# 958917 Sample# 4601029-43

COC ID: COC-091205-1

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:

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	SW846 8310-PAHS
	Filtered					
	Container					1-L Amber
	Preservative					N/A
	MA3-MW34S-091205-10	G		N	9/12/2005 14:50	2
	MA3-MW35S-091205-9	G		N	9/12/2005 14:30	2
	MA3-MW7S-091205-8	G		N	9/12/2005 14:20	2
	MA3-MW9S-091205-11	G		N	9/12/2005 16:20	2
	MA3-MWA-091205-12	G		N	9/12/2005 15:45	2

Remarks/Comments: Follow chain labels for ending digit over sample labels

Lab Use Only: 6 coolers 3.0 - 5.0 C

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) N/A

COC Tape was unbroken on sample Y (N) N/A #3 TSC165 9/13/05

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] 320K	9/13/05 @ 0910

Sampled By: [signature]

Account# 07802 Group# 958917 Sample# 4601029-43

COC ID: COC-091205-2

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 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	EPA 350.2-NH3	SW846 8310-PAHS	TKN, TP PO4,COD							
						Filtered									
						Container	1-L Glass	1-L Amber	1-L Glass						
						Preservative	H2SO4	N/A	N/A						
	MA3-MWB-091205-13	G		N	9/12/2005 16:05		2								
	MA3-MWC-091205-11	G		N	9/12/2005 15:15		2								
	MA3-MWD-091205-9	G		N	9/12/2005 14:10		2								
	MA3-TG1-1-091205-1	G		N	9/12/2005 09:10	1	2	1							

Remarks/Comments
Follow chain labels for ending sample ID digits rather than the sample container labels

Sampled By: Barry L Gifford

Lab Use Only: 6 Coolers
Temp of Cooler when Received, C: 3.0-5.0C

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 N/A
COC Tape was unbroken on sample: Y N N/A

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
						Ross Zook	9/13/05 @ 0910

Account# 07802 Group# 958917 Sample# 4601029-43

COC ID: COC-091205-3

Chain of Custody Record

WESTON

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 | Lab Phone: 717-656-2308 X1527

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	PAHs SW8270 8310									
						Filtered									
						Container	1-L Amber								
						Preservative	N/A								
	MA3-TG1-2-091205-2	G		N	9/12/2005 09:15	2									
	MA3-TG1-3-091205-3	G		N	9/12/2005 09:20	2									
	MA3-TG5-1-091205-4	G		N	9/12/2005 10:55	2									
	MA3-TG5-2-091205-5	G		N	9/12/2005 11:00	2									
	MA3-TG5-3-091205-6	G		N	9/12/2005 11:05	2									

Remarks/Comments

Lab Use Only: 6 coolers 2.0-5.0C

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 N/A

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
							9/13/05 0910

Sampled By

Account# 07802 Group# 958917 Sample# 4601029-43

COC ID: COC-091205-5

Chain of Custody Record

WESTON

Client: Kerr McGee
Site Name: Moss American
W. O.: 02887.007.007.0001
Lab: LANCASTER LABS
TAT:

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	EPA 365.3-ORTHO P, EPA 405.1-BOD	EPA 415.1-TOC
					Filtered		
					Container	500-ml Poly	250 ml Glass
					Preservative	N/A	H3PO4
	MA3-TG1-1-091205-1	G		N	9/12/2005 09:10	1	1
	MA3-TG1-2-091205-2	G		N	9/12/2005 09:15	1	1
	MA3-TG1-3-091205-3	G		N	9/12/2005 09:20	1	1
	MA3-TG5-1-091205-4	G		N	9/12/2005 10:55	1	1
	MA3-TG5-2-091205-5	G		N	9/12/2005 11:00	1	1
	MA3-TG5-3-091205-6	G		N	9/12/2005 11:05	1	1

Remarks/Comments

Lab Use Only 6 coolers

Temp of Cooler when Received, C 3.0-5.0C

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 — N/A

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]	9/13/05 0910

Sampled By [signature]

Account# 07802 Group# 958917 Sample# 4601029-43

COC ID: COC-091205-6

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 | Lab Phone: 717-656-2308 X1527

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	EPA 350.2 NH3	TKN, TP PO4,COD								
						Filtered									
						Container	1-L Glass	1-L Glass							
						Preservative	H2SO4	N/A							
	MA3-TG1-2-091205-2	G		N	9/12/2005 09:15	1	1								
	MA3-TG1-3-091205-3	G		N	9/12/2005 09:20	1	1								
	MA3-TG5-1-091205-4	G		N	9/12/2005 10:55	1	1								
	MA3-TG5-2-091205-5	G		N	9/12/2005 11:00	1	1								
	MA3-TG5-3-091205-6	G		N	9/12/2005 11:05	1	1								

Remarks/Comments

Lab Use Only 6C00615

Temp of Cooler when Received, C: 2.0-5.0C

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 N/A

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
							9/13/05 0910

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 958917. Samples arrived at the laboratory on Tuesday, September 13, 2005. The PO# for this group is ZAKW1KEOK0A90089.

Client Description		Lancaster Labs Number
MA3-MW34S-091205-10	Groundwater	4601029
MA3-TG1-1-091205-1	Groundwater	4601030
MA3-MW35S-091205-9	Groundwater	4601031
MA3-MW7S-091205-8	Groundwater	4601032
MA3-MW9S-091205-14	Groundwater	4601033
MA3-MWA-091205-12	Groundwater	4601034
MA3-MWB-091205-13	Groundwater	4601035
MA3-MWC-091205-11	Groundwater	4601036
MA3-MWD-091205-7	Groundwater	4601037
MA3-TG1-2-091205-2	Groundwater	4601038
MA3-TG1-3-091205-3	Groundwater	4601039
MA3-TG5-1-091205-4	Groundwater	4601040
MA3-TG5-2-091205-5	Groundwater	4601041
MA3-TG5-3-091205-6	Groundwater	4601042
MA3-TB-091205-15	Groundwater	4601043

METHODOLOGY

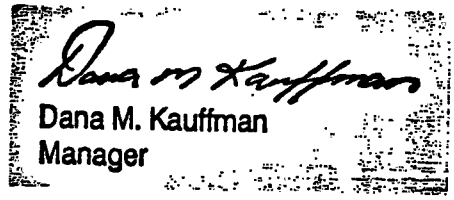
The specific methodologies used in obtaining the enclosed analytical results are indicated on the laboratory chronicles.

1 COPY TO	Weston Solutions, Inc.	Attn: Tom Graan
1 COPY TO	Kerr-McGee Corporation	Attn: Roy Widmann
1 COPY TO	Data Package Group	

Lancaster Laboratories

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

Respectfully Submitted,



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 4601029

MA3-MW34S-091205-10 Groundwater
091205-1,4 02687.007.007.0001
Moss American
Collected:09/12/2005 14:50 by BLC Account Number: 07802

Submitted: 09/13/2005 09:10 Kerr-McGee Corporation
Reported: 09/23/2005 at 08:58 PO Box 3048
Discard: 11/23/2005 Livonia MI 48150

MOS10 SDG#: KMA71-01

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	7.3		0.2	ug/l	1
00777	Toluene	108-88-3	1.4		0.2	ug/l	1
00778	Ethylbenzene	100-41-4	27.		0.2	ug/l	1
00779	Total Xylenes	1330-20-7	76.		0.6	ug/l	1
00774	PAH's in Water by HPLC						
00775	Naphthalene	91-20-3	6,900.		81.	ug/l	50
00782	Acenaphthylene	208-96-8	89.	J	81.	ug/l	50
00783	Acenaphthene	83-32-9	590.	J	81.	ug/l	50
00784	Fluorene	86-73-7	440.		25.	ug/l	50
00785	Phenanthrene	85-01-8	1,000.		20.	ug/l	250
00789	Anthracene	120-12-7	100.		2.0	ug/l	50
00807	Fluoranthene	206-44-0	400.		10.	ug/l	250
00811	Pyrene	129-00-0	310.		9.1	ug/l	50
00812	Benzo(a)anthracene	56-55-3	63.		1.0	ug/l	50
00818	Benzo(b)fluoranthene	205-99-2	23.		2.0	ug/l	50
00823	Benzo(a)pyrene	50-32-8	23.		1.0	ug/l	50
00895	Dibenz(a,h)anthracene	53-70-3	3.2	J	2.0	ug/l	50
00898	Indeno(1,2,3-cd)pyrene	193-39-5	9.8	J	4.0	ug/l	50
00907	Benzo(g,h,i)perylene	191-24-2	7.9	J	5.0	ug/l	50
07409	Chrysene	218-01-9	50.		4.0	ug/l	50
07410	Benzo(k)fluoranthene	207-08-9	12.		1.0	ug/l	50

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.

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4601029

MA3-MW34S-091205-10 Groundwater
091205-1,4 02687.007.007.0001
Moss American
Collected:09/12/2005 14:50 by BLC

Account Number: 07802

Submitted: 09/13/2005 09:10
Reported: 09/23/2005 at 08:58
Discard: 11/23/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOS10 SDG#: KMA71-01

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/16/2005 01:45	Kathie J Bowman	1
00774	PAH's in Water by HPLC	SW-846 8310	1	09/19/2005 04:25	Mark A Clark	50
00774	PAH's in Water by HPLC	SW-846 8310	1	09/20/2005 12:47	Mark A Clark	250
01146	GC VOA Water Prep	SW-846 5030B	1	09/16/2005 01:45	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/14/2005 05:00	Mark P Mastropietro	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4601030

MA3-TG1-1-091205-1 Groundwater
091205-2,4,5 02687.007.007.0001
Moss American
Collected:09/12/2005 09:10 by BLC

Account Number: 07802

Submitted: 09/13/2005 09:10
Reported: 09/23/2005 at 08:58
Discard: 11/23/2005

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MOS-1 SDG#: KMA71-02

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	2.1		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	1.6		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.	14.6		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.	122.		10.5	mg/l	5
08213	BTEX (8021)						
00776	Benzene	71-43-2	0.8	J	0.2	ug/l	1
00777	Toluene	108-88-3	0.4	J	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	32.		0.2	ug/l	1
00779	Total Xylenes	1330-20-7	47.		0.6	ug/l	1
00774	PAH's in Water by HPLC						
00775	Naphthalene	91-20-3	4,000.		83.	ug/l	50
00782	Acenaphthylene	208-96-8	100.	J	83.	ug/l	50
00783	Acenaphthene	83-32-9	1,400.		83.	ug/l	50
00784	Fluorene	86-73-7	1,100.		26.	ug/l	50
00785	Phenanthrene	85-01-8	2,700.		21.	ug/l	250
00789	Anthracene	120-12-7	280.		2.1	ug/l	50
00807	Fluoranthene	206-44-0	1,200.		10.	ug/l	250
00811	Pyrene	129-00-0	970.		9.4	ug/l	50
00812	Benzo(a)anthracene	56-55-3	210.		5.2	ug/l	250
00818	Benzo(b)fluoranthene	205-99-2	87.		2.1	ug/l	50
00823	Benzo(a)pyrene	50-32-8	91.		1.0	ug/l	50
00895	Dibenz(a,h)anthracene	53-70-3	13.		2.1	ug/l	50
00898	Indeno(1,2,3-cd)pyrene	193-39-5	38.		4.2	ug/l	50
00907	Benzo(g,h,i)perylene	191-24-2	32.		5.2	ug/l	50
07409	Chrysene	218-01-9	150.		4.2	ug/l	50
07410	Benzo(k)fluoranthene	207-08-9	47.		1.0	ug/l	50

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

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Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4601030

MA3-TG1-1-091205-1 Groundwater
091205-2,4,5 02687.007.007.0001
Moss American
Collected:09/12/2005 09:10 by BLC Account Number: 07802

Submitted: 09/13/2005 09:10 Kerr-McGee Corporation
Reported: 09/23/2005 at 08:58 PO Box 3048
Discard: 11/23/2005 Livonia MI 48150

MOS-1 SDG#: KMA71-02

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

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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	09/16/2005 20:09	Venia B McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/13/2005 13:57	Shannon L Phillips	1
00220	Nitrate Nitrogen	EPA 353.2	1	09/16/2005 12:45	Kristina E Kleintop	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/13/2005 16:30	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/13/2005 23:45	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/13/2005 22:54	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	09/14/2005 13:27	Nicole M Kepley	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	09/15/2005 14:05	Kristina E Kleintop	1
01553	Chemical Oxygen Demand	EPA 410.2	1	09/20/2005 07:05	Susan A Engle	5
08213	BTEX (8021)	SW-846 8021B	1	09/16/2005 02:25	Kathie J Bowman	1
00774	PAH's in Water by HPLC	SW-846 8310	1	09/19/2005 05:46	Mark A Clark	50
00774	PAH's in Water by HPLC	SW-846 8310	1	09/20/2005 13:29	Mark A Clark	250
01146	GC VOA Water Prep	SW-846 5030B	1	09/16/2005 02:25	Kathie J Bowman	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	09/15/2005 14:35	Nancy J Shoop	1
03337	PAH Water Extraction	SW-846 3510C	1	09/14/2005 05:00	Mark P Mastropietro	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	09/14/2005 15:50	Nancy J Shoop	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4601031

MA3-MW35S-091205-9 Groundwater
091205-1,4 02687.007.007.0001
Moss American
Collected:09/12/2005 14:30 by BLC Account Number: 07802

Submitted: 09/13/2005 09:10 Kerr-McGee Corporation
Reported: 09/23/2005 at 08:58 PO Box 3048
Discard: 11/23/2005 Livonia MI 48150

MOS-9 SDG#: KMA71-03

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.		1.7	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	0.68		0.042	ug/l	1
00811	Pyrene	129-00-0	0.42	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.		0.11	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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/15/2005 21:46	Kathie J Bowman	1

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Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4601031

MA3-MW35S-091205-9 Groundwater
091205-1,4 02687.007.007.0001
Moss American
Collected:09/12/2005 14:30 by BLC Account Number: 07802

Submitted: 09/13/2005 09:10 Kerr-McGee Corporation
Reported: 09/23/2005 at 08:58 PO Box 3048
Discard: 11/23/2005 Livonia MI 48150

MOS-9 SDG#: KMA71-03

00774	PAH's in Water by HPLC	SW-846 8310	1	09/18/2005 20:00	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/15/2005 21:46	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/14/2005 05:00	Mark P Mastropietro	1

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Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4601032

MA3-MW7S-091205-8 Groundwater
091205-1,4 02687.007.007.0001
Moss American
Collected:09/12/2005 14:20 by BLC Account Number: 07802

Submitted: 09/13/2005 09:10 Kerr-McGee Corporation
Reported: 09/23/2005 at 08:58 PO Box 3048
Discard: 11/23/2005 Livonia MI 48150

MOS-8 SDG#: KMA71-04

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	1.8		0.2	ug/l	1
00777	Toluene	108-88-3	0.3	J	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	14.		0.2	ug/l	1
00779	Total Xylenes	1330-20-7	22.		0.6	ug/l	1
00774	PAH's in Water by HPLC						
00775	Naphthalene	91-20-3	1,900.		33.	ug/l	20
00782	Acenaphthylene	208-96-8	31.		1.7	ug/l	1
00783	Acenaphthene	83-32-9	34.		1.7	ug/l	1
00784	Fluorene	86-73-7	5.8		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	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.		0.10	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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/16/2005 03:04	Kathie J Bowman	1

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717-656-2300 Fax: 717-656-2681

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Lancaster Laboratories Sample No. WW 4601032

MA3-MW7S-091205-8 Groundwater
091205-1,4 02687.007.007.0001
Moss American
Collected:09/12/2005 14:20 by BLC

Account Number: 07802

Submitted: 09/13/2005 09:10
Reported: 09/23/2005 at 08:58
Discard: 11/23/2005

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Livonia MI 48150

MOS-8 SDG#: KMA71-04

00774	PAH's in Water by HPLC	SW-846 8310	1	09/18/2005 20:39	Mark A Clark	1
00774	PAH's in Water by HPLC	SW-846 8310	1	09/20/2005 14:12	Mark A Clark	20
01146	GC VOA Water Prep	SW-846 5030B	1	09/16/2005 03:04	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/14/2005 05:00	Mark P Mastropietro	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4601033

MA3-MW9S-091205-14 Groundwater
091205-1,4 02687.007.007.0001
Moss American
Collected:09/12/2005 16:20 by BLC Account Number: 07802

Submitted: 09/13/2005 09:10 Kerr-McGee Corporation
Reported: 09/23/2005 at 08:58 PO Box 3048
Discard: 11/23/2005 Livonia MI 48150

MOS14 SDG#: KMA71-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/15/2005 22:26	Kathie J Bowman	1

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Lancaster Laboratories Sample No. WW 4601033

MA3-MW9S-091205-14 Groundwater
091205-1,4 02687.007.007.0001
Moss American
Collected:09/12/2005 16:20 by BLC Account Number: 07802

Submitted: 09/13/2005 09:10 Kerr-McGee Corporation
Reported: 09/23/2005 at 08:58 PO Box 3048
Discard: 11/23/2005 Livonia MI 48150

MOS14 SDG#: KMA71-05

00774	PAH's in Water by HPLC	SW-846 8310	1	09/18/2005 21:17	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/15/2005 22:26	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/14/2005 05:00	Mark P Mastropietro	1

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Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4601034

MA3-MWA-091205-12 Groundwater
091205-1,4 02687.007.007.0001
Moss American
Collected:09/12/2005 15:45 by BLC Account Number: 07802

Submitted: 09/13/2005 09:10
Reported: 09/23/2005 at 08:58
Discard: 11/23/2005

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Livonia MI 48150

MOS12 SDG#: KMA71-06

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	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	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.	0.10	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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/15/2005 23:05	Kathie J Bowman	1

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Lancaster, PA 17605-2425

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4601034

MA3-MWA-091205-12 Groundwater
091205-1,4 02687.007.007.0001
Moss American
Collected:09/12/2005 15:45 by BLC Account Number: 07802

Submitted: 09/13/2005 09:10 Kerr-McGee Corporation
Reported: 09/23/2005 at 08:58 PO Box 3048
Discard: 11/23/2005 Livonia MI 48150

MOS12 SDG#: KMA71-06

00774	PAH's in Water by HPLC	SW-846 8310	1	09/18/2005 21:56	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/15/2005 23:05	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/14/2005 05:00	Mark P Mastropietro	1

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Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4601035

MA3-MWB-091205-13 Groundwater
091205-2,4 02687.007.007.0001
Moss American
Collected:09/12/2005 16:05 by BLC Account Number: 07802

Submitted: 09/13/2005 09:10 Kerr-McGee Corporation
Reported: 09/23/2005 at 08:58 PO Box 3048
Discard: 11/23/2005 Livonia MI 48150

MOS13 SDG#: KMA71-07

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.	0.52	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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/16/2005 03:44	Kathie J Bowman	1

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PO Box 12425
Lancaster, PA 17605-2425

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4601035

MA3-MWB-091205-13 Groundwater
091205-2,4 02687.007.007.0001
Moss American
Collected:09/12/2005 16:05 by BLC

Account Number: 07802

Submitted: 09/13/2005 09:10
Reported: 09/23/2005 at 08:58
Discard: 11/23/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOS13 SDG#: KMA71-07

00774	PAH's in Water by HPLC	SW-846 8310	1	09/18/2005 22:34	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/16/2005 03:44	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/14/2005 05:00	Mark P Mastropietro	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4601036

MA3-MWC-091205-11 Groundwater
091205-2,4 02687.007.007.0001
Moss American
Collected:09/12/2005 15:15 by BLC Account Number: 07802

Submitted: 09/13/2005 09:10 Kerr-McGee Corporation
Reported: 09/23/2005 at 08:58 PO Box 3048
Discard: 11/23/2005 Livonia MI 48150

MOS11 SDG#: KMA71-08

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.	0.52	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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/16/2005 04:24	Kathie J Bowman	1

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PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4601036

MA3-MWC-091205-11 Groundwater
091205-2,4 02687.007.007.0001
Moss American
Collected:09/12/2005 15:15 by BLC

Account Number: 07802

Submitted: 09/13/2005 09:10
Reported: 09/23/2005 at 08:58
Discard: 11/23/2005

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Livonia MI 48150

MOS11 SDG#: KMA71-08

00774	PAH's in Water by HPLC	SW-846 8310	1	09/18/2005 23:13	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/16/2005 04:24	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/14/2005 05:00	Mark P Mastropietro	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4601037

MA3-MWD-091205-7 Groundwater
091205-2,4 02687.007.007.0001
Moss American
Collected:09/12/2005 14:10 by BLC Account Number: 07802

Submitted: 09/13/2005 09:10 Kerr-McGee Corporation
Reported: 09/23/2005 at 08:59 PO Box 3048
Discard: 11/23/2005 Livonia MI 48150

MOS-7 SDG#: KMA71-09

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.	1.7	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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/16/2005 05:04	Kathie J Bowman	1

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

Lancaster Laboratories Sample No. WW 4601037

MA3-MWD-091205-7 Groundwater
091205-2,4 02687.007.007.0001
Moss American
Collected:09/12/2005 14:10 by BLC Account Number: 07802

Submitted: 09/13/2005 09:10 Kerr-McGee Corporation
Reported: 09/23/2005 at 08:59 PO Box 3048
Discard: 11/23/2005 Livonia MI 48150

MOS-7 SDG#: KMA71-09

00774	PAH's in Water by HPLC	SW-846 8310	1	09/18/2005 23:52	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/16/2005 05:04	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/14/2005 05:00	Mark P Mastropietro	1

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Lancaster Laboratories Sample No. WW 4601038

MA3-TG1-2-091205-2 Groundwater
091205-3,4,5,6 02687.007.007.0001
Moss American
Collected:09/12/2005 09:15 by BLC Account Number: 07802

Submitted: 09/13/2005 09:10 Kerr-McGee Corporation
Reported: 09/23/2005 at 08:59 PO Box 3048
Discard: 11/23/2005 Livonia MI 48150

MOS-2 SDG#: KMA71-10

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	1.9	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	1.5	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.	7.8	0.80	mg/l	1
00273	Total Organic Carbon	n.a.	13.7	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.	33.2	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	22.	1.7	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.	1.7	ug/l	1
00783	Acenaphthene	83-32-9	31.	1.7	ug/l	1
00784	Fluorene	86-73-7	15.	0.52	ug/l	1
00785	Phenanthrene	85-01-8	4.7	0.084	ug/l	1
00789	Anthracene	120-12-7	0.81	0.042	ug/l	1
00807	Fluoranthene	206-44-0	2.3	0.042	ug/l	1
00811	Pyrene	129-00-0	1.5	0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	0.081 J	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.

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Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4601038

MA3-TG1-2-091205-2 Groundwater
091205-3,4,5,6 02687.007.007.0001
Moss American
Collected:09/12/2005 09:15 by BLC

Account Number: 07802

Submitted: 09/13/2005 09:10
Reported: 09/23/2005 at 08:59
Discard: 11/23/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOS-2 SDG#: KMA71-10

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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	09/16/2005 20:10	Venia B McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/13/2005 13:58	Shannon L Phillips	1
00220	Nitrate Nitrogen	EPA 353.2	1	09/16/2005 12:46	Kristina E Kleintop	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/13/2005 16:30	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/13/2005 23:45	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/13/2005 22:54	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	09/14/2005 13:36	Nicole M Kepley	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	09/15/2005 14:09	Kristina E Kleintop	1
01553	Chemical Oxygen Demand	EPA 410.2	1	09/20/2005 07:05	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	09/16/2005 05:44	Kathie J Bowman	1
00774	PAH's in Water by HPLC	SW-846 8310	1	09/19/2005 01:09	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/16/2005 05:44	Kathie J Bowman	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	09/15/2005 14:35	Nancy J Shoop	1
03337	PAH Water Extraction	SW-846 3510C	1	09/14/2005 05:00	Mark P Mastropietro	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	09/14/2005 15:50	Nancy J Shoop	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4601039

MA3-TG1-3-091205-3 Groundwater
091205-3,4,5,6 02687.007.007.0001
Moss American
Collected:09/12/2005 09:20 by BLC

Account Number: 07802

Submitted: 09/13/2005 09:10
Reported: 09/23/2005 at 08:59
Discard: 11/23/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOS-3 SDG#: KMA71-11

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
	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.						
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	0.012	J	0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	8.4		0.80	mg/l	1
00273	Total Organic Carbon	n.a.	11.2		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.	32.8		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	2.7	J	1.7	ug/l	1
00782	Acenaphthylene	208-96-8	N.D.		1.7	ug/l	1
00783	Acenaphthene	83-32-9	2.6	J	1.7	ug/l	1
00784	Fluorene	86-73-7	1.2		0.52	ug/l	1
00785	Phenanthrene	85-01-8	0.30	J	0.083	ug/l	1
00789	Anthracene	120-12-7	0.099	J	0.041	ug/l	1
00807	Fluoranthene	206-44-0	0.28		0.041	ug/l	1
00811	Pyrene	129-00-0	0.19	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.		0.041	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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4601039

MA3-TG1-3-091205-3 Groundwater
091205-3,4,5,6 02687.007.007.0001
Moss American
Collected:09/12/2005 09:20 by BLC

Account Number: 07802

Submitted: 09/13/2005 09:10
Reported: 09/23/2005 at 08:59
Discard: 11/23/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOS-3 SDG#: KMA71-11

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

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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	09/16/2005 20:11	Venia B McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/13/2005 13:59	Shannon L Phillips	1
00220	Nitrate Nitrogen	EPA 353.2	1	09/16/2005 12:47	Kristina E Kleintop	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/13/2005 16:30	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/13/2005 23:45	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/13/2005 22:54	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	09/14/2005 13:44	Nicole M Kepley	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	09/15/2005 14:10	Kristina E Kleintop	1
01553	Chemical Oxygen Demand	EPA 410.2	1	09/20/2005 07:05	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	09/16/2005 06:24	Kathie J Bowman	1
00774	PAH's in Water by HPLC	SW-846 8310	1	09/19/2005 01:47	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/16/2005 06:24	Kathie J Bowman	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	09/15/2005 14:35	Nancy J Shoop	1
03337	PAH Water Extraction	SW-846 3510C	1	09/14/2005 05:00	Mark P Mastropietro	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	09/14/2005 15:50	Nancy J Shoop	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4601040

MA3-TG5-1-091205-4 Groundwater
091205-3,4,5,6 02687.007.007.0001
Moss American
Collected:09/12/2005 10:55 by BLC Account Number: 07802

Submitted: 09/13/2005 09:10
Reported: 09/23/2005 at 08:59
Discard: 11/23/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOS-4 SDG#: KMA71-12

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	N.D.	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	N.D.	0.010	mg/l	1
00235	Biochemical Oxygen Demand	n.a.	N.D.	2.7	mg/l	1
00273	Total Organic Carbon	n.a.	4.5	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.	10.3	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.	1.7	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.

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Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4601040

MA3-TG5-1-091205-4 Groundwater
091205-3,4,5,6 02687.007.007.0001
Moss American
Collected:09/12/2005 10:55 by BLC

Account Number: 07802

Submitted: 09/13/2005 09:10
Reported: 09/23/2005 at 08:59
Discard: 11/23/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOS-4 SDG#: KMA71-12

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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	09/16/2005 20:12	Venia B McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/13/2005 14:00	Shannon L Phillips	1
00220	Nitrate Nitrogen	EPA 353.2	1	09/16/2005 12:49	Kristina E Kleintop	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/13/2005 16:30	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/13/2005 23:45	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/13/2005 22:54	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	09/14/2005 13:52	Nicole M Kepley	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	09/15/2005 14:11	Kristina E Kleintop	1
01553	Chemical Oxygen Demand	EPA 410.2	1	09/20/2005 07:05	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	09/16/2005 07:03	Kathie J Bowman	1
00774	PAH's in Water by HPLC	SW-846 8310	1	09/19/2005 02:26	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/16/2005 07:03	Kathie J Bowman	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	09/15/2005 14:35	Nancy J Shoop	1
03337	PAH Water Extraction	SW-846 3510C	1	09/14/2005 05:00	Mark P Mastropietro	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	09/14/2005 15:50	Nancy J Shoop	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4601041

MA3-TG5-2-091205-5 Groundwater
091205-3,4,5,6 02687.007.007.0001
Moss American
Collected:09/12/2005 11:00 by BLC

Account Number: 07802

Submitted: 09/13/2005 09:10
Reported: 09/23/2005 at 08:59
Discard: 11/23/2005

Kerr-McGee Corporation
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Livonia MI 48150

MOS-5 SDG#: KMA71-13

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	0.91 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	0.97	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.	3.5	mg/l	1
00273	Total Organic Carbon	n.a.	6.4	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.	17.6	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.	1.7	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.	0.041	ug/l	1
00807	Fluoranthene	206-44-0	0.095 J	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	0.039 J	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.

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4601041

MA3-TG5-2-091205-5 Groundwater
091205-3,4,5,6 02687.007.007.0001
Moss American
Collected:09/12/2005 11:00 by BLC Account Number: 07802

Submitted: 09/13/2005 09:10 Kerr-McGee Corporation
Reported: 09/23/2005 at 08:59 PO Box 3048
Discard: 11/23/2005 Livonia MI 48150

MOS-5 SDG#: KMA71-13

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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	1	09/16/2005 20:12	Venia B McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/13/2005 14:04	Shannon L Phillips	1
00220	Nitrate Nitrogen	EPA 353.2	1	09/16/2005 12:50	Kristina E Kleintop	1
00221	Ammonia Nitrogen	EPA 350.2	1	09/13/2005 16:30	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/13/2005 23:45	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/13/2005 22:54	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	09/14/2005 14:00	Nicole M Kepley	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	09/15/2005 14:12	Kristina E Kleintop	1
01553	Chemical Oxygen Demand	EPA 410.2	1	09/20/2005 07:05	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	09/16/2005 07:43	Kathie J Bowman	1
00774	PAH's in Water by HPLC	SW-846 8310	1	09/19/2005 03:04	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/16/2005 07:43	Kathie J Bowman	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	1	09/15/2005 14:35	Nancy J Shoop	1
03337	PAH Water Extraction	SW-846 3510C	1	09/14/2005 05:00	Mark P Mastropietro	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	09/14/2005 15:50	Nancy J Shoop	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4601042

MA3-TG5-3-091205-6 Groundwater
091205-3,4,5,6 02687.007.007.0001
Moss American
Collected:09/12/2005 11:05 by BLC

Account Number: 07802

Submitted: 09/13/2005 09:10
Reported: 09/23/2005 at 08:59
Discard: 11/23/2005

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PO Box 3048
Livonia MI 48150

MOS-6 SDG#: KMA71-14

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00217	Kjeldahl Nitrogen	7727-37-9	1.0 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	N.D.	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.	2.6	mg/l	1
00273	Total Organic Carbon	n.a.	6.5	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.	15.6	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.	1.7	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.	0.041	ug/l	1
00807	Fluoranthene	206-44-0	0.046 J	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.

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Lancaster Laboratories Sample No. WW 4601042

MA3-TG5-3-091205-6 Groundwater
091205-3,4,5,6 02687.007.007.0001
Moss American
Collected:09/12/2005 11:05 by BLC

Account Number: 07802

Submitted: 09/13/2005 09:10
Reported: 09/23/2005 at 08:59
Discard: 11/23/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOS-6 SDG#: KMA71-14

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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00217	Kjeldahl Nitrogen	EPA 351.2	2	09/21/2005 17:25	Venia B McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	09/13/2005 14:05	Shannon L Phillips	1
00220	Nitrate Nitrogen	EPA 353.2	1	09/16/2005 12:56	Kristina E Kleintop	1
00221	Ammonia Nitrogen	EPA 350.2	2	09/22/2005 16:00	Luz M Groff	1
00226	Ortho-Phosphate as P	EPA 365.3	1	09/13/2005 23:45	Daniel S Smith	1
00235	Biochemical Oxygen Demand	EPA 405.1	1	09/13/2005 22:54	Nicole R Rohrer	1
00273	Total Organic Carbon	EPA 415.1	1	09/14/2005 14:24	Nicole M Kepley	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	09/15/2005 14:14	Kristina E Kleintop	1
01553	Chemical Oxygen Demand	EPA 410.2	1	09/20/2005 07:05	Susan A Engle	1
08213	BTEX (8021)	SW-846 8021B	1	09/16/2005 10:22	Kathie J Bowman	1
00774	PAH's in Water by HPLC	SW-846 8310	1	09/19/2005 03:43	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/16/2005 10:22	Kathie J Bowman	1
01460	Total Kjeldahl Nitrogen Digest	EPA 351.2	2	09/19/2005 15:50	Nancy J Shoop	1
03337	PAH Water Extraction	SW-846 3510C	1	09/14/2005 05:00	Mark P Mastropietro	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	09/14/2005 15:50	Nancy J Shoop	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4601043

MA3-TB-091205-15 **Groundwater**
091205-4 **02687.007.007.0001**
Moss American
Collected:09/12/2005 19:10

Account Number: 07802

Submitted: 09/13/2005 09:10
Reported: 09/23/2005 at 08:59
Discard: 11/23/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOSTB SDG#: KMA71-15TB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/15/2005 21:06	Kathie J Bowman	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/15/2005 21:06	Kathie J Bowman	1

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Lancaster Laboratories

Quality Control Summary

Client Name: Kerr-McGee Corporation
Reported: 09/23/05 at 09:00 AM

Group Number: 958917

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: 05256022101A	Sample number(s): 4601030,4601038-4601041							
Ammonia Nitrogen	N.D.	0.11	mg/l	97	97	91-100	0	1
Batch number: 05256022601A	Sample number(s): 4601030,4601038-4601042							
Ortho-Phosphate as P	N.D.	0.010	mg/l	101		95-105		
Batch number: 05256023501A	Sample number(s): 4601030,4601038-4601042							
Biochemical Oxygen Demand				106	106	85-115	0	8
Batch number: 05256105101B	Sample number(s): 4601030,4601038-4601042							
Nitrite Nitrogen	N.D.	0.015	mg/l	99		90-110		
Batch number: 05256WAJ026	Sample number(s): 4601029-4601042							
Naphthalene	N.D.	1.6	ug/l	80	79	57-109	1	30
Acenaphthylene	N.D.	1.6	ug/l	83	82	67-99	1	30
Acenaphthene	N.D.	1.6	ug/l	85	85	60-116	1	30
Fluorene	N.D.	0.50	ug/l	90	89	61-116	1	30
Phenanthrene	N.D.	0.080	ug/l	92	92	67-115	1	30
Anthracene	N.D.	0.040	ug/l	88	88	68-113	0	30
Fluoranthene	N.D.	0.040	ug/l	91	91	70-112	0	30
Pyrene	N.D.	0.18	ug/l	89	89	69-113	1	30
Benzo(a)anthracene	N.D.	0.020	ug/l	94	95	73-114	1	30
Benzo(b)fluoranthene	N.D.	0.040	ug/l	94	96	72-113	1	30
Benzo(a)pyrene	N.D.	0.020	ug/l	94	95	68-112	1	30
Dibenz(a,h)anthracene	N.D.	0.040	ug/l	84	91	19-129	8	30
Indeno(1,2,3-cd)pyrene	N.D.	0.080	ug/l	91	94	67-106	2	30
Benzo(g,h,i)perylene	N.D.	0.10	ug/l	76	86	7-126	12	30
Chrysene	N.D.	0.080	ug/l	91	91	70-111	0	30
Benzo(k)fluoranthene	N.D.	0.020	ug/l	96	96	72-119	1	30
Batch number: 05257110101B	Sample number(s): 4601030,4601038-4601042							
Total Phosphorus as PO4 water	N.D.	0.25	mg/l	98		89-110		
Batch number: 05257113011A	Sample number(s): 4601030,4601038-4601042							
Total Organic Carbon	N.D.	0.50	mg/l	102		84-115		
Batch number: 05258108101A	Sample number(s): 4601030,4601038-4601040							

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

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

Lancaster Laboratories

Quality Control Summary

Client Name: Kerr-McGee Corporation Group Number: 958917
Reported: 09/23/05 at 09:00 AM

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Kjeldahl Nitrogen	N.D.	0.50	mg/l	96		90-110		
Batch number: 05258108101B	Sample number(s): 4601041							
Kjeldahl Nitrogen	N.D.	0.50	mg/l	96		90-110		
Batch number: 05258A15A	Sample number(s): 4601031,4601033-4601034,4601043							
Benzene	N.D.	0.2	ug/l	103	101	86-119	2	30
Toluene	N.D.	0.2	ug/l	102	101	82-119	1	30
Ethylbenzene	N.D.	0.2	ug/l	101	100	81-119	1	30
Total Xylenes	N.D.	0.6	ug/l	99	99	82-120	1	30
Batch number: 05258A15B	Sample number(s): 4601029-4601030,4601032,4601035-4601041							
Benzene	N.D.	0.2	ug/l	103	101	86-119	2	30
Toluene	N.D.	0.2	ug/l	102	101	82-119	1	30
Ethylbenzene	N.D.	0.2	ug/l	101	100	81-119	1	30
Total Xylenes	N.D.	0.6	ug/l	99	99	82-120	1	30
Batch number: 05258A15C	Sample number(s): 4601042							
Benzene	N.D.	0.2	ug/l	103	101	86-119	2	30
Toluene	N.D.	0.2	ug/l	102	101	82-119	1	30
Ethylbenzene	N.D.	0.2	ug/l	101	100	81-119	1	30
Total Xylenes	N.D.	0.6	ug/l	99	99	82-120	1	30
Batch number: 05259106102B	Sample number(s): 4601030,4601038-4601042							
Nitrate Nitrogen	N.D.	0.040	mg/l	98		89-110		
Batch number: 05262108101A	Sample number(s): 4601042							
Kjeldahl Nitrogen	N.D.	0.50	mg/l	96		90-110		
Batch number: 05263155301A	Sample number(s): 4601030,4601038-4601042							
Chemical Oxygen Demand				95		87-102		
Batch number: 05265022101A	Sample number(s): 4601042							
Ammonia Nitrogen	N.D.	0.11	mg/l	96		91-100		

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: 05256022101A	Sample number(s): 4601030,4601038-4601041								
Ammonia Nitrogen						81.3	81.7	1	2
Batch number: 05256022601A	Sample number(s): 4601030,4601038-4601042								
Ortho-Phosphate as P	106	101	88-113	5	5	N.D.	N.D.	200* (1)	8

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

Lancaster Laboratories

Quality Control Summary

Client Name: Kerr-McGee Corporation Group Number: 958917
Reported: 09/23/05 at 09:00 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: 05256023501A	Sample number(s): 4601030,4601038-4601042								
Biochemical Oxygen Demand	114	113	67-144	1	9	424.	427.	1	9
Batch number: 05256105101B	Sample number(s): 4601030,4601038-4601042								
Nitrite Nitrogen	104		90-110			N.D.	N.D.	0 (1)	20
Batch number: 05257110101B	Sample number(s): 4601030,4601038-4601042								
Total Phosphorus as PO4 water	104		90-110			N.D.	N.D.	56* (1)	3
Batch number: 05257113011A	Sample number(s): 4601030,4601038-4601042								
Total Organic Carbon	110		67-130			10.	10.0	1 (1)	4
Batch number: 05258108101A	Sample number(s): 4601030,4601038-4601040								
Kjeldahl Nitrogen	100		90-110			N.D.	N.D.	6 (1)	7
Batch number: 05258108101B	Sample number(s): 4601041								
Kjeldahl Nitrogen	94		90-110			0.91 J	0.94 J	3 (1)	7
Batch number: 05258A15A	Sample number(s): 4601031,4601033-4601034,4601043								
Benzene	102	100	78-131	2	30				
Toluene	105	102	78-129	2	30				
Ethylbenzene	105	103	75-133	2	30				
Total Xylenes	102	101	80-134	2	30				
Batch number: 05258A15B	Sample number(s): 4601029-4601030,4601032,4601035-4601041								
Benzene	102	100	78-131	2	30				
Toluene	105	102	78-129	2	30				
Ethylbenzene	105	103	75-133	2	30				
Total Xylenes	102	101	80-134	2	30				
Batch number: 05258A15C	Sample number(s): 4601042								
Benzene	102	100	78-131	2	30				
Toluene	105	102	78-129	2	30				
Ethylbenzene	105	103	75-133	2	30				
Total Xylenes	102	101	80-134	2	30				
Batch number: 05259106102B	Sample number(s): 4601030,4601038-4601042								
Nitrate Nitrogen	101		90-110			N.D.	N.D.	0 (1)	2
Batch number: 05262108101A	Sample number(s): 4601042								
Kjeldahl Nitrogen	96		90-110			N.D.	N.D.	2 (1)	7
Batch number: 05263155301A	Sample number(s): 4601030,4601038-4601042								
Chemical Oxygen Demand	95	97	60-129	1	5	336.	344.	2 (1)	8
Batch number: 05265022101A	Sample number(s): 4601042								

*- 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: 958917
Reported: 09/23/05 at 09:00 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
Ammonia Nitrogen	(2)	(2)	64-128	1	8	121,000.	120,000.	1	2

Surrogate Quality Control

Analysis Name: PAH's in Water by HPLC
Batch number: 05256WAJ026

	Nitrobenzene	Triphenylene
4601029	95	5853*
4601030	80	19730*
4601031	117	101
4601032	130	96
4601033	109	93
4601034	105	93
4601035	122	95
4601036	104	93
4601037	110	92
4601038	105	98
4601039	121	95
4601040	117	93
4601041	110	95
4601042	119	93
Blank	111	96
LCS	112	100
LCSD	113	100
Limits:	63-154	55-130

Analysis Name: BTEX (8021)
Batch number: 05258A15A

	Trifluorotoluene-P
4601031	121
4601033	123
4601034	119
4601043	124
Blank	127
LCS	123
LCSD	118
MS	119
MSD	122
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.

Lancaster Laboratories

Quality Control Summary

Client Name: Kerr-McGee Corporation Group Number: 958917
Reported: 09/23/05 at 09:00 AM

Surrogate Quality Control

Analysis Name: BTEX (8021)
Batch number: 05258A15B

	Trifluorotoluene-P
4601029	122
4601030	125
4601032	121
4601035	119
4601036	121
4601037	120
4601038	119
4601039	122
4601040	124
4601041	121
Blank	122
LCS	123
LCSD	118
MS	119
MSD	122
Limits:	69-129

Analysis Name: BTEX (8021)
Batch number: 05258A15C

	Trifluorotoluene-P
4601042	122
Blank	121
LCS	123
LCSD	118
MS	119
MSD	122
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

SDG# KMA72

Inter-Office Memorandum

TO: Tom Graan

FROM: Tania Shammo **DATE:** October 5, 2005

SUBJECT: Data Validation: SDG#: KMA72
Moss American Superfund Site

I have reviewed the analytical data for Kerr-McGee Corporation (Moss American Site- Grab Groundwater) water samples collected on 09/12/05 & 09/13/05, which were provided by Lancaster Laboratories. The samples were analyzed for Polynuclear Aromatic Hydrocarbons PAHs, and Petroleum analyses (BETX).

Polynuclear Aromatic Hydrocarbons (PAHs by HPLC, U.S. EPA Method 8310)
Moss American Site
SDG # KMA72

1. Samples:

Client Sample Description:	Lab Sample Number	Matrix	Date Collected	Date Extracted	Date Analyzed
MA3-MWF-091305-2	4602054	Ground water	09/13/05	09/16/05	09/19/05
MA3-MWF-091305-2-DP	4602055	Ground water	09/13/05	09/16/05	09/19/05
MA3-MWG-091305-1	4602056	Ground water	09/13/05	09/16/05	09/19/05
MA3-MWG-091305-1-MS	4602057	Ground water	09/13/05	09/16/05	09/19/05
MA3-MWG-091305-1-MSD	4602058	Ground water	09/13/05	09/16/05	09/19/05
MA3-FB-091305-7	4602059	Ground water	09/13/05	09/16/05	09/19/05
MA3-MWE-091205-16	4602060	Ground water	09/12/05	09/16/05	09/19/05
MA3-MWH-091305-3	4602061	Ground water	09/13/05	09/16/05	09/19/05
MA3-MW1-091305-4	4602062	Ground water	09/13/05	09/16/05	09/19/05
MA3-MWJ-091305-5	4602063	Ground water	09/13/05	09/16/05	09/19/05

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

3. Method Blank:
The method blank SBLKWF2582 was analyzed on 09/19/05 with samples 4602054 thru 4602063 and the results were free of contamination.

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

5. Matrix Spike/Matrix Spike Duplicate Recovery:
A matrix spike was performed on sample 4602056 and associated with 4602054 thru 4602063. The MS/MSD recoveries were within the quality control limit. Also, the RPD values were acceptable.

6. Laboratory Control Sample:
The associated laboratories control sample with 4602054 thru 4602063 recoveries was within the acceptance quality control limit.

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

8. Initial and Continuing Calibration:
The initial calibration and continuing calibration verification were all acceptable.

However, the retention time, initial and continuing calibration results were used in the calculation from two detectors: 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, and indeno (1, 2, 3-cd) pyrene were taken from fluorescence detector.

BETX (U.S. EPA Method 8021B)
SDG # MMA72

1.Samples:

Client Sample Description:	Lab Sample Number	Matrix	Date Collected	Date Prepared	Date Analyzed
MA3-MWF-091305-2	4602054	Ground water	09/13/05	09/16/05	09/16/05
MA3-MWF-091305-2-DP	4602055	Ground water	09/13/05	09/16/05	09/16/05
MA3-MWG-091305-1	4602056	Ground water	09/13/05	09/16/05	09/16/05
MA3-MWG-091305-1-MS	4602057	Ground water	09/13/05	09/16/05	09/16/05
MA3-MWG-091305-1-MSD	4602058	Ground water	09/13/05	09/16/05	09/16/05
MA3-FB-091305-7	4602059	Ground water	09/13/05	09/16/05	09/16/05
MA3-MWE-091205-16	4602060	Ground water	09/12/05	09/16/05	09/16/05
MA3-MWH-091305-3	4602061	Ground water	09/13/05	09/19/05	09/19/05
MA3-MW1-091305-4	4602062	Ground water	09/13/05	09/17/05	09/17/05
MA3-MWJ-091305-5	4602063	Ground water	09/13/05	09/17/05	09/17/05
MA3-TB-091305-8	4602064	Ground water	09/13/05	09/17/05	09/17/05

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

3. Method Blank:
Five methods blanks were associated with this SDG. The method blank **BLK1523** was analyzed on 09/15/05 with LCS/LCSD and results were free of contamination.

The method blank **BLK1525** was analyzed on 09/16/05 with 4602054, 4602055, 4602056, MS/MSD and results were free of contamination.

The method blank **BLK1526** was analyzed on 09/16/05 with 4602060, 4602060MS, LCS/LCSD and results were free of contamination.

The method blank **BLK1527** was analyzed on 09/16/05 with 4602059, 4602062, 4602063, 4602064 and results were free of contamination.

The method blank **BLK1529** was analyzed on 09/19/05 with 4602061, 4602786, 4602786MS/MSD, LCS/LCSD and results were free of contamination.

4. Matrix Spike/Matrix Spike Duplicate :
A matrix spike was performed on 4602056 and associated with 4602054 thru 4602058. The MS/MSD recoveries were within the quality control limit. Also, the RPD values were acceptable.

Sufficient sample volume was not available to perform a MSD for the analysis; therefore, an MS was performed on 4602060 and associated with 4602059, 4602060 and 4602062 thru 4602064. The MS recoveries were within the quality control limit.

A matrix spike was performed on 4602786 from different SDG and associated with 4602061. The MS/MSD recoveries were within the quality control limit. Also, the RPD values were acceptable.

5. Laboratory control Sample:

The associated laboratories control samples/laboratories control samples duplicates associated with 4602054 thru 4602058 recoveries were within the control limit. Also, the RPD% values were acceptable.

The associated laboratories control samples/laboratories control samples duplicates associated with 4602059, 4602060 and 4602062 thru 4602064 recoveries were within the control limit. Also, the RPD% values were acceptable.

The associated laboratories control samples/laboratories control samples duplicates associated with 4602061 recoveries were within the control limit. 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.

Summary

Results of this review:

1. All sample results in this sample group are considered usable.

Data Reviewed by: Tania Shammo Date: 10/05/05

Account# 07802 Group# 959122 Sample# 410020S4-64

COC ID: COC-091305-1

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 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	SW846 8310-PAHS									
						Filtered									
						Container	1-L Amber								
						Preservative	N/A								
	MA3-MWF-091305-2	G		N	9/13/2005 10:45	2									
	MA3-MWF-091305-2-DP	G		N	9/13/2005 10:45	2									
	MA3-MWG-091305-1	G		N	9/13/2005 10:30	2									
	MA3-MWG-091305-1-MSD	G		MS	9/13/2005 10:30	4									

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
							9/14/05 0930

Sampled By: [signature]

Account# 07802 Group# 959122 Sample# 460254-64

COC ID: COC-091305-2

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 | Lab Phone: 717-656-2308 X1527

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	SW846 8310-PAHS									
						Filtered									
						Container	1-L Amber								
						Preservative	N/A								
	MA3-FB-091305-7	G		N	9/13/2005 16:00	2									
	MA3-MWB-091205-16	G		N	9/12/2005 17:35	2									
	MA3-MWH-091305-3	G		N	9/13/2005 11:40	2									
	MA3-MW1-091305-4	G		N	9/13/2005 12:25	2									
	MA3-MW3-091305-5	G		N	9/13/2005 12:40	2									

Remarks/Comments

Sampled By: Benjamin Canfield

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
							9/14/05 0910

Account # 07802 Group # 959122 Sample # 460254-64

Chain of Custody Record

WESTON

COC ID: COC-091305-3

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		Lab Phone	717-656-2308 X1527

Lab ID	Sample ID	Matrix	PID	MS/MSD	Date-Time Collected	SW846 8021B-BTEX
					Filtered	
					Container	40 ml Vials
					Preservative	HCl
	MA3-FB-091305-7	G		N	9/13/2005 16:00	3
	MA3-MWE-091205-16	G		N	9/12/2005 17:35	3
	MA3-MWF-091305-2	G		N	9/13/2005 10:45	3
	MA3-MWF-091305-2-DP	G		N	9/13/2005 10:45	3
	MA3-MWG-091305-1	G		N	9/13/2005 10:30	3
	MA3-MWG-091305-1-MSD	G		Y ~~X~~ e	9/13/2005 10:30	~~3~~ 6 e
	MA3-MWH-091305-3	G		N	9/13/2005 11:40	3
	MA3-MWI-091305-4	G		N	9/13/2005 12:25	3
	MA3-MWJ-091305-5	G		N	9/13/2005 12:40	3
	~~MA3-MWK-091305-6~~	~~G~~		~~N~~	~~9/13/2005 15:40~~	~~3~~ e
	~~MA3-MWK-091305-6-DP~~	~~G~~		~~N~~	~~9/13/2005 15:40~~	~~3~~ e
	MA3-TB-091305-8	G		N	9/13/2005 16:15	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 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]	9/14/05 0900

#3 of 20
9/14/05

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 959122. Samples arrived at the laboratory on Wednesday, September 14, 2005. The PO# for this group is ZAKW1KEOK0A90089.

Client Description		Lancaster Labs Number
MA3-MWF-091305-2	Groundwater	4602054
MA3-MWF-091305-2-DP	Groundwater	4602055
MA3-MWG-091305-1	Groundwater	4602056
MA3-MWG-091305-1-MS	Groundwater	4602057
MA3-MWG-091305-1-MSD	Groundwater	4602058
MA3-FB-091305-7	Groundwater	4602059
MA3-MWE-091205-16	Groundwater	4602060
MA3-MWH-091305-3	Groundwater	4602061
MA3-MWI-091305-4	Groundwater	4602062
MA3-MWJ-091305-5	Groundwater	4602063
MA3-TB-091305-8	Groundwater	4602064

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	Kerr-McGee Corporation	Attn: Roy Widmann
1 COPY TO	Data Package Group	

Lancaster Laboratories

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

Respectfully Submitted,

Dana M. Kauffman
Manager

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 4602054

MA3-MWF-091305-2 Groundwater
091305-1,3 02687.007.007.0001
Moss American
Collected:09/13/2005 10:45 by BLC

Account Number: 07802

Submitted: 09/14/2005 09:10
Reported: 09/22/2005 at 14:45
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOSWF SDG#: KMA72-01

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.	1.7	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.	0.042	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.	0.085	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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/16/2005 11:02	Kathie J Bowman	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 4602054

MA3-MWF-091305-2 Groundwater
091305-1,3 02687.007.007.0001
Moss American
Collected:09/13/2005 10:45 by BLC

Account Number: 07802

Submitted: 09/14/2005 09:10
Reported: 09/22/2005 at 14:45
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOSWF SDG#: KMA72-01

00774	PAH's in Water by HPLC	SW-846 8310	1	09/19/2005 12:12	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/16/2005 11:02	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/16/2005 06:35	Denise L Trimby	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4602055

MA3-MWF-091305-2-DP Groundwater
091305-1,3 02687.007.007.0001
Moss American
Collected:09/13/2005 10:45 by BLC Account Number: 07802

Submitted: 09/14/2005 09:10 Kerr-McGee Corporation
Reported: 09/22/2005 at 14:45 PO Box 3048
Discard: 11/22/2005 Livonia MI 48150

MOSFD SDG#: KMA72-02FD

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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/16/2005 11:42	Kathie J Bowman	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 4602055

MA3-MWF-091305-2-DP Groundwater
091305-1,3 02687.007.007.0001
Moss American
Collected:09/13/2005 10:45 by BLC

Account Number: 07802

Submitted: 09/14/2005 09:10
Reported: 09/22/2005 at 14:45
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOSFD SDG#: KMA72-02FD

00774	PAH's in Water by HPLC	SW-846 8310	1	09/19/2005 12:50	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/16/2005 11:42	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/16/2005 06:35	Denise L Trimby	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4602056

MA3-MWG-091305-1 Groundwater
091305-1,3 02687.007.007.0001
Moss American
Collected:09/13/2005 10:30 by BLC Account Number: 07802

Submitted: 09/14/2005 09:10 Kerr-McGee Corporation
Reported: 09/22/2005 at 14:45 PO Box 3048
Discard: 11/22/2005 Livonia MI 48150

MOSWG SDG#: KMA72-03BKG

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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/16/2005 12:22	Kathie J Bowman	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 4602056

MA3-MWG-091305-1 Groundwater
091305-1,3 02687.007.007.0001
Moss American
Collected:09/13/2005 10:30 by BLC

Account Number: 07802

Submitted: 09/14/2005 09:10
Reported: 09/22/2005 at 14:45
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOSWG SDG#: KMA72-03BKG

00774	PAH's in Water by HPLC	SW-846 8310	1	09/19/2005 10:16	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/16/2005 12:22	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/16/2005 06:35	Denise L Trimby	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4602057

MA3-MWG-091305-1-MS Groundwater
091305-1,3 02687.007.007.0001
Moss American
Collected:09/13/2005 10:30 by BLC Account Number: 07802

Submitted: 09/14/2005 09:10
Reported: 09/22/2005 at 14:45
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOSWG SDG#: KMA72-03MS

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	21.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	21.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	61.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	180.	1.7	ug/l	1
00782	Acenaphthylene	208-96-8	180.	1.7	ug/l	1
00783	Acenaphthene	83-32-9	180.	1.7	ug/l	1
00784	Fluorene	86-73-7	19.	0.53	ug/l	1
00785	Phenanthrene	85-01-8	5.9	0.085	ug/l	1
00789	Anthracene	120-12-7	2.9	0.042	ug/l	1
00807	Fluoranthene	206-44-0	2.9	0.042	ug/l	1
00811	Pyrene	129-00-0	18.	0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	1.5	0.021	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	1.2	0.042	ug/l	1
00823	Benzo(a)pyrene	50-32-8	1.5	0.021	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	2.8	0.042	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	5.8	0.085	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	11.	0.11	ug/l	1
07409	Chrysene	218-01-9	5.7	0.085	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	1.2	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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/16/2005 13:02	Kathie J Bowman	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4602057

MA3-MWG-091305-1-MS Groundwater
091305-1,3 02687.007.007.0001
Moss American
Collected:09/13/2005 10:30 by BLC

Account Number: 07802

Submitted: 09/14/2005 09:10
Reported: 09/22/2005 at 14:45
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOSWG SDG#: KMA72-03MS

00774	PAH's in Water by HPLC	SW-846 8310	1	09/19/2005 10:55	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/16/2005 13:02	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/16/2005 06:35	Denise L Trimby	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4602058

MA3-MWG-091305-1-MSD Groundwater
091305-1,3 02687.007.007.0001
Moss American
Collected:09/13/2005 10:30 by BLC

Account Number: 07802

Submitted: 09/14/2005 09:10
Reported: 09/22/2005 at 14:45
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOSWG SDG#: KMA72-03MSD

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	20.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	21.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	60.	0.6	ug/l	1
00774	PAH's in Water by HPLC					
00775	Naphthalene	91-20-3	170.	1.7	ug/l	1
00782	Acenaphthylene	208-96-8	180.	1.7	ug/l	1
00783	Acenaphthene	83-32-9	180.	1.7	ug/l	1
00784	Fluorene	86-73-7	19.	0.52	ug/l	1
00785	Phenanthrene	85-01-8	5.8	0.083	ug/l	1
00789	Anthracene	120-12-7	2.8	0.042	ug/l	1
00807	Fluoranthene	206-44-0	2.8	0.042	ug/l	1
00811	Pyrene	129-00-0	18.	0.19	ug/l	1
00812	Benzo(a)anthracene	56-55-3	1.5	0.021	ug/l	1
00818	Benzo(b)fluoranthene	205-99-2	1.2	0.042	ug/l	1
00823	Benzo(a)pyrene	50-32-8	1.5	0.021	ug/l	1
00895	Dibenz(a,h)anthracene	53-70-3	2.8	0.042	ug/l	1
00898	Indeno(1,2,3-cd)pyrene	193-39-5	5.7	0.083	ug/l	1
00907	Benzo(g,h,i)perylene	191-24-2	10.	0.10	ug/l	1
07409	Chrysene	218-01-9	5.6	0.083	ug/l	1
07410	Benzo(k)fluoranthene	207-08-9	1.2	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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/16/2005 13:42	Kathie J Bowman	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4602058

MA3-MWG-091305-1-MSD Groundwater
091305-1,3 02687.007.007.0001
Moss American
Collected:09/13/2005 10:30 by BLC

Account Number: 07802

Submitted: 09/14/2005 09:10
Reported: 09/22/2005 at 14:45
Discard: 11/22/2005

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PO Box 3048
Livonia MI 48150

MOSWG SDG#: KMA72-03MSD

00774	PAH's in Water by HPLC	SW-846 8310	1	09/19/2005 11:33	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/16/2005 13:42	Kathie J Bowman	1
03337	PAH Water Extraction	SW-846 3510C	1	09/16/2005 06:35	Denise L Trimby	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4602059

MA3-FB-091305-7 Groundwater
091305-2,3 02687.007.007.0001
Moss American
Collected:09/13/2005 16:00 by BLC Account Number: 07802

Submitted: 09/14/2005 09:10 Kerr-McGee Corporation
Reported: 09/22/2005 at 14:46 PO Box 3048
Discard: 11/22/2005 Livonia MI 48150

MOSFB SDG#: KMA72-04FB

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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/16/2005 23:34	Brian C Veety	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 4602059

MA3-FB-091305-7 **Groundwater**
091305-2,3 **02687.007.007.0001**
Moss American
Collected:09/13/2005 16:00 by BLC

Account Number: 07802

Submitted: 09/14/2005 09:10
Reported: 09/22/2005 at 14:46
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOSFB SDG#: KMA72-04FB

00774	PAH's in Water by HPLC	SW-846 8310	1	09/19/2005 13:29	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/16/2005 23:34	Brian C Veety	1
03337	PAH Water Extraction	SW-846 3510C	1	09/16/2005 06:35	Denise L Trimby	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4602060

MA3-MWE-091205-16 Groundwater
091305-2,3 02687.007.007.0001
Moss American
Collected:09/12/2005 17:35 by BLC Account Number: 07802

Submitted: 09/14/2005 09:10 Kerr-McGee Corporation
Reported: 09/22/2005 at 14:46 PO Box 3048
Discard: 11/22/2005 Livonia MI 48150

MOSWE SDG#: KMA72-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	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	0.072 J	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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/16/2005 18:55	Brian C Veety	1

MEMBER ACIL
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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 4602060

MA3-MWE-091205-16 Groundwater
091305-2,3 02687.007.007.0001
Moss American
Collected:09/12/2005 17:35 by BLC

Account Number: 07802

Submitted: 09/14/2005 09:10
Reported: 09/22/2005 at 14:46
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOSWE SDG#: KMA72-05

00774	PAH's in Water by HPLC	SW-846 8310	1	09/19/2005 14:07	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/16/2005 18:55	Brian C Veety	1
03337	PAH Water Extraction	SW-846 3510C	1	09/16/2005 06:35	Denise L Trimby	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4602061

MA3-MWH-091305-3 Groundwater
091305-2,3 02687.007.007.0001
Moss American
Collected:09/13/2005 11:40 by BLC

Account Number: 07802

Submitted: 09/14/2005 09:10
Reported: 09/22/2005 at 14:46
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOSWH SDG#: KMA72-06

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	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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/19/2005 14:49	Brian C Veety	1

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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4602061

MA3-MWH-091305-3 Groundwater
091305-2,3 02687.007.007.0001
Moss American
Collected:09/13/2005 11:40 by BLC

Account Number: 07802

Submitted: 09/14/2005 09:10
Reported: 09/22/2005 at 14:46
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOSWH SDG#: KMA72-06

00774	PAH's in Water by HPLC	SW-846 8310	1	09/19/2005 15:25	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/19/2005 14:49	Brian C Veety	1
03337	PAH Water Extraction	SW-846 3510C	1	09/16/2005 06:35	Denise L Trimby	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4602062

MA3-MWI-091305-4 Groundwater
091305-2,3 02687.007.007.0001
Moss American
Collected:09/13/2005 12:25 by BLC

Account Number: 07802

Submitted: 09/14/2005 09:10
Reported: 09/22/2005 at 14:46
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOSWI SDG#: KMA72-07

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.	1.6	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.	0.52	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.	0.19	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.	0.082	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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/17/2005 02:13	Brian C Veety	1
00774	PAH's in Water by HPLC	SW-846 8310	1	09/19/2005 16:03	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/17/2005 02:13	Brian C Veety	1
03337	PAH Water Extraction	SW-846 3510C	1	09/16/2005 06:35	Denise L Trimby	1

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4602062

MA3-MWI-091305-4 Groundwater
091305-2,3 02687.007.007.0001
Moss American
Collected:09/13/2005 12:25 by BLC

Account Number: 07802

Submitted: 09/14/2005 09:10
Reported: 09/22/2005 at 14:46
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOSWI SDG#: KMA72-07

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4602063

MA3-MWJ-091305-5 Groundwater
091305-2,3 02687.007.007.0001
Moss American
Collected:09/13/2005 12:40 by BLC Account Number: 07802

Submitted: 09/14/2005 09:10
Reported: 09/22/2005 at 14:46
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOSWJ SDG#: KMA72-08

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.	0.52	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.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/17/2005 02:53	Brian C Veety	1

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

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4602063

MA3-MWJ-091305-5 Groundwater
091305-2,3 02687.007.007.0001
Moss American
Collected:09/13/2005 12:40 by BLC

Account Number: 07802

Submitted: 09/14/2005 09:10
Reported: 09/22/2005 at 14:46
Discard: 11/22/2005

Kerr-McGee Corporation
PO Box 3048
Livonia MI 48150

MOSWJ SDG#: KMA72-08

00774	PAH's in Water by HPLC	SW-846 8310	1	09/19/2005 16:42	Mark A Clark	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/17/2005 02:53	Brian C Veety	1
03337	PAH Water Extraction	SW-846 3510C	1	09/16/2005 06:35	Denise L Trimby	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4602064

MA3-TB-091305-8 Groundwater
091305-3 02687.007.007.0001
Moss American
Collected:09/13/2005 16:15 Account Number: 07802

Submitted: 09/14/2005 09:10 Kerr-McGee Corporation
Reported: 09/22/2005 at 14:46 PO Box 3048
Discard: 11/22/2005 Livonia MI 48150

MOSQA SDG#: KMA72-09TB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09/17/2005 00:14	Brian C Veety	1
01146	GC VOA Water Prep	SW-846 5030B	1	09/17/2005 00:14	Brian C Veety	1

Lancaster Laboratories

Quality Control Summary

Client Name: Kerr-McGee Corporation
Reported: 09/22/05 at 02:46 PM

Group Number: 959122

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: 05258A15C	Sample number(s): 4602054-4602058							
Benzene	N.D.	0.2	ug/l	103	101	86-119	2	30
Toluene	N.D.	0.2	ug/l	102	101	82-119	1	30
Ethylbenzene	N.D.	0.2	ug/l	101	100	81-119	1	30
Total Xylenes	N.D.	0.6	ug/l	99	99	82-120	1	30
Batch number: 05258WAF026	Sample number(s): 4602054-4602063							
Naphthalene	N.D.	1.6	ug/l	78		57-109		
Acenaphthylene	N.D.	1.6	ug/l	82		67-99		
Acenaphthene	N.D.	1.6	ug/l	81		60-116		
Fluorene	N.D.	0.50	ug/l	87		61-116		
Phenanthrene	N.D.	0.080	ug/l	90		67-115		
Anthracene	N.D.	0.040	ug/l	86		68-113		
Fluoranthene	N.D.	0.040	ug/l	87		70-112		
Pyrene	N.D.	0.18	ug/l	83		69-113		
Benzo(a)anthracene	N.D.	0.020	ug/l	89		73-114		
Benzo(b)fluoranthene	N.D.	0.040	ug/l	89		72-113		
Benzo(a)pyrene	N.D.	0.020	ug/l	88		68-112		
Dibenz(a,h)anthracene	N.D.	0.040	ug/l	43		19-129		
Indeno(1,2,3-cd)pyrene	N.D.	0.080	ug/l	78		67-106		
Benzo(g,h,i)perylene	N.D.	0.10	ug/l	26		7-126		
Chrysene	N.D.	0.080	ug/l	86		70-111		
Benzo(k)fluoranthene	N.D.	0.020	ug/l	89		72-119		
Batch number: 05259A15A	Sample number(s): 4602060							
Benzene	N.D.	0.2	ug/l	107	106	86-119	2	30
Toluene	N.D.	0.2	ug/l	106	107	82-119	1	30
Ethylbenzene	N.D.	0.2	ug/l	105	106	81-119	1	30
Total Xylenes	N.D.	0.6	ug/l	103	104	82-120	1	30
Batch number: 05259A15B	Sample number(s): 4602059,4602062-4602064							
Benzene	N.D.	0.2	ug/l	107	106	86-119	2	30
Toluene	0.2 J	0.2	ug/l	106	107	82-119	1	30
Ethylbenzene	N.D.	0.2	ug/l	105	106	81-119	1	30
Total Xylenes	N.D.	0.6	ug/l	103	104	82-120	1	30
Batch number: 05262A15A	Sample number(s): 4602061							

*- 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: 959122
Reported: 09/22/05 at 02:46 PM

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Benzene	N.D.	0.2	ug/l	104	109	86-119	5	30
Toluene	N.D.	0.2	ug/l	107	113	82-119	6	30
Ethylbenzene	N.D.	0.2	ug/l	102	109	81-119	6	30
Total Xylenes	N.D.	0.6	ug/l	103	108	82-120	5	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: 05258A15C	Sample number(s): 4602054-4602058								
Benzene	102	100	78-131	2	30				
Toluene	105	102	78-129	2	30				
Ethylbenzene	105	103	75-133	2	30				
Total Xylenes	102	101	80-134	2	30				
Batch number: 05258WAF026	Sample number(s): 4602054-4602063								
Naphthalene	84	84	54-112	2	30				
Acenaphthylene	85	85	63-104	2	30				
Acenaphthene	86	86	59-114	2	30				
Fluorene	91	91	71-99	1	30				
Phenanthrene	93	93	66-115	2	30				
Anthracene	92	91	68-104	2	30				
Fluoranthene	92	91	67-104	2	30				
Pyrene	87	88	66-106	1	30				
Benzo(a)anthracene	93	93	63-111	1	30				
Benzo(b)fluoranthene	93	92	71-106	2	30				
Benzo(a)pyrene	94	94	69-109	2	30				
Dibenz(a,h)anthracene	90	89	35-129	2	30				
Indeno(1,2,3-cd)pyrene	92	91	56-112	3	30				
Benzo(g,h,i)perylene	84	84	35-126	2	30				
Chrysene	90	89	60-107	2	30				
Benzo(k)fluoranthene	94	93	70-109	3	30				
Batch number: 05259A15A	Sample number(s): 4602060								
Benzene	114		78-131						
Toluene	113		78-129						
Ethylbenzene	114		75-133						
Total Xylenes	112		80-134						
Batch number: 05259A15B	Sample number(s): 4602059,4602062-4602064								
Benzene	114		78-131						
Toluene	113		78-129						
Ethylbenzene	114		75-133						
Total Xylenes	112		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.

Lancaster Laboratories

Quality Control Summary

Client Name: Kerr-McGee Corporation Group Number: 959122
Reported: 09/22/05 at 02:46 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: 05262A15A	Sample number(s): 4602061								
Benzene	106	110	78-131	3	30				
Toluene	105	111	78-129	5	30				
Ethylbenzene	104	110	75-133	5	30				
Total Xylenes	102	107	80-134	5	30				

Surrogate Quality Control

Analysis Name: BTEX (8021)
Batch number: 05258A15C

	Trifluorotoluene-P
4602054	123
4602055	121
4602056	120
4602057	119
4602058	122
Blank	121
LCS	123
LCSD	118
MS	119
MSD	122
Limits:	69-129

Analysis Name: PAH's in Water by HPLC
Batch number: 05258WAF026

	Nitrobenzene	Triphenylene
4602054	102	91
4602055	120	93
4602056	109	97
4602057	107	97
4602058	102	97
4602059	119	94
4602060	106	93
4602061	112	96
4602062	107	85
4602063	116	93
Blank	111	89
LCS	103	93
MS	107	97
MSD	102	97

*- 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: 959122
Reported: 09/22/05 at 02:46 PM

Surrogate Quality Control

Limits:	63-154	55-130
Analysis Name: BTEX (8021)		
Batch number: 05259A15A		
	Trifluorotoluene-P	
4602060	119	
Blank	124	
LCS	121	
LCSD	122	
MS	123	
Limits:	69-129	
Analysis Name: BTEX (8021)		
Batch number: 05259A15B		
	Trifluorotoluene-P	
4602059	120	
4602062	124	
4602063	120	
4602064	120	
Blank	122	
LCS	121	
LCSD	122	
MS	123	
Limits:	69-129	
Analysis Name: BTEX (8021)		
Batch number: 05262A15A		
	Trifluorotoluene-P	
4602061	124	
Blank	124	
LCS	121	
LCSD	121	
MS	118	
MSD	123	
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.