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Nicor Gas™
An AGL Resources Company

Prepared Under Contract to
Nicor Gas
on Behalf of
Nicor Gas and Commonwealth Edison

Mendota MGP - Black Brothers Company
City Of Mendota Property

Offsite Summary Report

April 2015

BURNS McDONNELL

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Mendota MGP – Black Brothers Company Site
City of Mendota Property

Offsite Summary Report

Prepared April 2015

Burns & McDonnell
1431 Opus Place, Suite 400
Downers Grove, Illinois 60515

EXECUTIVE SUMMARY

On behalf of Nicor Gas and Commonwealth Edison (the Utilities), field activities were performed offsite at the City of Mendota Property (City Property) adjacent to a former manufactured gas plant (MGP) located in Mendota, Illinois. The objective of field activities was to further delineate potential MGP-related impacts from past MGP activity that were observed during investigations on the adjacent former MGP property. MGP-related impacts have been defined as soil containing visually identified potential MGP-related materials, e.g. tar, coal or cinders, and containing one or more constituent of concern (COC) from the adjacent MGP with a concentration that exceeds a Tier 1 screening level for industrial/commercial or construction worker exposure routes. This *Offsite Summary Report* describes field activities and presents associated findings, evaluates the extent of the MGP-related impacts and develops corrective actions at the City Property. At the completion of the corrective actions, documentation will be submitted to the Illinois Environmental Protection Agency (Illinois EPA) to obtain a 4(y) letter, pursuant to Section 4(y) of the Illinois Environmental Protection Act, 415 ILCS 5/4(y).

The City Property is located in LaSalle County, Township 36 North, Range 1 East, Section 33 as shown in Figure 1. The investigation area extended along the northern and western borders of the former MGP property including the City of Mendota parkway, a portion of 9th Avenue and the Mendota Creek. The western portion of the Property includes the parkway property that is covered with grass, a few bushes and two asphalt driveways leading to the former MGP property parking lot and a portion of 9th Avenue covered by asphalt. The northern portion of the City Property consists of the Mendota Creek which is approximately 8 feet wide and is bordered by a concrete retaining wall to the north and the parkway property covered with grass to the south. According to Sanborn Fire Insurance Maps and aerial photographs, no historic MGP structures were located on the City Property.

The extent of MGP-related impacts at the City Property was determined by using soil probes and samples subject to analylsis for MGP-related constituents of concern (COC). Soil probes were advanced in 52 locations to maximum depths of 28 feet below ground surface (bgs). Each soil probe was inspected for evidence of visually identified potential MGP-related material such as tar, cinders, or coal and field screened using a photoionization detector (PID). Cinders and coal were noted in much of the fill material in surface soil collected from soil probes directly adjacent to the former MGP property. At locations closest to 9th Avenue the cinders and coal are no longer observed. Tar coating and tar staining was identified within: (a) the sand unit 1 layer above the confining clay layer at an adjacent area in the western parkway continuing into 9th Avenue; (b) several locations in the northern parkway; and (c) one area of the Mendota Creek. These findings are based on and consistent with observations made along the former MGP boundaries during the site investigation activities for non-City Property.

Corrective actions proposed for the City Property will consist of surface and subsurface soil excavation to remove all MGP-related impacts. Corrective action activities will include site preparation; pre-excavation confirmation soil probing; waste characterization; ambient air monitoring; excavation, stockpiling and

off-site disposal of soil; surveying; backfilling; management of decontamination water, potential stormwater, and run-on/runoff; and site restoration. Work is anticipated to be conducted in coordination with remedial action activities on the adjacent former MGP property. At the completion of corrective action activities, documentation will be submitted to the Illinois EPA to obtain a 4(y) letter, pursuant to Section 4(y) of the Illinois Environmental Protection Act, 415 ILCS 5/4(y).

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TABLE OF CONTENTS

TABLE OF CONTENTS (CONTINUED)

Tables

Figures

Appendices

* * * * *

1.0 INTRODUCTION

This *Offsite Summary Report* describes field activities, presents associated findings, evaluates the extent of the manufactured gas plant (MGP)-related impacts and develops corrective actions for the City of Mendota Property (parkway, roadway, and creek), adjacent to a former MGP located in Mendota, Illinois (City Property). At the completion of the corrective actions, documentation will be submitted to the Illinois Environmental Protection Agency (Illinois EPA) to obtain a 4(y) letter, pursuant to Section 4(y) of the Illinois Environmental Protection Act, 415 ILCS 5/4(y).

Offsite field activities were conducted in two phases on City Property. The objective of the field investigation was to delineate potential MGP-related impacts from past MGP activity on the City Property. MGP-related impacts have been defined as soil containing visually identified MGP-related materials, e.g. tar, coal or cinders, that contain one or more constituent of concern (COC) from the adjacent former MGP property with a concentration that exceeds a Tier 1 screening level for industrial/commercial or construction worker exposure routes. In 2012, the first phase of the field activities (Phase I) was conducted on City Property in the parkway directly north and west of the former MGP property. The second phase of field activities (Phase II) conducted in 2013 included a section of 9th Avenue and a portion of the Mendota Creek adjacent to the parkway.

1.1 OFFSITE PROPERTY DESCRIPTION AND HISTORY

The City of Mendota Property is located in LaSalle County, Township 36 North, Range 1 East, Section 33 as shown in Figure 1. Also, the City Property that was investigated extends along the northern and western borders of the former MGP property including the City of Mendota parkway, a portion of 9th Avenue and the Mendota Creek. The western portion of the property includes the parkway that is covered with grass, a few bushes and two asphalt driveways leading to the former MGP site's parking lot, and a portion of 9th Avenue covered by asphalt. Several utilities (water, overhead electric, and gas) are located within this area. The northern portion of the City Property consists of the Mendota Creek which is approximately 8 feet wide and is bordered by a concrete retaining wall to the north and the parkway property covered with grass to the south of the creek. Figure 2 presents the layout of the City Property.

The area to the north of the City Property is 5th Street followed by residential properties alongside a service business district. To the south and east of the property is the former MGP property which consists of an asphalt parking lot, next to the Black Brothers Company (BBC) two-story brick office and manufacturing buildings. Further east is additional BBC property, the Buckman Iron & Metal Company, Inc., a metal recycling center, and the BNSF Railway Company tracks. The area immediately to the west of 9th Avenue consists of residential properties and a small asphalt parking lot to the southwest. Figure 3 is an aerial view of the City Property and the surrounding area. The parkway property along with the BBC property is currently zoned M-Manufacturing District, as shown in Figure 4 (City of Mendota Zoning Department 2013).

According to all of the available Sanborn Maps for the area (Sanborn Map and Publishing Company 1885, 1891, 1897, 1902, 1929, 1949), 9th Avenue, 5th Street and Mendota Creek have remained in their current locations from the late 19th century to present. All available documents indicate that no MGP structures were ever located on the City Property. All Sanborn maps are presented in Appendix A.

1.2 MGP DESCRIPTION AND HISTORY

The former MGP occupies approximately 0.65 acres and is currently covered by an asphalt parking lot, as well as a small one-story brick building near the northwest corner, which is currently used as a parking garage for BBC fleet vehicles. Landscaping and grassy areas are present along portions of the north and west boundaries. The former MGP property was purchased by the BBC from Northern Illinois Gas in 1966.

Based on a review of the Brown's directories from 1887 to 1942, the former MGP was constructed in about 1875 and operated until 1941. Coal carbonization was the only process known to have been used at the MGP and known production levels ranged from 3,200,000 cubic feet per year to more than 22,000,000 cubic feet per year (Brown's 1887-1942). Major features historically located on the former MGP included the following: two gas holders, two crude oil tanks, coal piles, a tar well and other MGP apparatus such as the tar/oil separator and miscellaneous buildings. Figure 5 is a historical layout of structures that existed at the former MGP.

According to Sanborn Maps, buildings associated with the former MGP were in place from approximately 1885 to 1949. Coal piles were shown in the northeast quarter of the former MGP property and railroad tracks were depicted adjacent to the eastern portion of the MGP property, continuing to the north and south. None of the former MGP buildings or above-grade structures currently remain on the former MGP property and the date of demolition of those structures is unknown. After MGP operations ceased in 1941, the former MGP property was used as a reporting center until it was sold in 1966. Prior to the BBC purchase of the former MGP property, the one-story brick building in the northwest portion and an asphalt parking lot was constructed. The dates of these improvements are unknown, but the building and parking lot are still present.

1.3 TOPOGRAPHY AND PHYSIOGRAPHY

The topography of the western portion of the City Property is relatively flat, with an elevation approximately 737 feet above sea level. The northern portion of the property changes elevation from approximately 737 feet above sea level along the former MGP boundary to 730 feet above sea level at the creek below. Precipitation that does not infiltrate into the ground results in runoff that flows north towards Mendota Creek. Catch basins for storm water runoff are located along 9th Avenue and the sewer runs north towards Mendota Creek. Along 5th Street and throughout much of downtown Mendota stormwater runoff flows directly into Mendota Creek. The boundary and topographical survey is included in Appendix A.

Mendota Creek is a small stream with low flow under normal conditions. The creek flows from the dam at Lake Mendota (on the northwest side of the city) to the southeast through downtown Mendota, where it is

confined in a culvert. Just south of downtown, the creek veers ninety degrees and flows through the City of Mendota property from east to west, then turns ninety degrees again to flow south. The creek continues south from the city to its confluence with the Little Vermillion River, about 2.5 miles downstream from the property. Water was observed in the creek to vary from several inches to 2 feet deep with varying flow rates during field activities depending on the season. The creek is laterally confined between the concrete retaining wall supporting 5th Street and the steep bank located between the former MGP and the creek. Within the property, the creek's peak discharge during a 10-year flood is approximately 398 cubic feet per second (cfs), and its peak discharge during a 100-year flood is approximately 822 cfs (Federal Emergency Management Agency 2012). Based on the topography, history of the area, location of the two ninety degree turns in the creek as well as the location of the 100-year flood plain, it is likely that the creek's original path was slightly north of its current path. The earliest Sanborn Map from 1885 shows the Mendota Creek at its current location. No documentation could be found to confirm either the original path of the creek or the date of rerouting.

* * * * *

2.0 FIELD ACTIVITIES

The section summarizes field activities conducted on the City Property. Phase I of field activities occurred on the parkway in June and July 2012; and Phase II, which included a section of 9th Avenue and a portion of the Mendota Creek, occurred in March and April 2013. Appendix B presents photographs of field activities.

2.1 PRE-FIELD ACTIVITIES

Pre-field activities included the following:

- Located utilities in the investigation area;
- Erected temporary fence;
- Mobilized equipment;
- Constructed decontamination pad; and
- Excavated soil benches in the creek bank along the northern property.

The Illinois One-Call System, JULIE, Inc. was contacted to locate underground utilities on the City Property prior to commencement of the 2012 and 2013 field activities. A joint utility meet was conducted with relevant utility representatives on June 13, 2012 for investigation activities. All subcontractors secured JULIE dig numbers before beginning intrusive activities. To further verify utility locations, trenches were created using air-knifing methods. The gas main and water main were located near each proposed soil probe location in the western portion of the property. Following each utility locate, the utility trenches were backfilled with sands. After utility locates were completed, field supplies and equipment were subsequently mobilized. Due to the downward slope of the northern parkway to the creek, four benches were excavated at the proposed soil probing areas to provide a flat work area.

2.2 SOIL PROBING

The surface and subsurface soil conditions on the City Property were evaluated using soil probing activities. Soil probe samples were used to evaluate geology and hydrogeology, further delineate areas of visually identified potential MGP-related material and collect samples for chemical analyses.

2.2.1 Soil Probe Locations and Depths

Soil probes were advanced at 52 locations to maximum depths of 28 feet below ground surface (bgs). These depths were determined based on observations in each soil probe location. If visually identified potential MGP-related material was encountered, probes were advanced to at least two feet below any impacts. The locations of soil probes were determined based on a review of drilling logs from the investigation performed on the adjacent former MGP property. When poor recovery or refusal was encountered, additional offset soil probes were advanced until sufficient recovery was achieved.

Each soil probe was visually inspected for evidence of potential MGP-related materials such as tar, cinders, clinkers, or coal and field screened using a photoionization detector (PID). At locations with visually identified potential MGP-related materials, a sample was collected from the one-foot interval

with the most visual impacts or highest PID reading. A total of 29 samples were collected from the City Property. Figure 6 presents the soil probe locations. Table 1 presents soil sample depths along with associated analyses.

2.2.2 Soil Probing Methodologies

Soil was collected using a 4-foot long, 3-inch diameter acetate lined macro-core sampler using direct push sampling (DPS) equipment in the western parkway and 9th Avenue or a 3 or 4-foot long, 2-inch diameter sampler was used at locations in the northern parkway and Mendota creek. The DPS method employs a pneumatic hammer to advance the macro sampling tube and dedicated acetate liner into the soil. The reusable fittings for soil probes were decontaminated prior to use at each location.

The soil column at each probe location was continuously sampled and visually characterized. Soil was logged and classified in accordance with the Unified Soil Classification System (USCS) and ASTM D 2488. The entire length of each soil sample was screened immediately after retrieval using a PID on the sleeve of the soil probe sample.

Probes were backfilled with cement bentonite grout slurry to approximately 6 inches bgs and restored to original condition with topsoil or asphalt. No grease or other lubricants were used on drill bits, drill rods, sampling equipment or tools.

2.2.3 Soil Sampling Procedures

Soil samples to be analyzed for benzene, toluene, ethylbenzene, xylenes (BTEX) and styrene were collected in accordance with United States Environmental Protection Agency (USEPA) SW-846 Method 5035 (USEPA 1986) using the En Core™ sampling method. For each soil interval sampled, following the collection of BTEX and styrene, sample aliquots for all other analyses were placed in stainless steel bowls and mixed to homogenize the sample before placement in appropriate sample containers and container lids were secured.

Samples analyzed for total petroleum hydrocarbon (TPH) were collected for gasoline range organics (GRO) analysis using the En Core™ sampling method. The remaining sample for diesel range organics (DRO) analysis was collected using a clean stainless steel bowl and knife, and was thoroughly mixed in the bowl to homogenize before being placed into a clean sampling container.

After each sample was collected and placed in the appropriate container, the container was labeled and placed on ice in a cooler for transport to the analytical laboratory under proper chain of custody procedures. All non-dedicated sampling equipment was decontaminated between samples.

2.2.4 Chemical Analyses

The soil samples were analyzed for one or more of the following MGP focused parameters:

- BTEX and styrene;
- Phenols;

- Polynuclear aromatic hydrocarbons (PAHs);
- Resource Conservation and Recovery Act (RCRA) metals;
- Cyanide (total); and
- pH.

In addition to the analysis listed above, several samples were also analyzed for toxicity characteristic leaching procedure (TCLP) metals, synthetic precipitate leaching procedure (SPLP) metals, TPH, polychlorinated biphenyls (PCBs) and elemental mercury.

TestAmerica Laboratory performed the chemical analyses on the soil samples from the City of Mendota property field activities. The *Black Brothers Company Site – City of Mendota Property Supplemental Site Investigation Sampling Data* (Burns and McDonnell 2013) presents complete laboratory analytical reports and data validation memoranda for all samples collected during the field activities. A copy of the Illinois EPA Environmental Laboratory Accreditation certificate for TestAmerica Laboratory is also presented in the data book.

2.3 SURVEYING

A survey was completed by a licensed surveyor to establish coordinate locations, property boundaries and ground surface elevations for the City Property. During ongoing field activities soil probe locations were marked and surveyed for accurate reporting and mapping of sample locations. Utilities and other features identified during field activities were also surveyed. Appendix A includes a certified topographic map.

2.4 AMBIENT AIR MONITORING

An ambient air monitoring program was implemented during intrusive field activities. The ambient air monitoring program utilized real-time instruments and sensory odorous emissions monitoring by field personnel. Air monitoring results demonstrated that field activities did not impact ambient air quality.

2.5 DERIVED WASTE

Derived waste soil generated from soil probe activities were placed in roll-off boxes, sampled for waste characterization parameters and transported offsite for disposal at Veolia ES Orchard Hills Landfill located in Davis Junction, Illinois. Copies of the waste disposal manifests are presented in Appendix C.

Derived waste water generated from equipment decontamination was placed in a double-walled poly-tank, sampled for waste characterization parameters and transported offsite for disposal to Liquid Environmental Solutions located in Chicago, Illinois. Copies of the waste manifests are presented in Appendix C.

2.6 DEMOBILIZATION AND PROPERTY RESTORATION

Upon completion of field activities, the following cleanup and restoration activities were performed:

- Decontaminated and demobilized equipment used during field activities;
- Landscape restoration; and

- Asphalt restoration of parking lot and roadway.

The property was secured and all equipment, supplies and generated waste were removed.

* * * * *

3.0 FIELD OBSERVATIONS AND EXTENT OF MGP-RELATED IMPACTS

This section presents field observations from the City Property field activities and discusses the extent of MGP-related impacts.

3.1 GEOLOGY

Geology of the overburden material was characterized and recorded on drilling log forms during advancement of soil probes. Drilling logs are included Appendix D. Overburden materials encountered included fill material, layers of glacial till, and layers of sand as described below. The distribution of these materials is depicted on the geologic cross sections presented in Figures 7 through 9.

The following subsections describe the overburden stratigraphy, based on interpretation of the drilling logs and cross sections and correlation with the regional geology. The geologic units observed are consistent with urban fill and with a glacial environment of deposition.

3.1.1 Fill Unit

The uppermost geologic unit consists of fill material, overlain by asphalt, topsoil, or grass grown cover. It has a thickness ranging from approximately 0.3 feet near the edge of the creek to approximately 6.8 feet. The fill unit was generally dry or moist, and it was continuous across the parkway. The fill unit is not present beneath the creek. The fill consists primarily of silt, with a significant proportion of brick and various proportions of cinders and coal. This fill is generally brownish black, dark yellowish brown or brownish gray, and loose. Several buried utility structures are present within the fill unit in the western parkway and 9th Avenue, including gas mains and water mains. These mains become lower in elevation to the north to extend beneath the creek.

3.1.2 Silty Clay (Till 1)

An upper layer of silty clay (till 1) was encountered directly beneath the fill in some areas. This discontinuous upper till was observed at depths ranging from approximately 3 feet to approximately 10 feet bgs, although it was observed at depths less than 1 foot at the bottom of the embankment near the creek. Where present, the upper till was typically 2 to 4 feet thick and was typically moist, dark greenish gray or light olive gray in color, and medium stiff or stiff.

3.1.3 Silty Sand (Sand Unit 1)

A thin layer of silty sand was observed throughout the parkways, roadway and in the creek, directly underlying either till 1 or the fill material. This silty sand is referred to as sand unit 1. It was generally observed at depths ranging from approximately 3 to 11 feet bgs, although it was observed at depths less than half of a foot bgs at the bottom of the embankment near the creek and in the creek. The thickness of sand unit 1 generally ranged from less than half of a foot to approximately 4 feet. In some probes, this unit was logged as a sandy silt, silty sand or as a sand due to localized variations in the proportion of silt

present. Sand unit 1 is typically moist, wet or saturated, indicating the water table is generally located within or above the unit.

3.1.4 Silty Clay (Till 2)

Beneath sand unit 1, an additional layer of silty clay till was observed throughout the City Property at depths ranging from approximately 4 feet bgs to the maximum extent of soil probes, which was 28 feet bgs. Multiple layers of sand outwash (sand units 2), which are described below, lie interbedded with this lower till layer. Till 2 is above and below the discontinuous sand unit 2. The till 2 is typically moist, olive gray or light olive gray in color, and stiff to hard.

3.1.5 Sand (Sand Unit 2)

An additional deeper layer of discontinuous sand is present at the City Property, interbedded within till 2. This deeper sand layer is saturated and is typically well graded sand containing little or no silt. Where encountered in probes within the City Property, it is located at depths between approximately 18 and 24 feet bgs and ranges in thickness from less than 1 foot to approximately 5 feet. Probes advanced near and in the creek did not penetrate to the depths at which sand unit 2 potentially would have been encountered.

3.2 HYDROGEOLOGY

Overburden in the Mendota area consists primarily of silty and clayey glacial till. The typical range of hydraulic conductivities for silt is 1×10^{-6} to 1×10^{-4} centimeters per second (cm/sec) and for clay is 1×10^{-9} to 1×10^{-6} cm/sec (Fetter 1994). As a result of this low conductivity, the glacial till generally will not yield pumpable quantities of groundwater and does not function as an aquifer.

Although the till is primarily composed of silt and clay, isolated sand and gravel deposits are present within the till. Some of these sand and gravel deposits may be large enough to function as an aquifer, and the water well search (described below) indicates that some wells have been installed within the overburden in the region. Visocky et al. (1985) and Sasman et al. (1974) indicate that public and private potable water wells in the area withdraw water primarily from the sandstone portions of the Cambrian-Ordovician Aquifer, which lie approximately 300 feet bgs and deeper.

City of Mendota Ordinance number 10-07-02 prohibits the use of groundwater as a potable water supply by the installation or use of potable water supply wells or any other method, except by the City at points located more than 1,000 feet bgs. This ordinance is accepted by the Illinois EPA as an institutional control.

3.3 EXTENT OF MGP-RELATED IMPACTS

As discussed previously, MGP-related impacts have been defined as soil containing visually identified potential MGP-related materials, e.g. tar, coal or cinders, that contain one or more COC from the adjacent former MGP property with a concentration that exceeds a Tier 1 screening level for industrial/commercial or

construction worker exposure routes. If soil containing visually identified potential MGP-related materials was not sampled for analytical constituents, the soil is considered MGP impacted as well.

3.3.1 Surface Soil

Cinders and coal were noted in much of the fill material in surface soil collected from soil probes on the City Property directly adjacent to the former MGP property. At locations closest to 9th Avenue the cinders and coal are no longer observed. Due to the changes in elevation from the northern parkway to the creek, surface soil contained smaller amounts of fill material towards the creek. No fill material was observed in the creek so cinders and coal observations end at creek edge. In addition, in some locations near and in the creek sand unit 1 was within the top 3 feet bgs. Along the creek bank and in one area of the creek, tar staining and coating was noted in sand unit 1 following contours of the confining silty clay unit.

Surface soil sample results were screened against industrial/commercial and construction worker Tier 1 screening levels. Table 2 presents the screening evaluation of the surface soil samples collected from depths of visually identified potential MGP-related materials. Based on the visual observations and analytical results, the horizontal and vertical extent of MGP-related impacts within the City Property surface soil has been defined except for the area just north of SP153 which is discussed further in Section 4. Figures 10 and 11 present the field activity findings of locations containing MGP-related impacts and the associated depths.

3.3.2 Subsurface Soil

Visually identified potential MGP-related materials in subsurface soil were noted in several locations at the City Property. Tar coating and tar staining was identified within the sand unit 1 layer above the confining clay layer at an adjacent area in the western parkway continuing into 9th Avenue, several locations in the northern parkway, and within one area of the Mendota Creek. These findings are consistent with observations made along the former MGP boundaries during the site investigation activities.

Subsurface soil samples were collected and screened against industrial/commercial and construction worker Tier 1 screening levels. Table 3 presents the screening evaluation of the subsurface soil samples collected from depths with visually identified potential MGP-related material. Based on the visual observations and analytical results, the horizontal and vertical extent of MGP-related impacts within the City Property subsurface soil has been defined except for the area just west of SP121 which is discussed further in Section 4. Sixteen soil probe locations had MGP-related impacts in the subsurface soil. Figures 10 and 11 present the field activity findings of locations containing MGP-related impacts and the associated depths.

* * * * *

4.0 CORRECTIVE ACTION PLAN

Corrective action activities proposed for the City Property will consist of surface and subsurface soil excavation to remove MGP-related impacts. The extent of MGP-related impacts on the property has been defined and will be removed as shown on Figures 12 through 15. Work is anticipated to be conducted in coordination with remedial action activities on the adjacent former MGP property.

Corrective action activities will include the following main components:

- Site preparation;
- Pre-excavation confirmation probing;
- Waste characterization;
- Ambient air monitoring;
- Excavation, stockpiling and off-site disposal of soil;
- Surveying;
- Backfilling;
- Management of decontamination water, potential stormwater, and run-on/runoff; and
- Site restoration.

4.1 SITE PREPARATION

Site preparation activities will be implemented before excavation begins and will consist of the following activities:

- Permits will be obtained.
- Soil erosion and sediment control plan will be installed and documented.
- Buried utility lines will be located and marked prior to excavation activities.
- Temporary fencing will be placed around the work area.
- Lane closures on 9th Avenue during corrective action will be coordinated with the City of Mendota.
- Carbon filament fabric will be placed over the perimeter fencing to help limit odor and dust emissions, if any, from the City Property.
- Equipment and supplies will be mobilized and staged on the adjacent former MGP property. Access to the work area will be via the adjacent BBC property.

4.2 PRE-EXCAVATION CONFIRMATION PROBING

Prior to excavation at the City Property, proposed soil probes will be advanced in two areas where additional investigation is needed to confirm that the extent of MGP-related impacts is completely delineated. Proposed soil probe locations will be advanced west of SP121 and north of SP153, as shown in Figure 12, to establish whether tar within sand unit 1 potentially extends further west or north. In both areas the MGP-related impacts are diminishing in the locations farthest from the former MGP boundary. If the proposed soil probe indicates visually identified potential MGP-related material is present in sand unit 1, then additional probes will be advanced until the extent is determined in those areas. Soil

samples will be collected at the depth of visually identified potential MGP-related material. Soil probes will be advanced and soil samples will be collected in accordance with procedures outlined in Section 2.2.

4.3 WASTE CHARACTERIZATION

Waste characterization samples will be collected for analysis during remedial activities for disposal purposes. A composite soil sample will be analyzed for parameters required by the landfill for acceptance of soil. A water sample will also be analyzed for parameters required by the landfill for acceptance of water.

4.4 AMBIENT AIR MONITORING

An ambient air monitoring program will be implemented during all intrusive activities. The objective of ambient air monitoring is to provide ongoing monitoring and documentation of ambient air conditions and to make project management decisions regarding abatement actions to reduce airborne constituents that may be emitted in connection with field activities. Ambient air monitoring methods and procedures during corrective actions will be performed in accordance with the Remedial Action Ambient Air Monitoring Work Plan as presented as an Appendix in the *Mendota MGP-Black Brothers Company Site – Site Investigation Report/Remediation Objectives Report/Remedial Action Plan (BMcD 2015).*

Monitoring of onsite worker health and safety will be addressed in a separately bound health and safety plan.

4.5 EXCAVATION, STOCKPILING AND OFF-SITE DISPOSAL

Corrective action activities at the parkway will consist of the excavation of surface and subsurface soil. Excavation boundaries were determined by removing all locations with MGP-related impacts and extending to a location with no MGP-related impacts. Figure 12 presents the excavation plan. Figures 13 through 15 present MGP-related impacts cross-sections. If required, soil that needs to be stockpiled overnight will be secured in conjunction with ongoing remedial actions. Excavated material will be loaded into end-dump trucks, covered, manifested and transported to the pre-approved landfill. Truck bodies and tires will be decontaminated prior to leaving the property. A street sweeper will routinely clean any residue left by truck tires on nearby streets.

The western portion of the property including the parkway and 9th Avenue roadway contains buried utilities. Excavation activities will include protective measures in these areas. Trench boxes, sheet piles walls or other shoring/stabilization techniques will be used as necessary to protect adjacent properties and utilities. Protective measures will also be taken during the excavation of a portion of the creek to ensure activities do not impede the creek's water flow in accordance with Army Corps of Engineers approval.

Corrective action activities will be documented. Daily reports, activity logs, manifests and other pertinent data will be generated and maintained in the field office files or sent to the Burns & McDonnell Downers Grove office for storage and subsequent archiving.

4.6 SURVEYING

Prior to excavation, the horizontal extent of each excavation area will be staked out. Upon completion of excavation in a given area, the depth will be confirmed. After corrective action activities are completed, the final grade elevations will be surveyed.

4.7 BACKFILLING

Prior to use, backfill material consisting of clean, imported topsoil, clay or appropriate stone aggregate (CM-6, CA-7, 3 inch stone, etc.) will be sampled and analyzed for target compound list (TCL) VOCs, TCL SVOCs, target analyte list metals (excluding potassium and sodium), herbicides, pesticides, PCBs, total cyanide and pH. Backfill analytical results will be compared to Tier 1 residential remediation objectives to confirm that material can be used as clean backfill for the property.

Backfill will be compacted in 18 inch lifts and in 6 inch lifts around existing utilities. Backfilling along the utility lines will be conducted as required by the utility owner. Appropriate excavation slopes will be maintained based on soil type.

4.8 MANAGEMENT OF DECONTAMINATION WATER, POTENTIAL STORMWATER, AND RUNON/RUNOFF

Decontamination water, stormwater, groundwater infiltration and run-on/runoff that accumulate in the corrective action area will be managed to prevent it from impacting the property and surrounding area. As needed, accumulated water will be pumped to a temporary holding tank for containment prior to treatment and/or offsite disposal.

Erosion control practices will be implemented to limit runoff from the exposed areas of the City Property. A silt fence will be installed around the parkway as a measure to contain sediment and runoff on-site. Sediment traps will be installed under the stormwater inlets along the east and west sides of 9th Avenue to retain sediment or small particulates in stormwater runoff. Water from the decontamination area will be collected and contained for offsite disposal.

4.9 SITE RESTORATION

After completion of corrective actions, the property will be cleaned up and restored, including the following activities:

- Decontaminate equipment;
- Remove construction equipment;
- Remove temporary fencing;
- Conduct final grading and restoration of earthen areas using Class 2A salt-tolerant seed or excelsior blanket; and
- Restore 9th Avenue in accordance with City of Mendota specifications for asphalt paved roads.

4.10 SCHEDULE

The following is the anticipated schedule for corrective action activities:

- Onsite activities including mobilization, excavation, backfill and restoration will continue for approximately 2 to 3 months for the parkway property, 1 week for the Mendota Creek, and 1 to 2 weeks for the 9th Avenue roadway.
- The anticipated start date will be coordinated with the City of Mendota.

The City Property corrective action activities are anticipated to be conducted in coordination with remedial action activities on the adjacent former MGP property.

* * * * *

5.0 SUMMARY

The objective for the City Property field investigation activities was met. The extent of MGP-related impacts located on the City Property have been defined except in two areas which will be confirmed before beginning excavation activities.

Soil with MGP-related impacts, as shown on Figure 11, will be removed as part of the corrective actions. At the completion of corrective action activities, documentation will be submitted to the Illinois EPA to obtain a 4(y) letter, pursuant to Section 4(y) of the Illinois Environmental Protection Act, 415 ILCS 5/4(y).

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6.0 REFERENCES

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TABLES
Offsite Summary Report
Mendota MGP – Black Brothers Company Site – City Property

Table 1
List of Sample Numbers and Analyses
Offsite Summary Report
Mendota MGP - Black Brothers Company Site - City Property

Sample Number	Sample Depth (feet below ground surface [bgs])	Sample Description	Analyses
SP51B-001	1.2-2.2	Fill	Benzene, toluene, ethylbenzene, xylenes (BTEX), styrene, phenols, polynuclear aromatic hydrocarbons (PAHs), Resource Conservation and Recovery Act (RCRA) metals, total cyanide and pH.
SP53-001	4.9-5.7 (6.5-7.5 after restoration)	Sand	BTEX, styrene, phenols, PAHs, polychlorinated biphenyls (PCBs), gasoline range organics (GRO), diesel range organics (DRO), RCRA metals, total cyanide, toxicity characteristic leaching procedure (TCLP) RCRA metals and pH.
SP54-001	4.2-4.4	Sand	BTEX, styrene, phenols, PAHs, GRO and DRO.
SP55-001	4.5-4.7 (5.7-5.9 after restoration)	Sand	BTEX, styrene, phenols, PAHs, GRO and DRO.
SP59-001	1.0-2.0	Fill	BTEX, styrene, phenols, PAHs, RCRA metals, total cyanide, synthetic precipitate leaching procedure (SPLP) lead and pH.
SP60-001	1.5-2.5	Fill	BTEX, styrene, phenols, PAHs, RCRA metals, total cyanide, SPLP lead and pH.
SP62-001	1.2-2.2	Fill	BTEX, styrene, phenols, PAHs, RCRA metals, total cyanide, SPLP lead and pH.
SP63B-001	2-2.9	Fill	Fraction organic carbon (foc)
SP63B-002	6-7	Silty Clay	foc
SP63B-003	7.3-8	Sandy Silt	foc
SP63B-004	11-12	Silty Clay	foc
SP64-001	0.5-1.5	Fill	BTEX, styrene, phenols, PAHs, RCRA metals, total cyanide and pH.
SP64-002	8.0-8.5	Sand	BTEX, styrene, phenols, PAHs, GRO, DRO, RCRA metals, total cyanide, TCLP RCRA metals and pH.
SP66-001	8.0-8.3	Sand	BTEX, styrene, GRO, DRO, RCRA metal, total cyanide, TCLP RCRA metals and pH.
SP66B-001	8.0-8.3	Sand	Phenols and PAHs.
SP67-001	1.7-2.7	Fill	BTEX, styrene, phenols, PAHs, RCRA metals, total cyanide and pH.

Table 1 (Continued)
List of Sample Numbers and Analyses
Offsite Summary Report
Mendota MGP - Black Brothers Company Site - City Property

Sample Number	Sample Depth (feet bgs)	Sample Description	Analyses
SP67-002	6.0-7.0	Silty Clay	BTEX, styrene, phenols, PAHs, GRO, DRO, RCRA metals, total cyanide, TCLP RCRA metals and pH.
SP67-003	10.9-11.4	Silty Clay	BTEX, styrene, phenols, PAHs, GRO, DRO, RCRA metals, total cyanide, TCLP RCRA metals and pH.
SP68B-001	1.5-2.5	Fill	BTEX, styrene, phenols, PAHs, RCRA metals, total cyanide, SPLP lead and pH.
SP68B-002	8.4-8.8	Silt	BTEX, styrene, phenols, PAHs, RCRA metals, total cyanide and pH.
SP69-001	1.5-2.0	Fill	BTEX, styrene, phenols, PAHs, RCRA metals, total cyanide, SPLP lead and pH.
SP69B-001	2-3	Fill	foc
SP69B-002	6-7	Silty Clay	foc
SP69B-003	8-8.4	Sand	foc
SP69B-004	11-12	Silty Clay	foc
SP83-001	1.0-1.8	Silty Clay and Sand	BTEX, styrene, phenols, PAHs, PCBs, GRO, DRO, RCRA metals, total cyanide, TCLP RCRA metals and pH.
SP83-002	3.0-3.4	Sand	BTEX, styrene, phenols, PAHs, PCBs, GRO, DRO, RCRA metals, total cyanide, TCLP RCRA metals and pH.
SP88-001	3.0-3.3	Sand	BTEX, styrene, phenols, PAHs, PCBs, GRO, DRO, RCRA metals, total cyanide, TCLP RCRA metals and pH.
SP90B-001	4.0-4.6	Sand	BTEX, styrene, phenols, PAHs, PCBs, GRO, DRO, RCRA metals, total cyanide, TCLP RCRA metals and pH.
SP91-001	4.7-5.1	Sand	BTEX, styrene, phenols, PAHs, PCBs, GRO, DRO, RCRA metals, total cyanide, TCLP RCRA metals and pH.
SP118B-001	7.2-8.0	Sand	BTEX, styrene, phenols, PAHs, RCRA metals, total cyanide, and pH.
SP119-001	6.3-7.0	Sand	BTEX, styrene, phenols, PAHs, PCBs, GRO, DRO, RCRA metals, total cyanide, TCLP RCRA metals, and pH.
SP119-002	8.0-8.5	Sand	BTEX, styrene, phenols, PAHs, PCBs, GRO, DRO, RCRA metals, total cyanide, TCLP RCRA metals, and pH.
SP120-001	6.0-7.0	Sand	BTEX, styrene, phenols, PAHs, RCRA metals, total cyanide, and pH.

Table 1 (Continued)
List of Sample Numbers and Analyses
Offsite Summary Report
Mendota MGP - Black Brothers Company Site - City Property

Sample Number	Sample Depth (feet bgs)	Sample Description	Analyses
SP121-001	6.2-7.0	Sand	BTEX, styrene, phenols, PAHs, RCRA metals, total cyanide, and pH.
SP122-001	7.7-8.5	Sand	BTEX, styrene, phenols, PAHs, RCRA metals, total cyanide, and pH.
SP148B-001	0.0-0.6	Sand	BTEX, styrene, phenols, PAHs, RCRA metals, total cyanide, TCLP cadmium, and pH.
SP153-001	0.0-0.7	Sand	BTEX, styrene, phenols, PAHs, RCRA metals, total cyanide, and pH.

Table 2
Surface Soil Analytical Results
Offsite Summary Report
Mendota MGP - Black Brothers Company Site - City Property

Compound/Analyte	Lowest Tier 1 Screening Level*	Sample Location and Depth (feet below ground surface [bgs])/Concentration				
		SP51B 1.2-2.2 WT ~ NE	SP59 1-2 WT ~ NE	SP62 1.2-2.2 WT ~ NE	SP64 0.5-1.5 WT ~ 8	SP67 1.7-2.7 WT ~ 10.2
Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) and Styrene (milligrams per kilogram [mg/kg])						
Benzene	1.6	0.069	0.032	0.85	0.42	0.0055 U
Ethylbenzene	58	0.025	0.021 U	0.061	0.040	0.0055 U
Styrene	430	0.064 U	0.086 U	0.069 U	0.083 U	0.0055 U
Toluene	42	0.13	0.049	0.15	0.82	0.0055 U
Xylenes, Total	5.6	0.48	0.12	0.23	0.62	0.011 U
Phenols (mg/kg)						
2,4-Dimethylphenol	41,000	1.9 U	19 U	19 U	17 U	19 U
2-Methylphenol	100,000	0.96 U	9.6 U	9.4 U	8.5 U	9.7 U
4-Methylphenol	3,300*	0.96 U	9.6 U	9.4 U	8.5 U	9.7 U
Phenol	61,000	0.96 U	9.6 U	9.4 U	8.5 U	9.7 U
Polynuclear Aromatic Hydrocarbons (PAHs) (mg/kg)						
Acenaphthene	120,000	0.19 U	1.9 U	1.9 U	2.1	1.9 U
Acenaphthylene	61,000*	1.2	2.7	4.5	11	1.9 U
Anthracene	610,000	2.3	5.9	7.2	27	3.4
Benzo(a)anthracene	8	26	23	42	110	18
Benzo(b)fluoranthene	8	24	30	45	120	21
Benzo(k)fluoranthene	78	27	15	37	46	9.3
Benzo(a)pyrene	0.8	30	23	41	100	19
Benzo(g,h,i)perylene	61,000*	15	18	28	65	12
Chrysene	780	26	20	41	110	18
Dibenzo(a,h)anthracene	0.8	6.8	6.1	9.0	33	7.4
Fluoranthene	82,000	38	38	77	180	28
Fluorene	82,000	0.42	3.1	1.9 U	9.0	1.9 U
Indeno(1,2,3-cd)pyrene	8	14	16	25	64	12
Naphthalene	1.8	1.2	2.8	2.2	6.4	1.9 U
Phenanthrene	61,000*	8.0	21	18	75	13
Pyrene	61,000	47	31	78	130	26
Dibenzofuran	820*	0.96 U	9.6 U	9.4 U	8.5 U	9.7 U
2-Methylnaphthalene	820*	0.96 U	9.6 U	9.4 U	8.5 U	9.7 U
Polychlorinated Biphenyls (PCBs) (mg/kg)						
Aroclor 1016	1	NA	NA	NA	NA	NA
Aroclor 1221	1	NA	NA	NA	NA	NA
Aroclor 1232	1	NA	NA	NA	NA	NA
Aroclor 1242	1	NA	NA	NA	NA	NA
Aroclor 1248	1	NA	NA	NA	NA	NA
Aroclor 1254	1	NA	NA	NA	NA	NA
Aroclor 1260	1	NA	NA	NA	NA	NA
Resource Conservation and Recovery Act (RCRA) Metals and Cyanide (mg/kg)						
Arsenic	11.3†	12	22	8.1 J	19	4.9
Barium	14,000	140	98	130	110	86
Cadmium	200	1.3	0.66	0.73	0.63	0.50
Chromium	420	17	14 J	14 J	14	13
Lead	700	96	110	110	83	150
Mercury	0.1	0.069 J	0.13 J	0.23 J	0.19 J	0.19 J
Selenium	1,000	1.4	1.3	1.1 U	0.97 U	1.1 U
Silver	1,000	0.57 U	0.54 U	0.54 U	0.48 U	0.54 U
Cyanide, Total	4,100	2.8 J-	11 J-	6.8 J-	7.3 J-	8.2 J-

Notes:
1) * - Lowest screening level is for Industrial/Commercial and Construction Worker exposure routes.
2) WT ~ n - Water table encountered at approximately n feet bgs during drilling/sampling.
3) * - Screening level is from the "Non-TACO Objectives" table, Illinois EPA, October 30, 2012.
4) NA - Not analyzed.
5) U - Compound/analyte not detected. The associated numerical value is the reporting limit.
6) † - Screening level is the background concentration for a non-metropolitan area (35 IAC 742, Appendix A, Tables G).
7) Shaded values exceed the screening level.
8) J - Estimated value.
9) J- - Estimated value, biased low.
10) NE - Not encountered.

Table 2 (Continued)
Surface Soil Analytical Results
Offsite Summary Report
Mendota MGP - Black Brothers Company Site - City Property

Compound/Analyte	Lowest Tier 1 Screening Level*	Sample Location and Depth (feet bgs)/Concentration				
		SP68B 1.5-2.5 WT ~ NE	SP69 1.5-2 WT ~ NE	SP83 1-1.8 WT ~ 1.3	SP148B 0.0-0.6 WT ~ 0	SP153 0.0-0.7 WT ~ 0
BTEX and Styrene (mg/kg)						
Benzene	1.6	0.038	0.0062 U	15	29	6.9
Ethylbenzene	58	0.078	0.0062 U	5.5	10	7.0
Styrene	430	0.080 U	0.0062 U	2.5 U	7.9	0.97 U
Toluene	42	0.088	0.0062 U	34	69	6.8
Xylenes, Total	5.6	0.69	0.012 U	100	160	66
Phenols (mg/kg)						
2,4-Dimethylphenol	41,000	2.0 U	18 U	19 U	36 U	19 U
2-Methylphenol	100,000	1.0 U	9.3 U	9.8 U	18 U	9.4 U
4-Methylphenol	3,300*	1.0 U	9.3 U	9.8 U	18 U	9.4 U
Phenol	61,000	1.0 U	9.3 U	9.8 U	18 U	9.4 U
PAHs (mg/kg)						
Acenaphthene	120,000	0.20 U	3.3	34	34	48
Acenaphthylene	61,000*	0.41	15	100	130	60
Anthracene	610,000	0.74 J	38 J	260	130	75
Benzo(a)anthracene	8	6.1	140	110	100	66
Benzo(b)fluoranthene	8	8.1	120	79	84	61
Benzo(k)fluoranthene	78	4.0	110	38	49	25
Benzo(a)pyrene	0.8	6.7	120	77	81	53
Benzo(g,h,i)perylene	61,000*	4.4	55	31	31	19
Chrysene	780	5.9	120	88	78	51
Dibenzo(a,h)anthracene	0.8	1.6	25	20	14	9.6
Fluoranthene	82,000	9.0	250	430	200	140
Fluorene	82,000	0.20	14	150	180	110
Indeno(1,2,3-cd)pyrene	8	4.2	54	33	31	22
Naphthalene	1.8	0.30	12	1,300	270	540
Phenanthrene	61,000*	2.5	120	680	260	320
Pyrene	61,000	6.3	190	380	150	98
Dibenzofuran	820*	1.0 U	15	130	180	110
2-Methylnaphthalene	820*	1.0 U	9.3 U	410	240	180
PCBs (mg/kg)						
Aroclor 1016	1	NA	NA	0.19 U	NA	NA
Aroclor 1221	1	NA	NA	0.19 U	NA	NA
Aroclor 1232	1	NA	NA	0.19 U	NA	NA
Aroclor 1242	1	NA	NA	0.19 U	NA	NA
Aroclor 1248	1	NA	NA	0.19 U	NA	NA
Aroclor 1254	1	NA	NA	0.19 U	NA	NA
Aroclor 1260	1	NA	NA	0.19 U	NA	NA
RCRA Metals and Cyanide (mg/kg)						
Arsenic	11.3†	8.0	12	1.1 U	2.2	4.3
Barium	14,000	120	110	53	18	33
Cadmium	200	1.1	1.0	0.27	22	0.45
Chromium	420	14	17	8.8	4.9	20
Lead	700	170	190	7.3	9.7	15
Mercury	0.1	0.16 J	0.22 J	0.087 J	0.060 J+	0.017 U
Selenium	1,000	1.1 U	1.1	1.1 U	1.1 U	0.98 U
Silver	1,000	0.57 U	0.56 U	0.57 U	0.53 U	0.49 U
Cyanide, Total	4,100	0.42 J-	25 J-	1.3 J-	1.1 J	0.47 U

Notes:
1) * - Lowest screening level is for Industrial/Commercial and Construction Worker exposure routes.
2) WT ~ n - Water table encountered at approximately n feet bgs during drilling/sampling.
3) * - Screening level is from the "Non-TACO Objectives" table, Illinois EPA, October 30, 2012.
4) NA - Not analyzed.
5) † - Screening level is the background concentration for a non-metropolitan area (35 IAC 742, Appendix A, Tables G).
6) J - Estimated value.
7) Shaded values exceed the screening level.
8) U - Compound/analyte not detected. The associated numerical value is the reporting limit.
9) J- - Estimated value, biased low.
10) NE - Not encountered.
11) J+ - Estimated value, biased high.

Table 3
Subsurface Soil Analytical Results
Offsite Summary Report
Mendota MGP - Black Brothers Company Site - City Property

Compound/Analyte	Lowest Tier 1 Screening Level*	Sample Location and Depth (feet bgs)/Concentration				
		SP53 4.9-5.7 WT ~ NE	SP54 4.2-4.4 WT ~ NE	SP64 8-8.5 WT ~ 8	SP66 8-8.3 WT ~ 4.5	SP66B 8-8.3 WT ~ 4.5
Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) and Styrene (milligrams per kilogram [mg/kg])						
Benzene	1.6	37	31	1.7	0.15 U	NA
Ethylbenzene	58	19	11	8.2	2.2	NA
Styrene	430	22	18	11	0.59 U	NA
Toluene	42	77	67	11	0.34	NA
Xylenes, Total	5.6	270	180	84	7.6	NA
Phenols (mg/kg)						
2,4-Dimethylphenol	41,000	19 U	27	18 U	NA	3.8 U
2-Methylphenol	100,000	9.6 U	9.3 U	9.3 U	NA	1.9 U
4-Methylphenol	3,300*	9.6 UJ	9.3 UJ	9.3 U	NA	1.9 U
Phenol	61,000	9.6 U	9.3 U	9.3 U	NA	1.9 U
Polynuclear Aromatic Hydrocarbons (PAHs) (mg/kg)						
Acenaphthene	120,000	73	240	17	NA	10
Acenaphthylene	61,000*	340	1,100	67	NA	31
Anthracene	610,000	360	880	56	NA	40
Benzo(a)anthracene	8	230	740	43	NA	28
Benzo(b)fluoranthene	8	200	580	35	NA	19
Benzo(k)fluoranthene	78	98	240	14	NA	8.2
Benzo(a)pyrene	0.8	170	520	31	NA	17
Benzo(g,h,i)perylene	61,000*	65	200	13	NA	5.3
Chrysene	780	180	620	34	NA	20
Dibenzo(a,h)anthracene	0.8	13	110	7.5	NA	2.4
Fluoranthene	82,000	520	1,500	91	NA	67
Fluorene	82,000	370	1,200	69	NA	41
Indeno(1,2,3-cd)pyrene	8	69	210	14	NA	6.6
Naphthalene	1.8	1,400	5,500	440	NA	90
Phenanthrene	61,000*	810	2,300	140	NA	97
Pyrene	61,000	400	890	70	NA	53
Dibenzofuran	820*	310	970	56	NA	37
2-Methylnaphthalene	820*	560	1,300	96	NA	15
Polychlorinated Biphenyls (PCBs) (mg/kg)						
Aroclor 1016	1	0.095 U	NA	NA	NA	NA
Aroclor 1221	1	0.095 U	NA	NA	NA	NA
Aroclor 1232	1	0.095 U	NA	NA	NA	NA
Aroclor 1242	1	0.095 U	NA	NA	NA	NA
Aroclor 1248	1	0.095 U	NA	NA	NA	NA
Aroclor 1254	1	0.095 U	NA	NA	NA	NA
Aroclor 1260	1	0.095 U	NA	NA	NA	NA
Resource Conservation and Recovery Act (RCRA) Metals and Cyanide (mg/kg)						
Arsenic	11.3†	1.1	NA	10	5.4	NA
Barium	14,000	51	NA	13	55	NA
Cadmium	200	0.27	NA	0.37	0.33	NA
Chromium	420	9.5	NA	5.6	11	NA
Lead	700	4.3	NA	4.4	6.1	NA
Mercury	0.1	0.097 J	NA	0.024 J	0.023 J	NA
Selenium	1,000	1.0 U	NA	0.98 U	1.2 U	NA
Silver	1,000	0.52 U	NA	0.49 U	0.58 U	NA
Cyanide, Total	4,100	1.5 J-	NA	2.2 J-	1.6 J-	NA

Notes:
1) * - Lowest screening level is for Industrial/Commercial and Construction Worker exposure routes.
2) WT ~ n - Water table encountered at approximately n feet bgs during drilling/sampling.
3) NA - Not analyzed.
4) U - Compound/analyte not detected. The associated numerical value is the reporting limit.
5) * - Screening level is from the "Non-TACO Objectives" table, Illinois EPA, October 30, 2012.
6) UJ - Estimated non-detect value.
7) † - Screening level is the background concentration for a non-metropolitan area (35 IAC 742, Appendix A, Tables G).
8) Shaded values exceed the screening level.
9) J - Estimated value.
10) J- - Estimated value, biased low.
11) NE - Not encountered.

Table 3 (Continued)
Subsurface Soil Analytical Results
Offsite Summary Report
Mendota MGP - Black Brothers Company Site - City Property

Compound/Analyte	Lowest Tier 1 Screening Level*	Sample Location and Depth (feet bgs)/Concentration				
		SP67 6-7 WT ~ 10.2	SP83 3-3.4 WT ~ 1.3	SP88 3-3.3 WT ~ 1.3	SP90B 4-4.6 WT ~ 0.4	SP91 4.7-5.1 WT ~ 0.5
BTEX and Styrene (mg/kg)						
Benzene	1.6	0.36	41	0.14	0.12 U	0.13 U
Ethylbenzene	58	0.13	11	3.1	0.44	0.52
Styrene	430	0.061 U	5.3 U	0.20 U	0.50 U	0.52 U
Toluene	42	0.028	83	0.12	0.12 U	0.13 U
Xylenes, Total	5.6	0.18	200	2.6	1.5	1.2
Phenols (mg/kg)						
2,4-Dimethylphenol	41,000	0.41 U	7.8	1.9 U	0.39 U	3.8 U
2-Methylphenol	100,000	0.21 U	1.9 U	0.94 U	0.20 U	1.9 U
4-Methylphenol	3,300*	0.21 U	1.9 U	0.94 U	0.20 U	1.9 U
Phenol	61,000	0.21 U	1.9 U	0.94 U	0.20 U	1.9 U
PAHs (mg/kg)						
Acenaphthene	120,000	1.2	32	29	11	310
Acenaphthylene	61,000*	0.25	110	41	5.5	56
Anthracene	610,000	0.67	130	72	10	220
Benzo(a)anthracene	8	0.041 U	120	51	7.2	180
Benzo(b)fluoranthene	8	0.041 U	78	32	4.3	88
Benzo(k)fluoranthene	78	0.041 U	46	21	2.2	29
Benzo(a)pyrene	0.8	0.041 U	77	32	6.3	120
Benzo(g,h,i)perylene	61,000*	0.041 U	30	16	3.5	66
Chrysene	780	0.041 U	83	43	6.2	150
Dibenzo(a,h)anthracene	0.8	0.041 U	12	7.9	0.78	13
Fluoranthene	82,000	0.25	250	91	12	310
Fluorene	82,000	3.2	150	76	11	43
Indeno(1,2,3-cd)pyrene	8	0.041 U	32	16	2.3	41
Naphthalene	1.8	0.25	1,200	7.7	9.3	11
Phenanthrene	61,000*	2.0	630	170	46	950
Pyrene	61,000	0.18	210	77	25	490
Dibenzofuran	820*	0.43	140	53	3.0	49
2-Methylnaphthalene	820*	0.21 U	250	0.94 U	8.7	4.0
PCBs (mg/kg)						
Aroclor 1016	1	NA	0.19 U	2.5 U	0.20 U	0.20 U
Aroclor 1221	1	NA	0.19 U	2.5 U	0.20 U	0.20 U
Aroclor 1232	1	NA	0.19 U	2.5 U	0.20 U	0.20 U
Aroclor 1242	1	NA	0.19 U	2.5 U	0.20 U	0.20 U
Aroclor 1248	1	NA	0.19 U	2.5 U	0.20 U	0.20 U
Aroclor 1254	1	NA	0.19 U	2.5 U	0.20 U	0.20 U
Aroclor 1260	1	NA	0.19 U	2.5 U	0.20 U	0.20 U
RCRA Metals and Cyanide (mg/kg)						
Arsenic	11.3†	1.6	3.0	4.4	12	3.3
Barium	14,000	100	32	39	33	14
Cadmium	200	0.29	0.28	0.29	0.24 U	0.28
Chromium	420	15	7.6	9.4	8.0	7.6
Lead	700	9.9	6.0	23	4.0	8.3
Mercury	0.1	0.046 J	0.067 J	0.27 J	0.018 UJ	0.017 UJ
Selenium	1,000	1.1 U	1.1 U	1.0 U	1.2 U	1.0 U
Silver	1,000	0.56 U	0.56 U	0.52 U	0.60 U	0.52 U
Cyanide, Total	4,100	2.1 J-	2.3 J-	0.64 J-	0.54 UJ	0.56 UJ

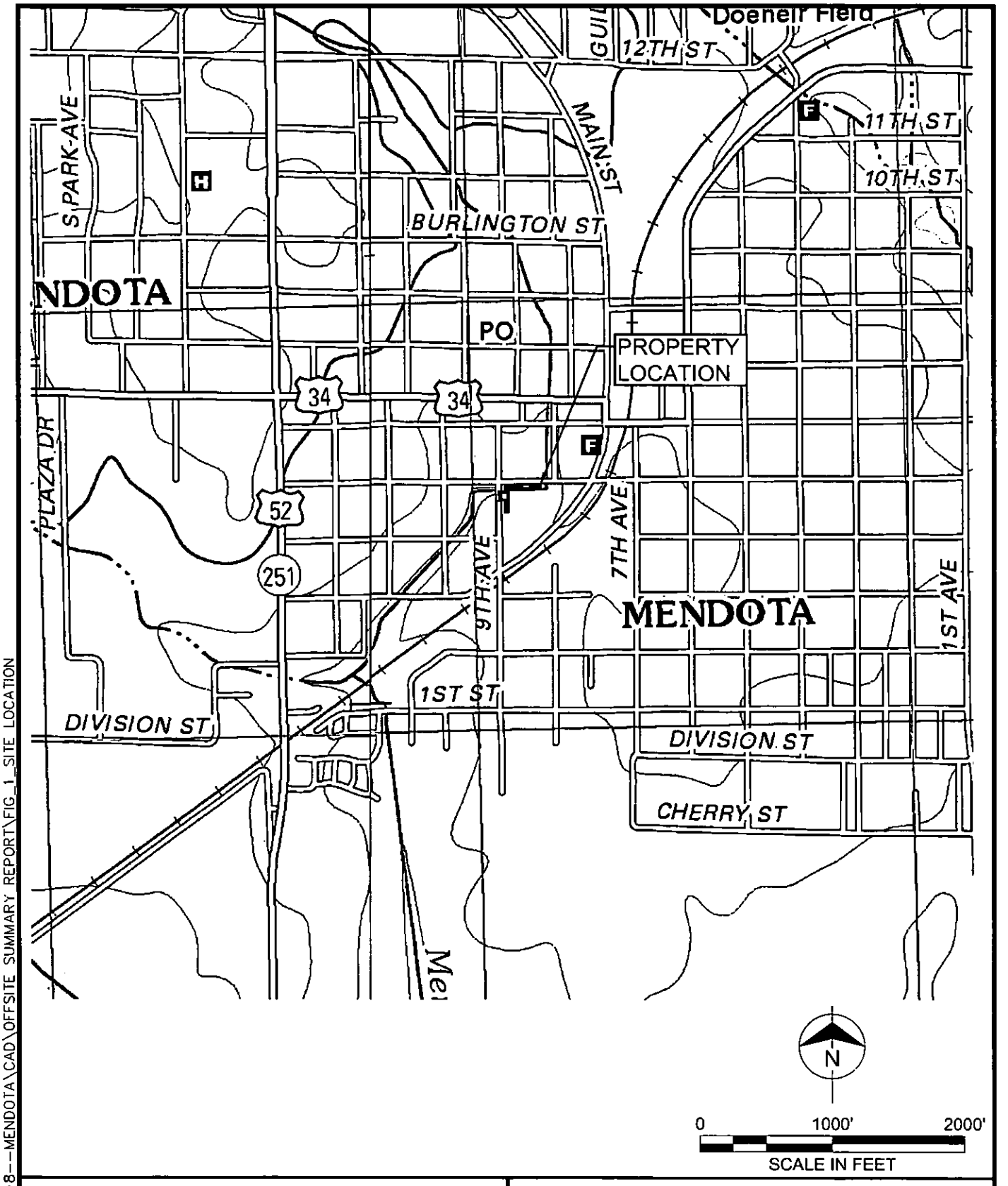
Notes:
1) * - Lowest screening level is for Industrial/Commercial and Construction Worker exposure routes.
2) WT ~ n - Water table encountered at approximately n feet bgs during drilling/sampling.
3) NA - Not analyzed.
4) * - Screening level is from the "Non-TACO Objectives" table, Illinois EPA, October 30, 2012.
5) † - Screening level is the background concentration for a non-metropolitan area (35 IAC 742, Appendix A, Tables G).
6) U - Compound/analyte not detected. The associated numerical value is the reporting limit.
7) J - Estimated value.
8) Shaded values exceed the screening level.
9) J- - Estimated value, biased low.
10) UJ - Estimated non-detect value.

Table 3 (Continued)
Subsurface Soil Analytical Results
Offsite Summary Report
Mendota MGP - Black Brothers Company Site - City Property

Compound/Analyte	Lowest Tier 1 Screening Level*	Sample Location and Depth (feet bgs)/Concentration					
		SP118B 7.2-8.0 WT ~ 6	SP119 6.3-7.0 WT ~ 6.3	SP119 8.0-8.5 WT ~ 6.3	SP120 6.0-7.0 WT ~ 6	SP121 6.2-7.0 WT ~ 6.2	SP122 7.7-8.5 WT ~ 7.4
BTEX and Styrene (mg/kg)							
Benzene	1.6	0.0072 U	1.2	0.35	0.0050 U	0.028	0.014
Ethylbenzene	58	0.0072 U	2.4	1.8	0.0050 U	0.091	0.0053 U
Styrene	430	0.0072 U	0.75 U	0.15 U	0.0050 U	0.061 U	0.0053 U
Toluene	42	0.0072 U	2.6	0.15	0.0050 U	0.016	0.0053 U
Xylenes, Total	5.6	0.014 U	7.4	3.0	0.010 U	0.18	0.011 U
Phenols (mg/kg)							
2,4-Dimethylphenol	41,000	0.42 U	4.3 U	16 U	0.36 U	1.9 U	0.37 U
2-Methylphenol	100,000	0.21 U	2.2 U	8.0 U	0.18 U	0.94 U	0.19 U
4-Methylphenol	3,300*	0.21 U	2.2 U	8.0 U	0.18 U	0.94 U	0.19 U
Phenol	61,000	0.21 U	2.2 U	8.0 U	0.18 U	0.94 U	0.19 U
PAHs (mg/kg)							
Acenaphthene	120,000	2.5	81	60	1.4	13	1.9
Acenaphthylene	61,000*	2.3	55	120	0.54	2.7	0.61
Anthracene	610,000	2.0	120	260	0.10	8.0	0.28
Benzo(a)anthracene	8	0.47	67	150	0.087	6.1	0.037 U
Benzo(b)fluoranthene	8	0.20	46	110	0.065	5.3	0.037 U
Benzo(k)fluoranthene	78	0.094	36	54	0.036 U	2.8	0.037 U
Benzo(a)pyrene	0.8	0.17	52	110	0.063	5.0	0.037 U
Benzo(g,h,i)perylene	61,000*	0.057	30	44	0.039	2.1	0.037 U
Chrysene	780	0.40	62	110	0.062	5.1	0.037 U
Dibenzo(a,h)anthracene	0.8	0.042 U	12	21	0.036 U	0.74	0.037 U
Fluoranthene	82,000	2.6	190	410	0.16	12	0.68
Fluorene	82,000	4.2	120	260	1.1	12	1.8
Indeno(1,2,3-cd)pyrene	8	0.055	28	48	0.046	2.1	0.037 U
Naphthalene	1.8	0.20	250	17	0.095	1.9	0.044
Phenanthrene	61,000*	1.4	310	630	0.24	28	0.073
Pyrene	61,000	1.5	140	290	0.13	7.7	0.32
Dibenzofuran	820*	1.5	100	200	0.18 U	12	0.19 U
2-Methylnaphthalene	820*	0.21 U	74	8.0 U	0.18 U	0.94 U	0.19 U
PCBs (mg/kg)							
Aroclor 1016	1	NA	0.022 U	0.019 U	NA	NA	NA
Aroclor 1221	1	NA	0.022 U	0.019 U	NA	NA	NA
Aroclor 1232	1	NA	0.022 U	0.019 U	NA	NA	NA
Aroclor 1242	1	NA	0.022 U	0.019 U	NA	NA	NA
Aroclor 1248	1	NA	0.022 U	0.019 U	NA	NA	NA
Aroclor 1254	1	NA	0.022 U	0.019 U	NA	NA	NA
Aroclor 1260	1	NA	0.022 U	0.019 U	NA	NA	NA
RCRA Metals and Cyanide (mg/kg)							
Arsenic	11.3†	2.6	9.1	6.7	2.8	2.9	1.8
Barium	14,000	31	34	20	12	13	33
Cadmium	200	0.35	0.41	0.47	0.26	0.25	0.24
Chromium	420	11	11	6.8	4.1	6.1	11 J
Lead	700	7.5	7.5	6.9	2.6	3.8	6.6
Mercury	0.1	0.053 J+	0.12 J+	0.040 J+	0.018 U	0.074 J+	0.019 U
Selenium	1,000	1.2 U	1.2 U	1.1 U	1.1 U	0.97 U	1 U
Silver	1,000	0.59 U	0.58 U	0.56 U	0.56 U	0.49 U	0.52 U
Cyanide, Total	4,100	2.1 J	1.4 J	9.9 J	17 J	10 J	4.7 J

Notes:
1) * - Lowest screening level is for Industrial/Commercial and Construction Worker exposure routes.
1) WT ~ n - Water table encountered at approximately n feet bgs during drilling/sampling.
2) U - Compound/analyte not detected. The associated numerical value is the reporting limit.
3) * - Screening level is from the "Non-TACO Objectives" table, Illinois EPA, October 30, 2012.
4) † - Screening level is the background concentration for a non-metropolitan area (35 IAC 742, Appendix A, Tables G).
5) Shaded values exceed the screening level.
6) J - Estimated value.
7) J+ - Estimated value, biased high.
8) NA - Not analyzed.

FIGURES
Offsite Summary Report
Mendota MGP – Black Brothers Company Site – City Property



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An AGL Resources Company

FIGURE 1
SITE LOCATION MAP
CITY OF MENDOTA PROPERTY
OFFSITE SUMMARY REPORT
MENDOTA, ILLINOIS

I:\NICOR GAS\57618--MENDOTA\CAD\OFFSITE SUMMARY REPORT\FIG_1_SITE LOCATION

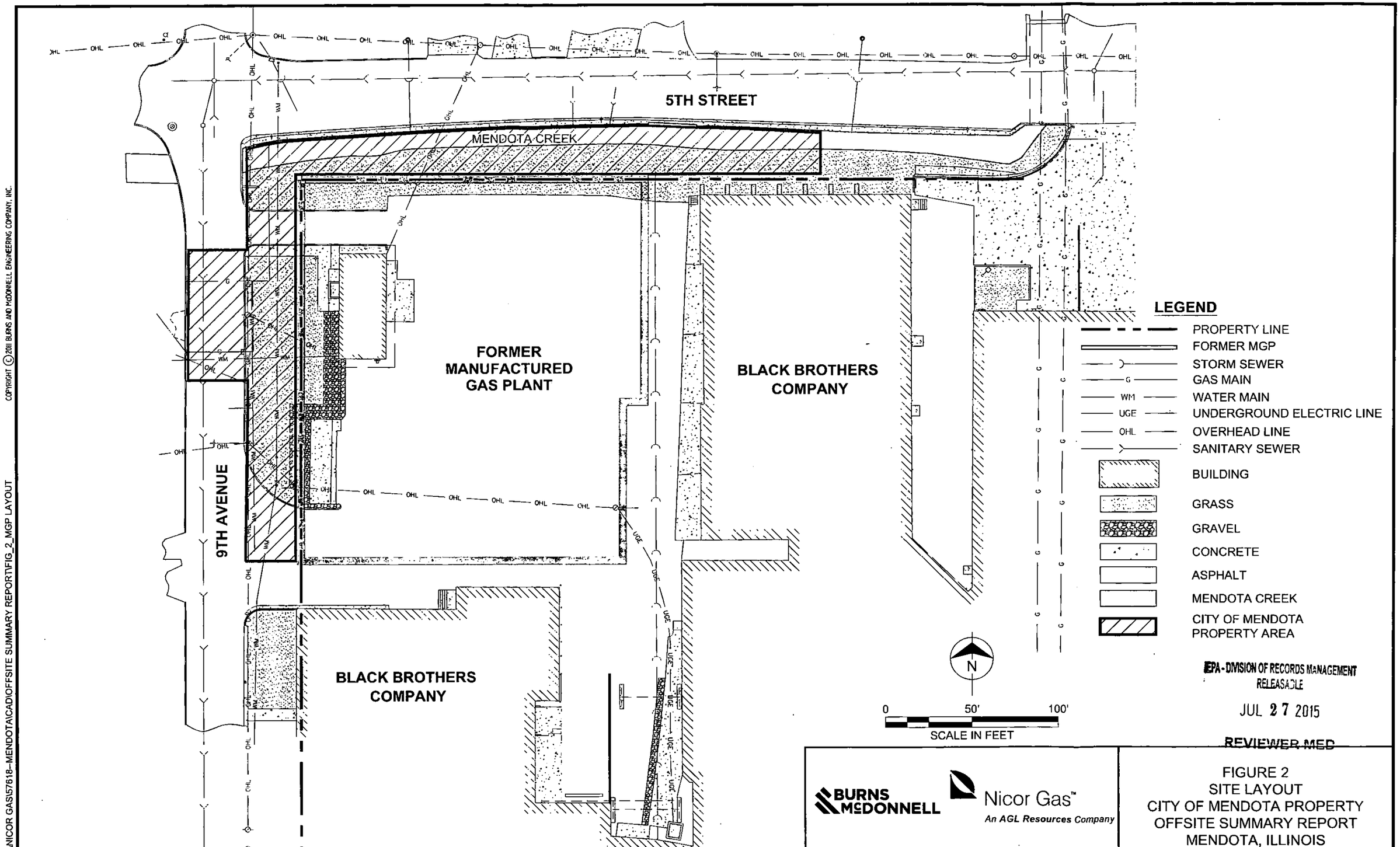

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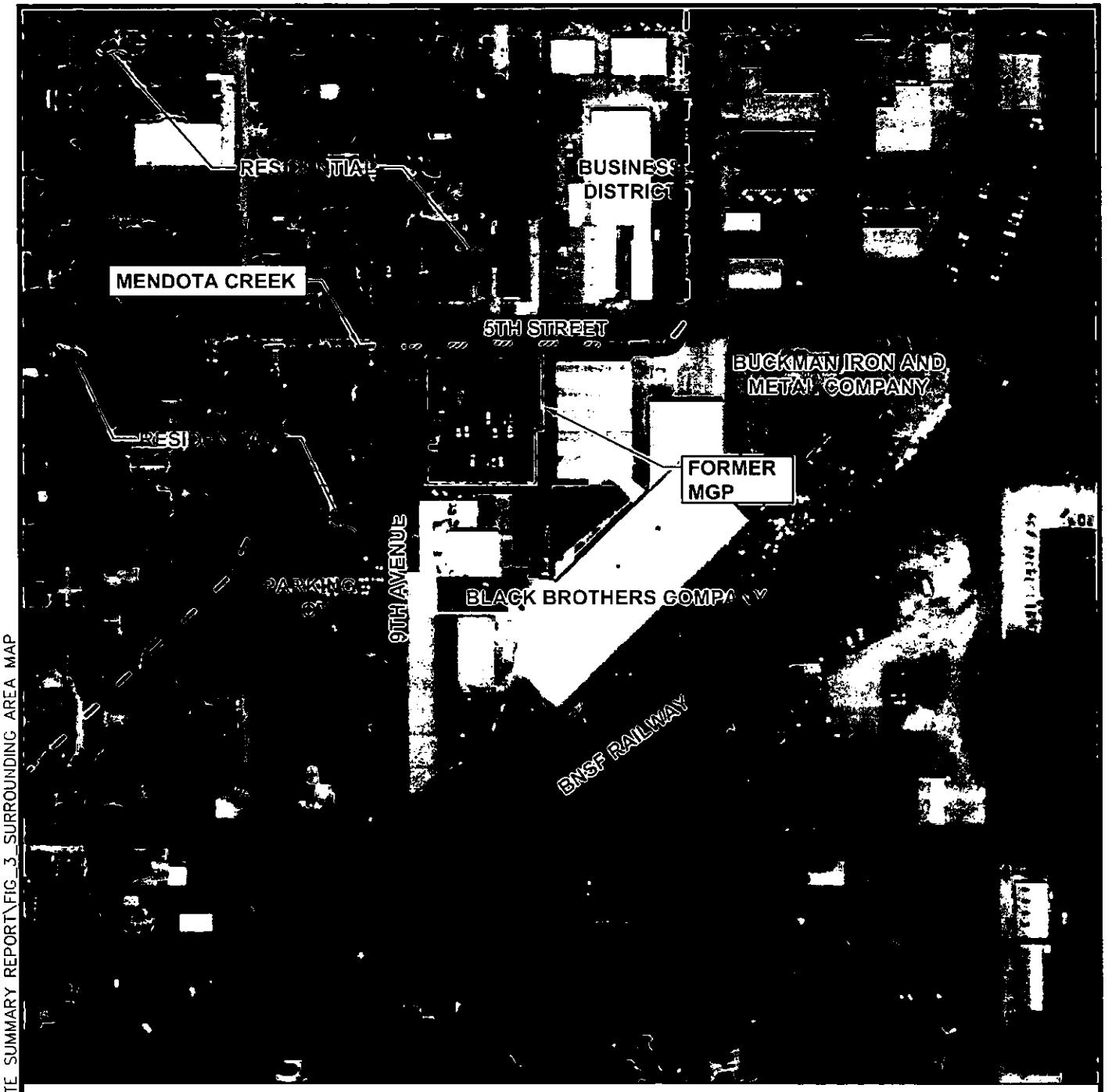
FIGURE 2
SITE LAYOUT
CITY OF MENDOTA PROPERTY
OFFSITE SUMMARY REPORT
MENDOTA, ILLINOIS

I:\NICOR GAS\57618-MENDOTA\CAD\OFFSITE SUMMARY REPORT\FIG_2_MGP LAYOUT



LEGEND

- FORMER MGP
- CENTERLINE OF CREEK
- CITY OF MENDOTA PROPERTY AREA

N

0 200' 400'

SCALE IN FEET

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FIGURE 3
SURROUNDING AREA MAP
CITY OF MENDOTA PROPERTY
OFFSITE SUMMARY REPORT
MENDOTA, ILLINOIS

I:\NICOR GAS\57618--MENDOTA\CAD\OFFSITE SUMMARY REPORT\FIG_3_SURROUNDING AREA MAP

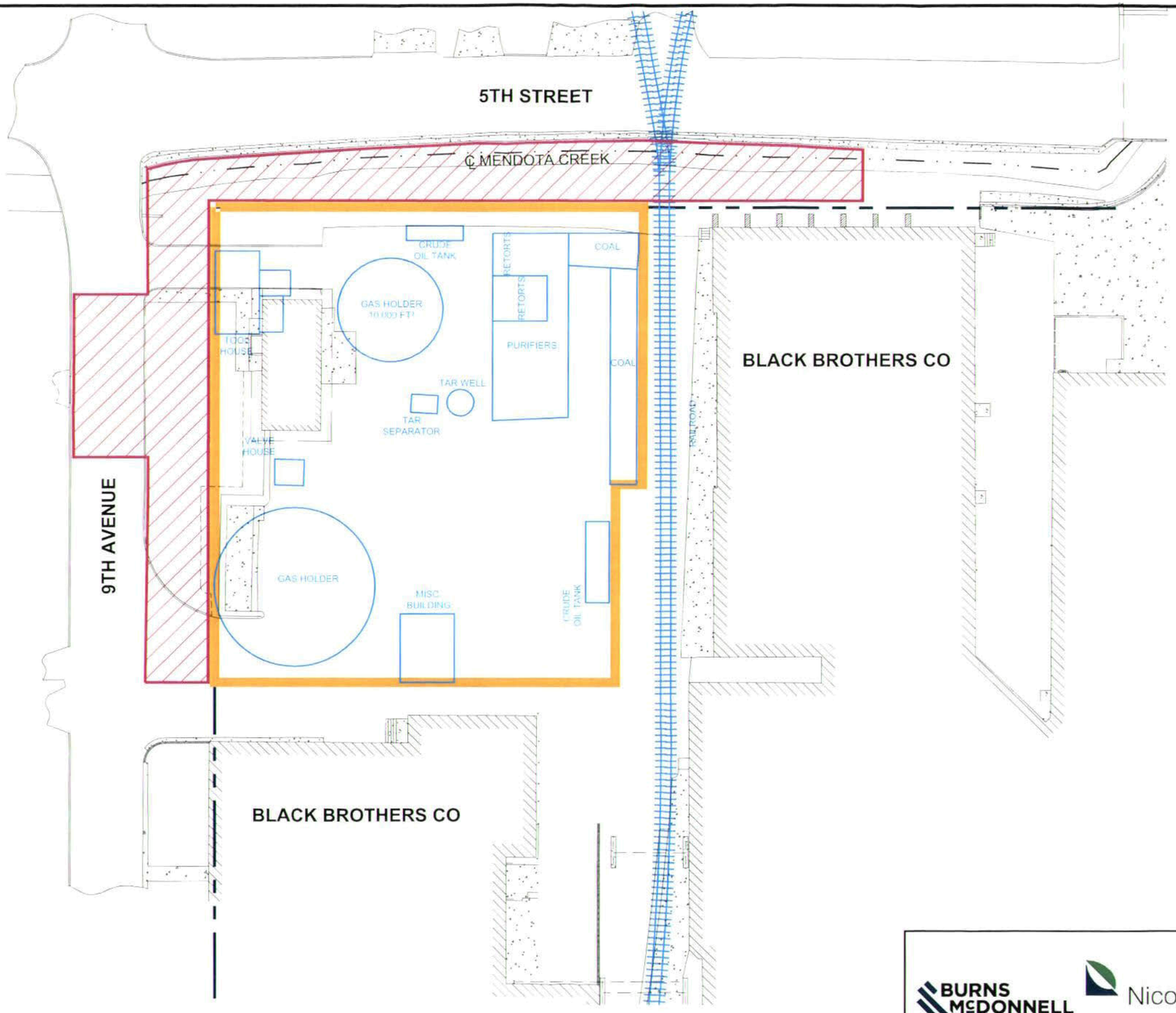
SEE LARGE FORMAT MAP OR PLAN SHEET

DESCRIPTION:

Site # 0990555005
Site Name: Mendota/Black Brothers Co.
Category: S.R. Tech
Doc Date: 07/22/2015
Log:
Office Summary Report

	Type or Description	SEE COLOR	Date of Plan	Figure/Diagram
1.	Surrounding Area Zoning Map City of Mendota Property Offsite Summary Report	Yes	04/25/2014	Figure 4 Project 57618
2				
3.				
4.				
5.				
6.				
7.				

IL 532-2702



LEGEND

- PROPERTY LINE
- FORMER MGP
- HISTORICAL FEATURES
- CENTERLINE OF CREEK
- CONCRETE
- BUILDING
- CITY OF MENDOTA PROPERTY AREA

N

0 20' 40' 80'
SCALE IN FEET

BURNS McDONNELL

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FIGURE 5
HISTORICAL LAYOUT MAP
CITY OF MENDOTA PROPERTY
OFFSITE SUMMARY REPORT
MENDOTA, ILLINOIS

I:\NICOR GAS\57618-MENDOTA\CAD\OFFSITE SUMMARY REPORT\FIG_5_HISTORICAL LAYOUT

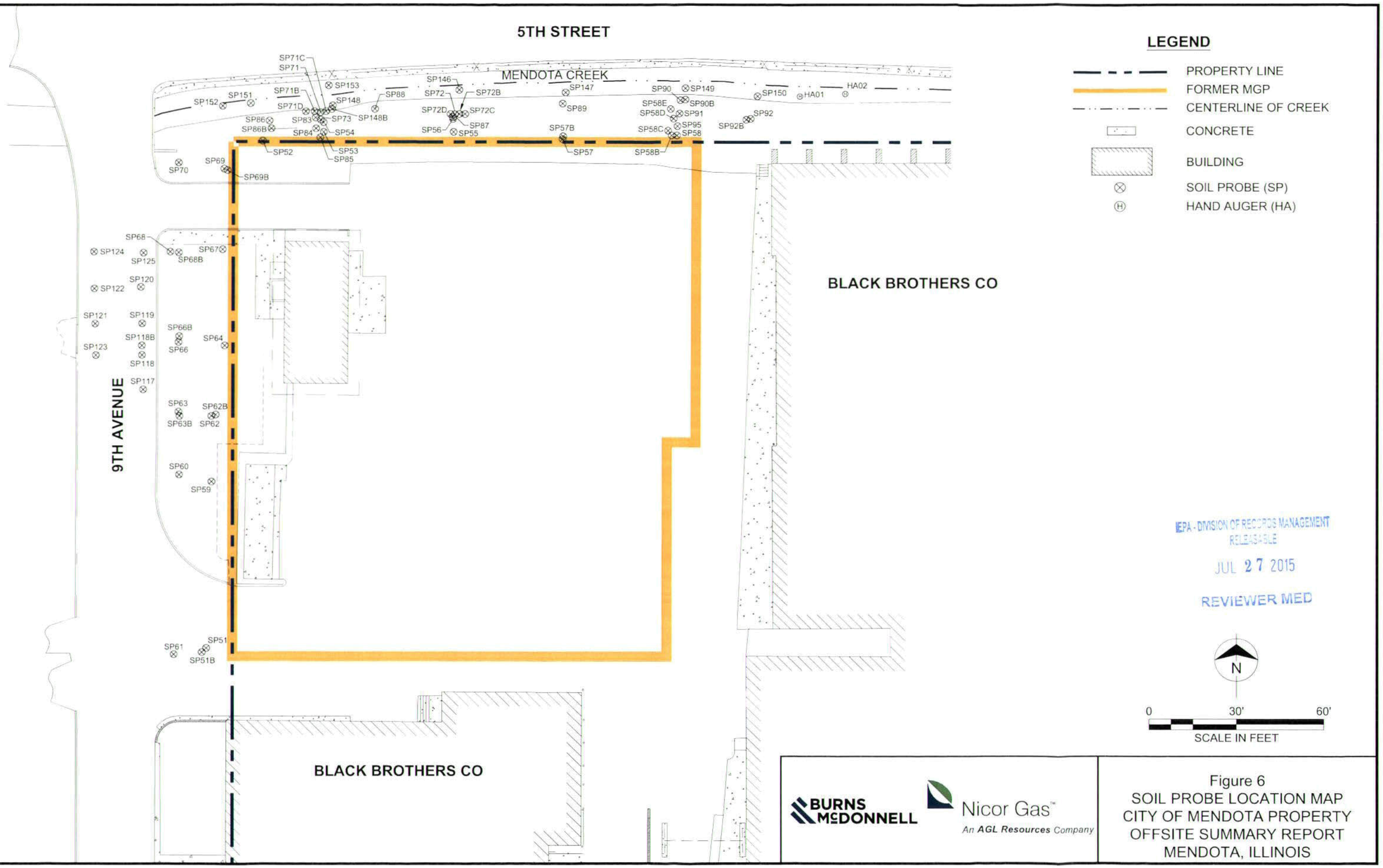

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Figure 6
SOIL PROBE LOCATION MAP
CITY OF MENDOTA PROPERTY
OFFSITE SUMMARY REPORT
MENDOTA, ILLINOIS

I:\NICOR GAS\57618-MENDOTA\CAD\OFFSITE SUMMARY REPORT\FIG_6_SOIL PROBE LOC MAP

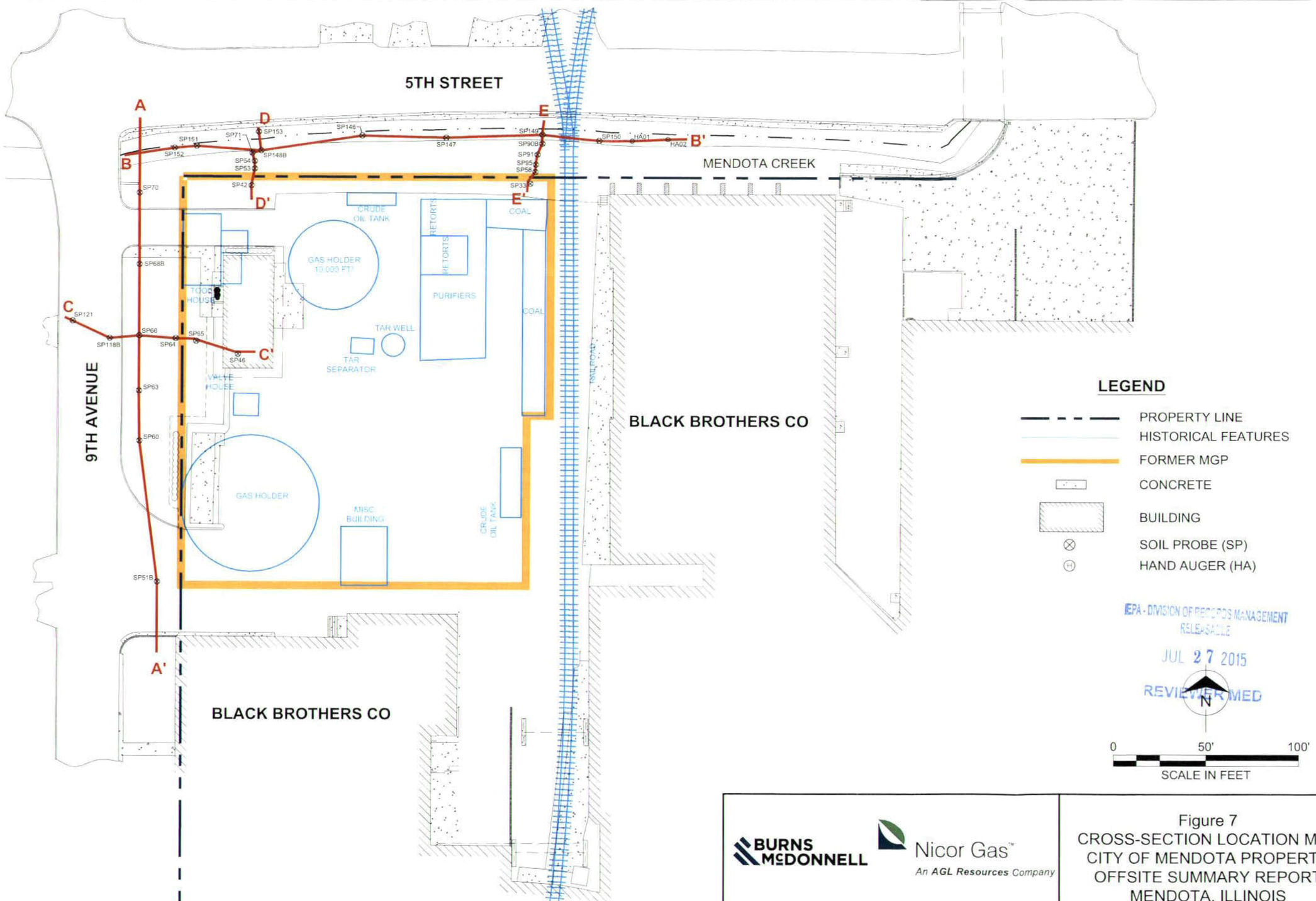

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Figure 7
CROSS-SECTION LOCATION MAP
CITY OF MENDOTA PROPERTY
OFFSITE SUMMARY REPORT
MENDOTA, ILLINOIS

I:\NICOR GAS\57618-MENDOTA\CAD\OFFSITE SUMMARY REPORT\FIG_7_CROSS SECTION LOCATIONS

SEE LARGE FORMAT MAP OR PLAN SHEET

DESCRIPTION:

Site # #0990555005

Name: Mendota/Black Brothers Co.
Category: S.R. Tech
Doc Date: 07/22/2015
Log:
Office Summary Report

	Type or Description	SEE COLOR	Date of Plan	Figure/Diagram
1.	Geological cross sections A-A, B-b City of Mendota Property Offsite Summary Report	Yes	04/25/2015	Figure 8 Project 57618
2	Geological cross sections C-C, D-D, E-E City of Mendota Property Offsite Summary Report	Yes	04/18/2014	Figure 9 Project 57618
3.				
4.				
5.				
6.				
7.				

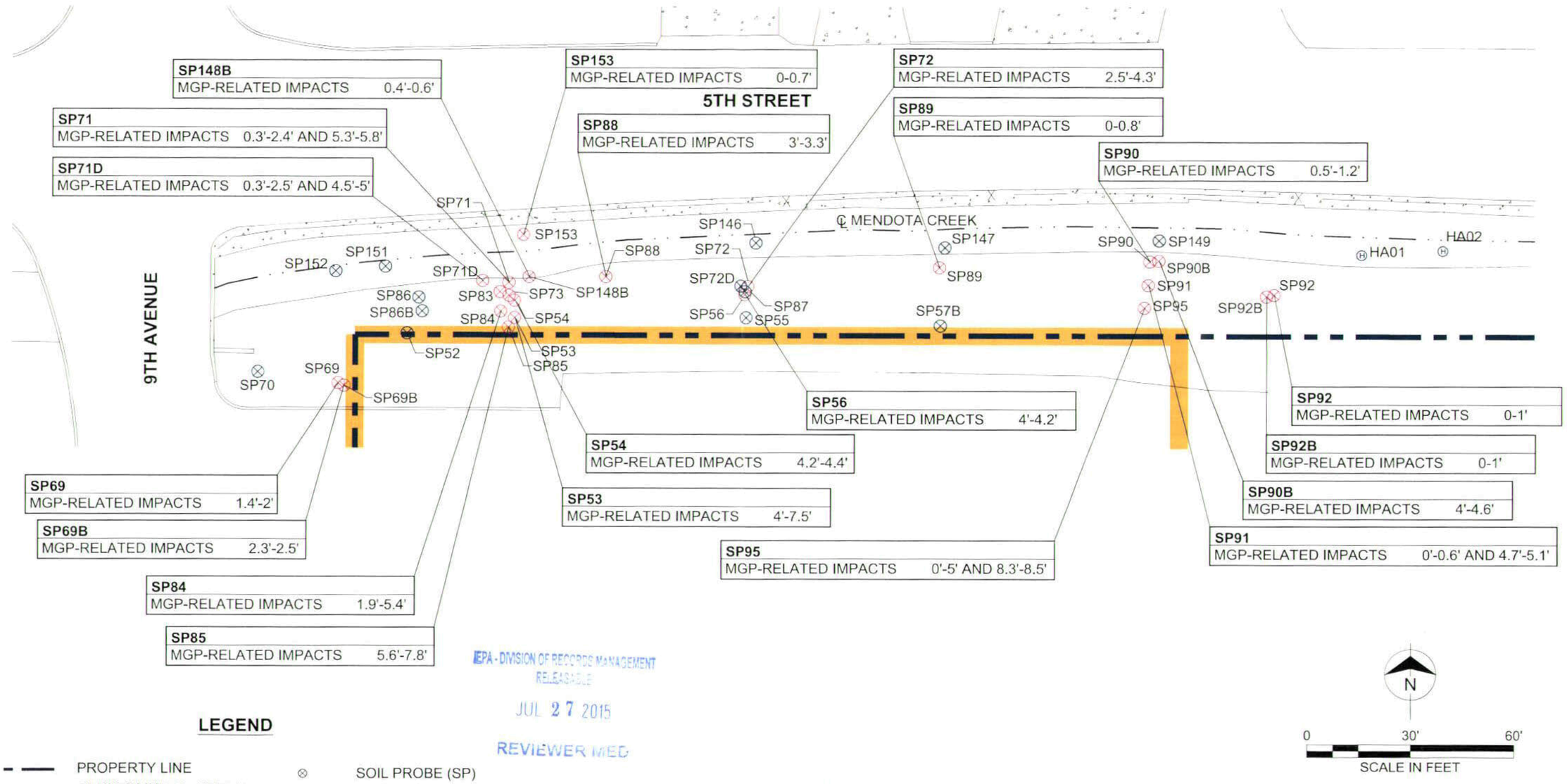

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Figure 10
NORTHERN PORTION OF PROPERTY
FIELD ACTIVITY FINDINGS
CITY OF MENDOTA PROPERTY
OFFSITE SUMMARY REPORT
MENDOTA, ILLINOIS

I:\NICOR GAS\57618-MENDOTA\CAD\OFFSITE SUMMARY REPORT\FIG_10_FIELD ACTIVITY FINDINGS

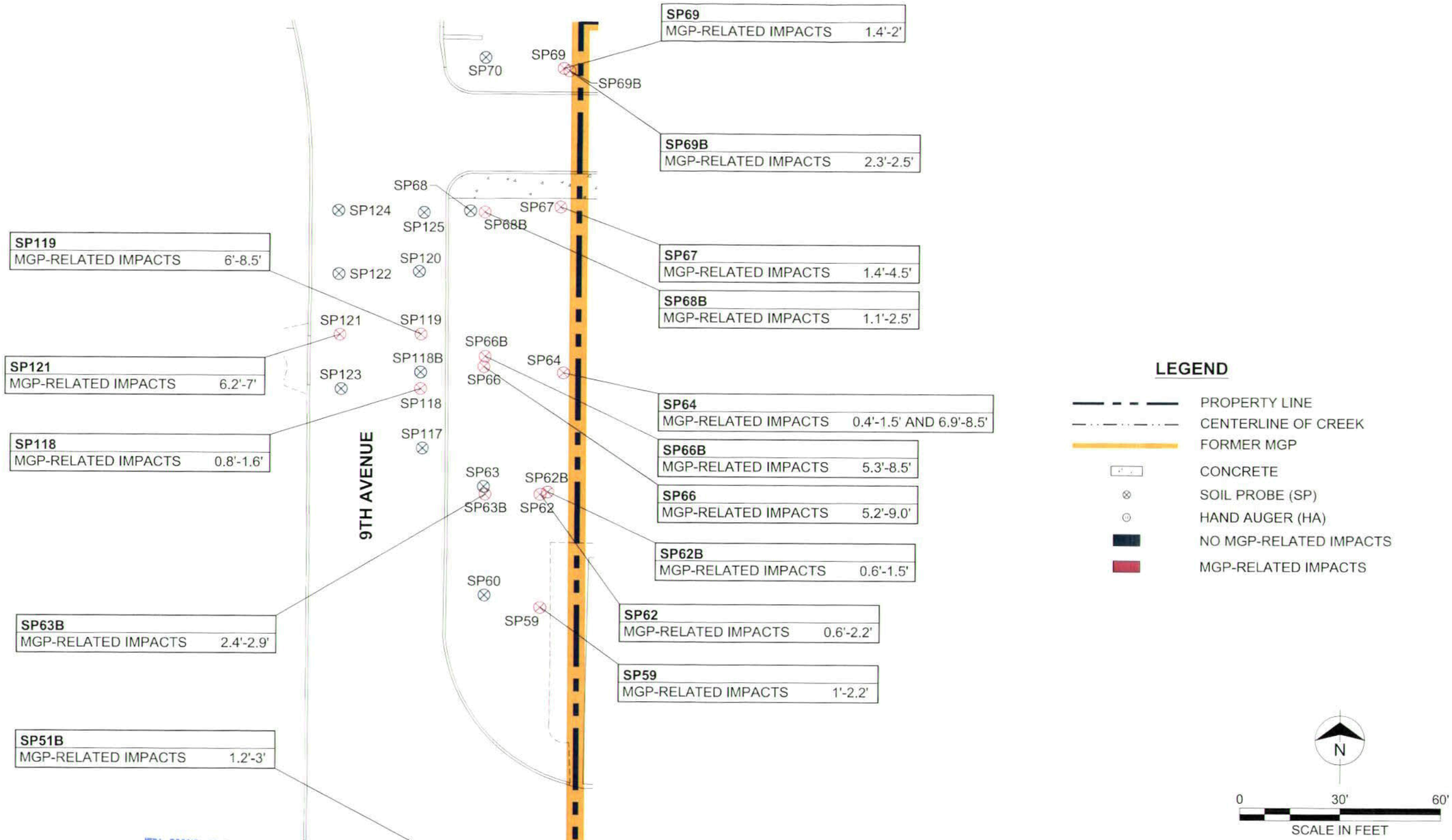

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Figure 11
WESTERN PORTION OF PROPERTY
FIELD ACTIVITY FINDINGS
CITY OF MENDOTA PROPERTY
OFFSITE SUMMARY REPORT
MENDOTA, ILLINOIS

I:\NICOR GAS\57618-MENDOTA\CAD\OFFSITE SUMMARY REPORT\FIG_11_FIELD ACTIVITY FINDINGS

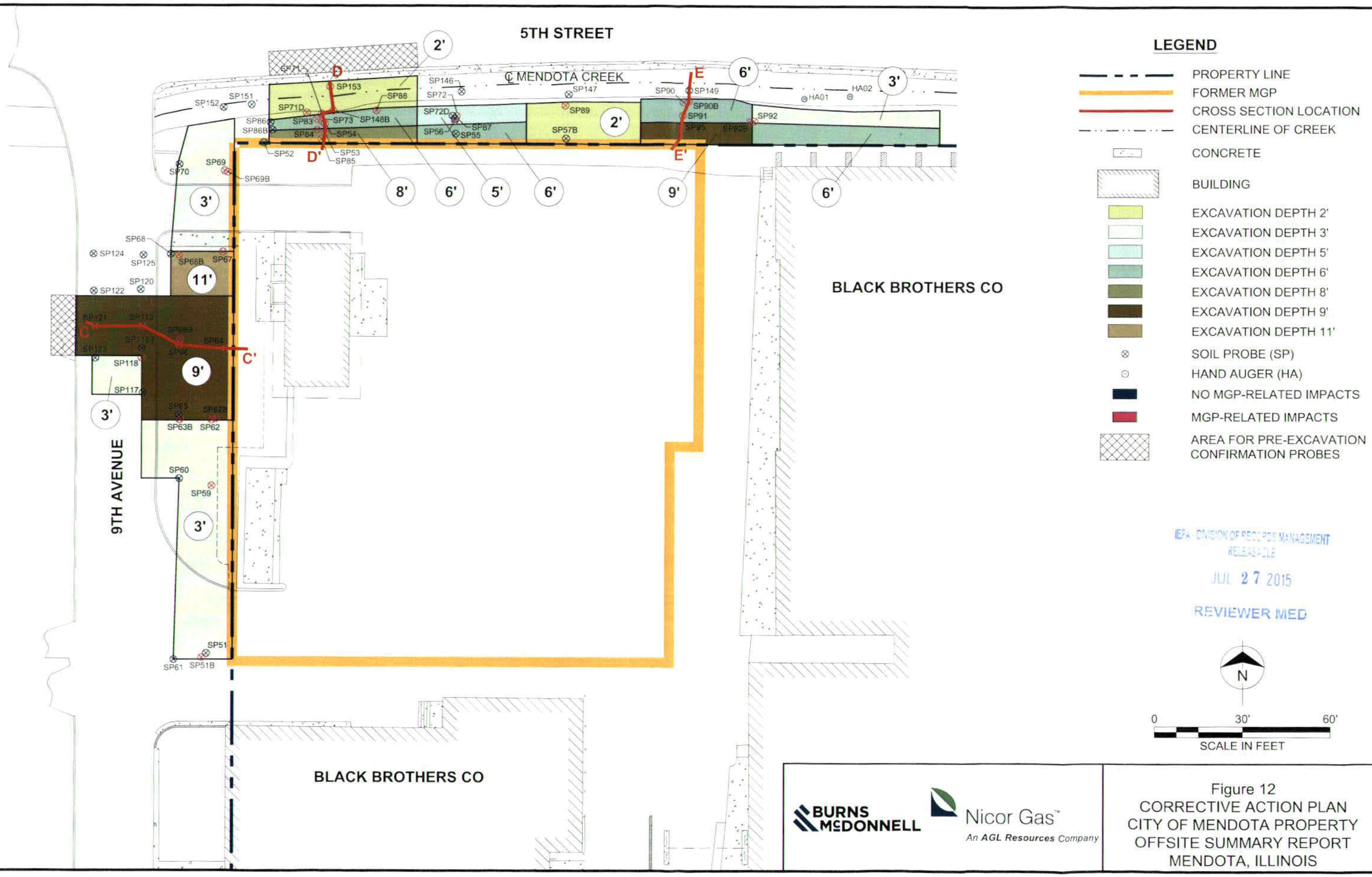

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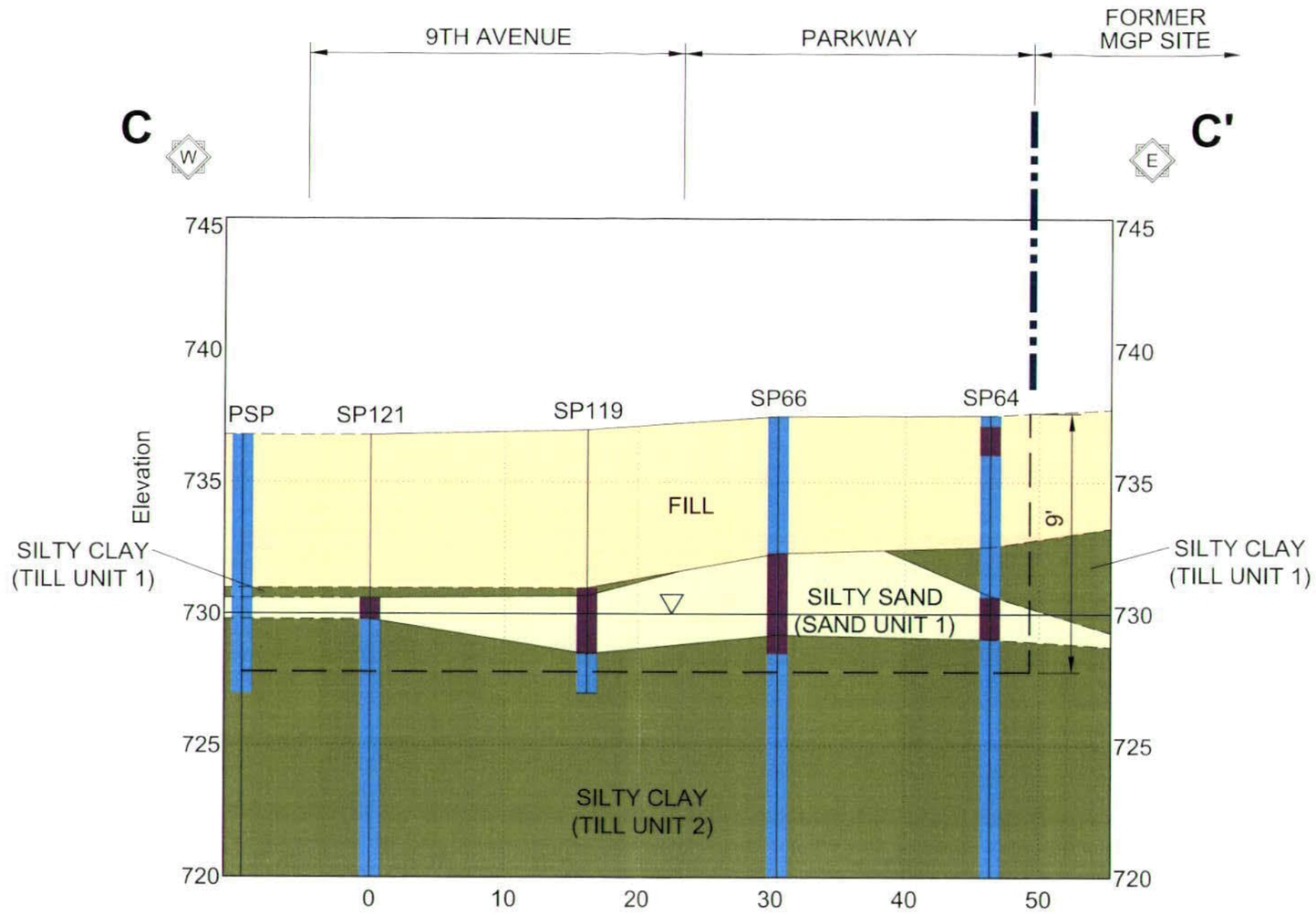
Figure 12
CORRECTIVE ACTION PLAN
CITY OF MENDOTA PROPERTY
OFFSITE SUMMARY REPORT
MENDOTA, ILLINOIS

I:\NICOR GAS\57618-MENDOTA\CAD\OFFSITE SUMMARY REPORT\FIG_12_CORRECTIVE ACTION PLAN



LEGEND

- PROPERTY LINE
- APPROXIMATE LOCATION OF WATER TABLE (BASED ON MEASUREMENTS IN MONITORING WELLS ON ADJACENT PROPERTY)
- EXPECTED EXCAVATION (SIDE SLOPING NOT SHOWN)
- NO MGP-RELATED IMPACTS
- MGP-RELATED IMPACTS
- SP — SOIL PROBE
- PSP — PROPOSED SOIL PROBE
- FILL
- SILTY SAND
- SILTY CLAY TILL

NOTES:

1. SP121 AND SP119 IN ROADWAY, 0-6 FEET BGS WAS AIRKNIFED.
2. PROPOSED SOIL PROBE WILL BE USED AS PRE-EXCAVATION CONFIRMATION PROBE OF NO MGP-RELATED IMPACTS.

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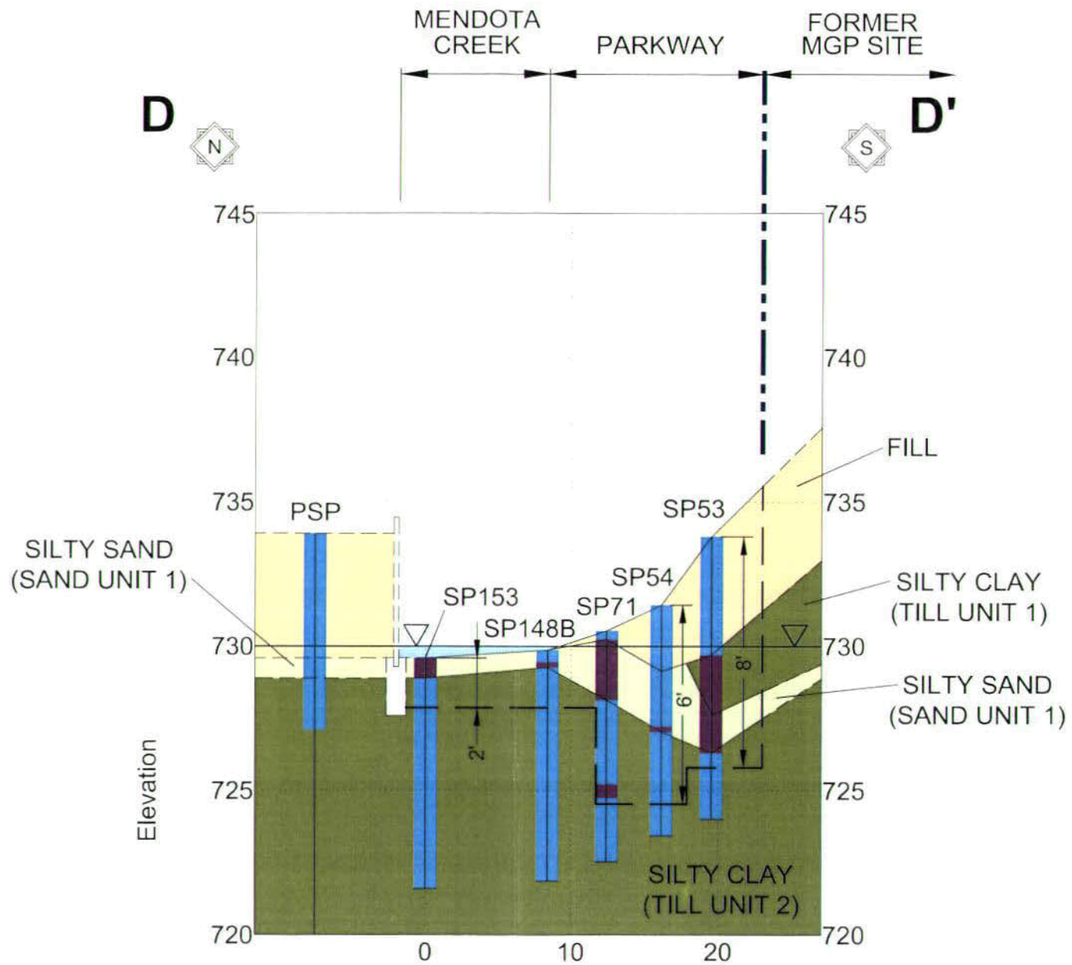
Figure 13
MGP-RELATED IMPACTS
CROSS SECTION C-C'
CITY OF MENDOTA PROPERTY
OFFSITE SUMMARY REPORT
MENDOTA, ILLINOIS

I:\NICOR GAS\57618--MENDOTA\CAD\OFFSITE SUMMARY REPORT\FIG_13-15_XSECTIONS



LEGEND

- PROPERTY LINE
- APPROXIMATE LOCATION OF WATER TABLE (BASED ON MEASUREMENTS IN MONITORING WELLS ON ADJACENT PROPERTY)
- EXPECTED EXCAVATION (SIDE SLOPING NOT SHOWN)
- NO MGP-RELATED IMPACTS
- MGP-RELATED IMPACTS
- SP — SOIL PROBE
- PSP — PROPOSED SOIL PROBE
- FILL
- SILTY SAND
- SILTY CLAY TILL

NOTE:
PROPOSED SOIL PROBE WILL BE USED AS PRE-EXCAVATION CONFIRMATION PROBE OF NO MGP-RELATED IMPACTS.

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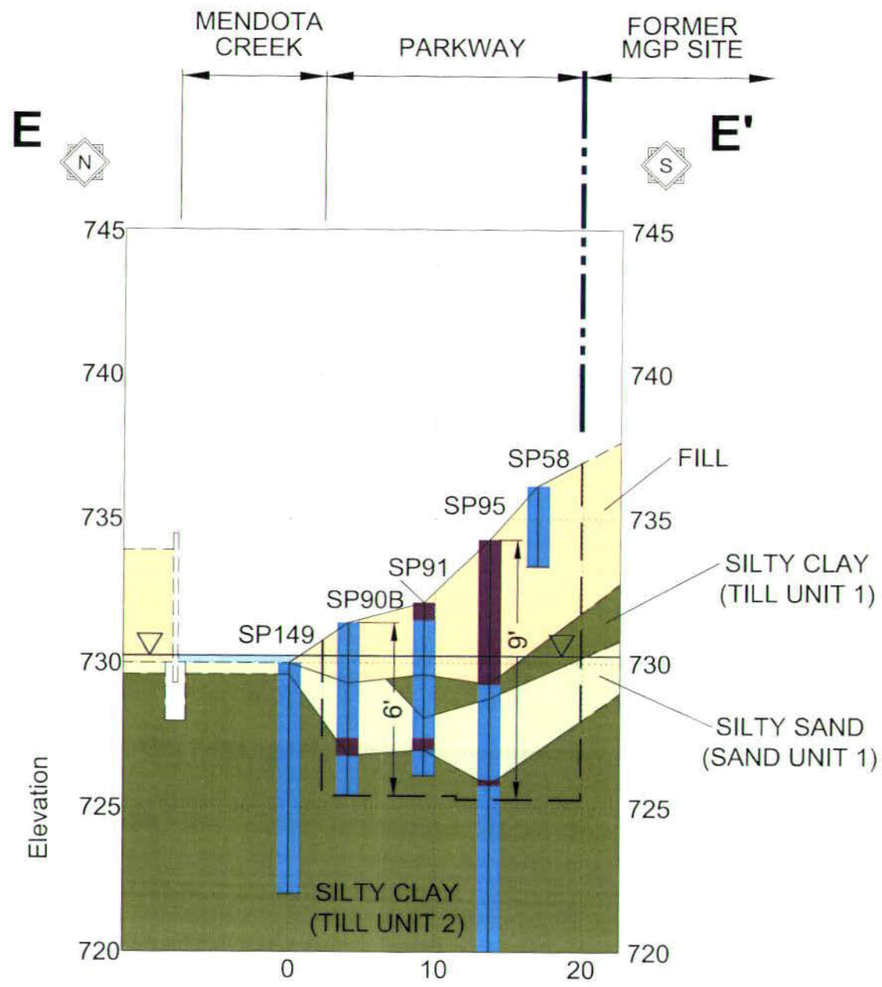
Figure 14
MGP-RELATED IMPACTS
CROSS SECTION D-D'
CITY OF MENDOTA PROPERTY
OFFSITE SUMMARY REPORT
MENDOTA, ILLINOIS

I:\NICOR GAS\57618-MENDOTA\CAD\OFFSITE SUMMARY REPORT\FIG_13-15_XSECTIONS



LEGEND

- PROPERTY LINE
- APPROXIMATE LOCATION OF WATER TABLE (BASED ON MEASUREMENTS IN MONITORING WELLS ON ADJACENT PROPERTY)
- EXPECTED EXCAVATION (SIDE SLOPING NOT SHOWN)
- NO MGP-RELATED IMPACTS
- MGP-RELATED IMPACTS
- SP — SOIL PROBE
- FILL
- SILTY SAND
- SILTY CLAY TILL

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An AGL Resources Company

Figure 15
MGP-RELATED IMPACTS
CROSS SECTION E-E'
CITY OF MENDOTA PROPERTY
OFFSITE SUMMARY REPORT
MENDOTA, ILLINOIS

I:\NICOR GAS\57618--MENDOTA\CAD\OFFSITE SUMMARY REPORT\FIG_13-15_XSECTIONS

Appendix A
Boundary and Topographic Survey Map and Sanborn Maps
Offsite Summary Report
Mendota MGP – Black Brothers Company Site – City Property

SEE LARGE FORMAT MAP OR PLAN SHEET

DESCRIPTION:

Site # #0990555005

Name: Mendota MGP/Black Brothers Co.
Category: S.R. Tech
Doc Date: 07/22/2015
Log:
Office Summary Report

	Type or Description	SEE COLOR	Date of Plan	Figure/Diagram
1.	Boundary & Topographic Survey	No	09/16/2011	Sheet S-1
2				
3.				
4.				
5.				
6.				
7.				

IL 532-2702
LPC 602 5/2008

Appendix B
Photographs
Offsite Summary Report
Mendota MGP – Black Brothers Company Site – City Property

Mendota MGP - Black Brothers Company Site - City Property
June 21, 2012

Description: View of excavated working platform in creek slope.

Mendota MGP - Black Brothers Company Site - City Property
June 19, 2012

Description: View of vacuum excavation in the western parkway.

Mendota MGP - Black Brothers Company Site - City Property
June 25, 2012

Description: Soil probing in the western parkway.

Mendota MGP - Black Brothers Company Site - City Property
June 27, 2012

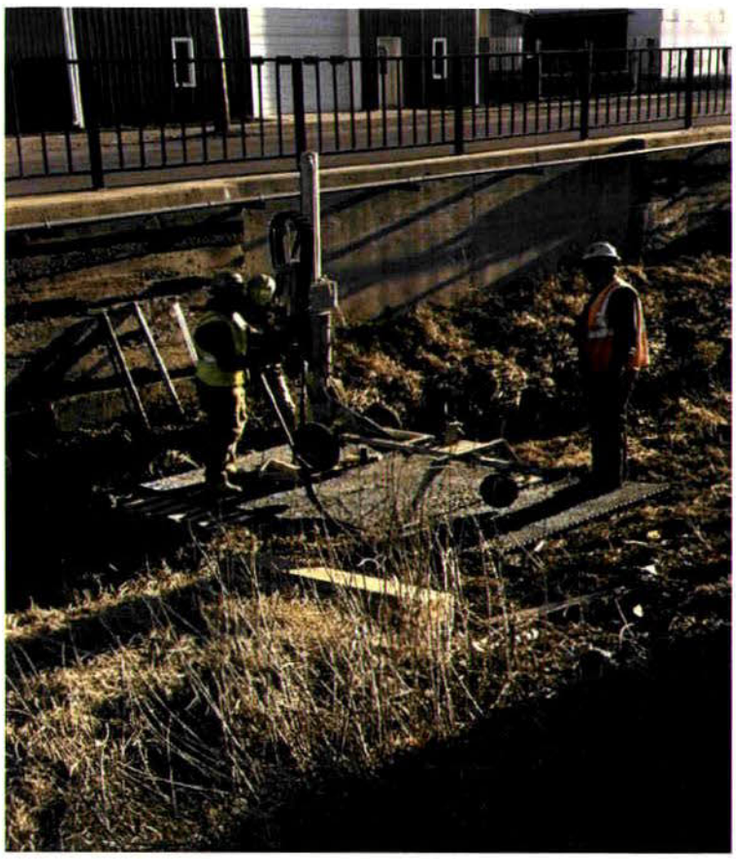
Description: View of Mendota creek during the summer of 2012 with excavated working platforms in foreground.

Mendota MGP - Black Brothers Company Site - City Property
March 14, 2013

Description: View of Mendota Creek during the spring of 2013.

Mendota MGP - Black Brothers Company Site - City Property
March 20, 2013

Description: View of soil probing in 5th Street.



Mendota MGP - Black Brothers Company Site - City Property
April 1, 2013

Description: Soil probing set up in Mendota Creek.

Appendix C
Waste Disposal
Offsite Summary Report
Mendota MGP – Black Brothers Company Site – City Property

TABLE OF CONTENTS

Table C-1
Solid Waste Characterization Sample
Offsite Summary Report
Mendota MGP - Black Brothers Company Site - City Property

Compound/Analyte	Sample Location/Concentration WC01
Toxicity Characteristic Leaching Procedure (TCLP) VOCs (milligrams per liter (mg/L))	
Benzene	0.45
2-Butanone	0.2 U
Carbon tetrachloride	0.05 U
Chlorobenzene	0.05 U
Chloroform	0.05 U
1,2-Dichloroethane	0.05 U
1,1-Dichloroethene	0.05 U
Tetrachloroethene	0.05 U
Trichloroethene	0.05 U
Vinyl chloride	0.05 U
TCLP SVOCs (mg/L)	
1,4-Dichlorobenzene	0.01 U
2,4-Dinitrotoluene	0.01 U
Hexachlorobenzene	0.01 U
Hexachlorobutadiene	0.01 U
Hexachloroethane	0.01 U
Nitrobenzene	0.01 U
2-Methylphenol	1
4-Methylphenol	1.9
Pentachlorophenol	0.05 U
Pyridine	0.03
2,4,5-Trichlorophenol	0.01 U
2,4,6-Trichlorophenol	0.01 U
TCLP Metals (mg/L)	
Arsenic	0.01 U
Barium	0.5
Cadmium	0.005 U
Chromium	0.01 U
Lead	0.005 U
Mercury	0.0002 U
Selenium	0.01 U
Silver	0.01 U
Polychlorinated biphenyls (PCBs) (milligrams per kilogram (mg/kg))	
Aroclor 1016	0.097 U
Aroclor 1221	0.097 U
Aroclor 1232	0.097 U
Aroclor 1242	0.097 U
Aroclor 1248	0.097 U
Aroclor 1254	0.097 U
Aroclor 1260	0.097 U
Reactivity (mg/kg)	
Cyanide, Total	35
Sulfide, Reactive	10 U
pH (pH units)	
pH	8.0
Phenolics (mg/kg)	
Phenolics, Total Recoverable	110
Extractable Organic Halogens (EOX) (mg/kg)	
EOX	20
Moisture (% by weight)	
Moisture	18.4
Miscellaneous	
Flashpoint	No flash up to 212°F
Paint Filter	Pass

Notes:
1) U - Compound/analyte not detected. The associated numerical value is the reporting limit.
2) Waste characterization sample results are not validated.

Table C-2
Liquid Waste Characterization Sample
Offsite Summary Report
Mendota MGP - Black Brothers Company Site - City Property

Compound/Analyte	Sample Location/Concentration WWC
Volatile Organic Compounds (VOCs) (milligrams per liter (mg/L))	
Acetone	0.1 U
Benzene	0.11
Bromodichloromethane	0.025 U
Bromoform	0.025 U
Bromomethane	0.025 U
2-Butanone	0.05 U
Carbon disulfide	0.05 U
Carbon tetrachloride	0.025 U
Chlorobenzene	0.025 U
Chloroethane	0.05 U
Chloroform	0.025 U
Chloromethane	0.05 U
Dibromochloromethane	0.025 U
1,1-Dichloroethane	0.025 U
1,2-Dichloroethane	0.025 U
1,1-Dichloroethene	0.025 U
cis-1,2-Dichloroethene	0.025 U
trans-1,2-Dichloroethene	0.025 U
1,2-Dichloropropane	0.025 U
cis-1,3-Dichloropropene	0.005 U
trans-1,3-Dichloropropene	0.005 U
Ethylbenzene	0.025 U
2-Hexanone	0.1 U
4-Methyl-2-pentanone	0.1 U
Methyl tertiary-butyl ether	0.025 U
Methylene chloride	0.025 U
Styrene	0.025 U
1,1,2,2-Tetrachloroethane	0.025 U
Tetrachloroethene	0.025 U
Toluene	0.081
1,1,1-Trichloroethane	0.025 U
1,1,2-Trichloroethane	0.025 U
Trichloroethene	0.025 U
Vinyl chloride	0.01 U
Xylenes, Total	0.1

Notes:
1) U - Compound/analyte not detected. The associated numerical value is the reporting limit.
2) Waste characterization sample results are not validated.

Table C-2 (Continued)
Liquid Waste Characterization Sample
Offsite Summary Report
Mendota MGP - Black Brothers Company Site - City Property

Compound/Analyte	Sample Location/Concentration WWC
Semivolatile Organic Compounds (SVOCs) (mg/L)	
Aniline	0.005 U
Benzidine	0.005 U
Benzoic acid	0.025 U
Benzyl alcohol	0.005 U
Bis(2-chloroethoxy)methane	0.005 U
Bis(2-chloroethyl)ether	0.005 U
Bis(2-ethylhexyl)phthalate	0.005 U
4-Bromophenyl phenyl ether	0.005 U
Butyl benzyl phthalate	0.005 U
Carbazole	0.09
4-Chloro-3-methylphenol	0.005 U
4-Chloroaniline	0.005 U
2-Chloronaphthalene	0.005 U
2-Chlorophenol	0.005 U
4-Chlorophenyl phenyl ether	0.005 U
Dibenzofuran	0.027
1,2-Dichlorobenzene	0.005 U
1,3-Dichlorobenzene	0.005 U
1,4-Dichlorobenzene	0.005 U
3,3'-Dichlorobenzidine	0.01 U
2,4-Dichlorophenol	0.005 U
Diethyl phthalate	0.005 U
Dimethyl phthalate	0.005 U
Di-n-butyl phthalate	0.025 U
2,4-Dimethylphenol	0.023
4,6-Dinitro-2-methylphenol	0.025 U
2,4-Dinitrophenol	0.025 U
2,4-Dinitrotoluene	0.001 U
2,6-Dinitrotoluene	0.001 U
Di-n-octyl phthalate	0.005 U
Hexachlorobenzene	0.005 U
Hexachlorobutadiene	0.005 U
Hexachlorocyclopentadiene	0.005 U
Hexachloroethane	0.005 U
Isophorone	0.005 U
2-Methylnaphthalene	0.12
2-Methylphenol	0.014
4-Methylphenol	0.017
2-Nitroaniline	0.025 U
3-Nitroaniline	0.025 U
4-Nitroaniline	0.025 U
Nitrobenzene	0.01 U
2-Nitrophenol	0.005 U
4-Nitrophenol	0.005 U
N-nitrosodi-n-propylamine	0.001 U
N-nitrosodiphenylamine	0.005 U
N-nitrosodimethylamine	0.005 U

Notes:
1) U - Compound/analyte not detected. The associated numerical value is the reporting limit.
2) Waste characterization sample results are not validated.

Table C-2 (Continued)
Liquid Waste Characterization Sample
Offsite Summary Report
Mendota MGP - Black Brothers Company Site - City Property

Compound/Analyte	Sample Location/Concentration WWC
SVOCs (mg/L) (Continued)	
2,2'-Oxybis(1-chloropropane)	0.005 U
Pentachlorophenol	0.0091 U
Phenol	0.012
Pyridine	0.005 U
1,2,4-Trichlorobenzene	0.005 U
2,4,5-Trichlorophenol	0.01 U
2,4,6-Trichlorophenol	0.005 U
Acenaphthene	0.1
Acenaphthylene	0.32
Anthracene	0.3
Benzo(a)anthracene	0.16
Benzo(b)fluoranthene	0.12
Benzo(k)fluoranthene	0.038
Benzo(a)pyrene	0.14
Benzo(g,h,i)perylene	0.051
Chrysene	0.13
Dibenzo(a,h)anthracene	0.029
Fluoranthene	0.53
Fluorene	0.35
Indeno(1,2,3-cd)pyrene	0.058
Naphthalene	2.3
Phenanthrene	0.99
Pyrene	0.41
Reactivity (mg/L)	
Cyanide, Total	0.66
Sulfide, Reactive	0.05 U
pH (pH units)	
pH	10.0
Phenolics (mg/L)	
Phenolics, Total Recoverable	0.89
Miscellaneous	
Flashpoint (Closed Cup)	No flash up to 212°F
Toxicity Characteristic Leaching Procedure (TCLP) Metals (mg/L)	
Arsenic	0.024
Barium	1.1
Cadmium	0.005 U
Chromium	0.027
Lead	0.0097
Mercury	0.0002 U
Selenium	0.01 U
Silver	0.01 U

Notes:
1) U - Compound/analyte not detected. The associated numerical value is the reporting limit.
2) Waste characterization sample results are not validated.

VEOLIA ENVIRONMENTAL SERVICES

Profile #: OHL01027

Special Waste Profile Sheet

Designated Facility: Orchard Hills Landfill

Sales Representative:

A. Generator

Name:	Nicor Gas – Black Brothers Company Site
Site Address:	501 9th Ave
City, State, Zip:	Mendota, IL 61342
Contact:	Keith Bodger
Phone:	630-388-2381
Fax:	

B. Billing

Name:	SET Environmental
Address:	450 Sumac Road
City, State, Zip:	Wheeling IL 60090
Contact:	
Phone:	847-537-9221
Fax:	

C. Description of Waste

Name of Waste: Soil cuttings

Process Generating Waste: Excavated soil from site investigation.

Estimated Volume: 60 tons Frequency: One time

Special Handling Instructions:

D. Chemical Composition/Physical Properties

Constituents	Concentration
Soil cuttings	100 %

Physical State:	Solid	Color:	
Free Liquids:		Flashpoint:	
pH:		Total Solids:	
Reactive Cyanide:		Reactive Sulfide:	

F. Sample/Analysis Information

☐ Sample submitted with profile X Laboratory analysis submitted ☐ Material Data Safety Sheet submitted

Laboratory Name: STAT Analysis Sample Date: 9/19/11 Sample ID: MEN-WC01091411

G. Generator Certifications

1. This waste is not a hazardous waste as defined by federal, state, or local laws and regulations.
2. This waste does not contain regulated quantities of PCBs as defined by federal, state or local laws and regulations.
3. This waste does not contain infectious wastes as defined by federal, state, or local laws and regulations.
4. To the best of my knowledge, all information submitted in this and all attached documents contains true and accurate descriptions of this waste. Any analysis submitted was performed on a representative sample as defined in 40 CFR 261 -Appendix 1 and was obtained by using this or an equivalent sampling method. All relevant information regarding known or suspected hazards in the possession of the generator has been disclosed.

Generator's Signature: Keith Bodger Title: Environmental Consultant

Print Name: Keith Bodger Date: 9/26/11

VEOLIA
ENVIRONMENTAL SERVICES

Profile #: OHL01027

Generator's Certification of Non-Special Waste

Waste Name: Soil cuttings **Generator Name:** Nicor Gas – Black Brothers Company site

Generating Process: Soil cuttings from site investigation.

Is the Waste Identified above:

1.	**A Potentially Infectious Medical Waste (PIMW)** as defined by 415 ILCS 5 Section 3.360 of the Environmental Protection Act	Yes	____	No	x
2.	**A Hazardous Waste as defined by 40 CFR 261 or; 35 IAC 722.111?**	Yes	____	No	x
3.	**A Liquid Waste, as determined using the paint filter test set forth in 35 IAC 811.107 (m) 3 (a)?**	Yes	____	No	x
4.	**A regulated Asbestos containing material as defined under the National Emission Standards for Hazardous Pollution in 40 CFR 61.141?**	Yes	____	No	x
5.	**A regulated Polychlorinated Biphenyl waste as defined by 40 CFR 761?**	Yes	____	No	x
6.	**Waste Material generated by processing recyclable metals by shredding (auto fluff)?**	Yes	____	No	x
7.	**A waste which has been treated to render it non-hazardous which is subject to the waste analysis requirements of 35 LAC 728.107?**	Yes	____	No	x

If you answered yes to any of the above questions the waste cannot be certified non-special waste.

I hereby certify that the waste identified above is not a special waste. This document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly collect and evaluate the information gathered. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted herein is true, accurate and complete. I have used knowledge of the process. Generating the waste and the attached supporting documentation to determine that the waste in question is not a special waste. I am aware that there are significant penalties for knowingly and falsely certifying that a special waste is not a special waste, including the possibility of fine and imprisonment.

Signature: Keith Bodger (Owner/Operator/Authorized Agent) **Date:** 9/26/11

Printed Name: Keith Bodger **Title:** Enviro Consultant

Attach all required information used to make this certification. Information used to make this determination:

____ Process Knowledge, ___x___ Analytical, ____ MSDS, ____ Other

1. The determination must be in accordance with the requirements of 35 Illinois Administrative code 722.11. Testing must be in accordance with methods set forth in 35 Illinois Administrative Code 721. Subpart C.
2. Liquid wastes may be determined by using paint-filter test SW3-46.
3. Waste material generated by processing recyclable metals by shredding (e.g. auto fluff) must be managed under Section 22.29 of the Illinois Environmental Protection Act.

VEOLIA
ENVIRONMENTAL SERVICES

APPROVAL REVIEW FORM

Profile Number: OHL01027
Generator Name: Nicor Gas - Black Bros. Co. Site
Waste Name: Soil Cutings

Has a completed profile been submitted including the following:	Yes	No
Generator Name and Address	☒	☐
Acceptable Waste Name and Process Generating the Waste	☒	☐
Acceptable Composition and Physical Characteristics	☒	☐
Complete Sample information and/or MSDSs	☒	☐
Properly signed by the generator	☒	☐

Waste Category: 37a
Disposal Method: B
Recertification Date: N/A - OTO
Next Retest Date: N/A
Parameters to be Tested: N/A

Conditions of Approval:

Based on a review of the information submitted by the generator the above referenced waste is acceptable for disposal.

Approvals Signature _____ Date 9/27/2011

Landfill Signature _____ Date 9/27/11

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001;AIHA 101160; NVLAP LabCode 101202-

September 19, 2011

Burns & McDonnell
1431 Opus Place
Suite 400
Downers Grove, IL 60515
Telephone: (630) 724-3200
Fax: (630) 724-3201

RE: 57618, Mendota

STAT Project No: 11090353

Dear Joe Chittet:

STAT Analysis received 1 sample for the referenced project on 9/14/2011 4:55:00 PM. The analytical results are presented in the following report.

All analyses were performed in accordance with the requirements of 35 IAC Part 186 / NELAC standards. Analyses were performed in accordance with methods as referenced on the analytical report. Those analytical results expressed on a dry weight basis are also noted on the analytical report.

All analyses were performed within established holding time criteria, and all Quality Control criteria met EPA or laboratory specifications except when noted in the Case Narrative or Analytical Report. If required, an estimate of uncertainty for the analyses can be provided. A listing of accredited methods/parameters can also be provided.

Thank you for the opportunity to serve you and I look forward to working with you in the future. If you have any questions regarding the enclosed materials, please contact me at (312) 733-0551.

Sincerely,

Catia Giannini
Project Manager

MEP

STAT Analysis Corporation

Date: September 19, 2011

Client:	Burns & McDonnell
Project:	57618, Mendota
Lab Order:	11090353

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
11090353-001A	MEN-WC01-091411		9/14/2011	9/14/2011

STAT Analysis Corporation Date: *September 19, 2011*

CLIENT:	Burns & McDonnell
Project:	57618, Mendota
Lab Order:	11090353

CASE NARRATIVE

The Phenolics Matrix Spike/Matrix Spike Duplicate (MS/MSD) prepared from sample MEN-WC01-091411 (11090353-001) had recovery outside control limits. The sample concentration is greater than four times the spike level used.

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202-

Report Date: September 19, 2011
Print Date: September 19, 2011

Client:	Burns & McDonnell	**Client Sample ID:**	MEN-WC01-091411
Lab Order:	11090353	**Tag Number:**	
Project:	57618, Mendota	**Collection Date:**	9/14/2011
Lab ID:	11090353-001A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
PCBs	**SW8082 (SW3550B)**			Prep Date: **9/15/2011**		Analyst: **GVC**
Aroclor 1016	ND	0.097		mg/Kg-dry	1	9/15/2011
Aroclor 1221	ND	0.097		mg/Kg-dry	1	9/15/2011
Aroclor 1232	ND	0.097		mg/Kg-dry	1	9/15/2011
Aroclor 1242	ND	0.097		mg/Kg-dry	1	9/15/2011
Aroclor 1248	ND	0.097		mg/Kg-dry	1	9/15/2011
Aroclor 1254	ND	0.097		mg/Kg-dry	1	9/15/2011
Aroclor 1260	ND	0.097		mg/Kg-dry	1	9/15/2011
TCLP Mercury	**SW1311/7470A**			Prep Date: **9/15/2011**		Analyst: **LB**
Mercury	ND	0.0002		mg/L	1	9/15/2011
TCLP Metals by ICP/MS	**SW1311/6020 (SW3005A)**			Prep Date: **9/15/2011**		Analyst: **JG**
Arsenic	ND	0.01		mg/L	5	9/19/2011
Barium	0.5	0.05		mg/L	5	9/19/2011
Cadmium	ND	0.005		mg/L	5	9/19/2011
Chromium	ND	0.01		mg/L	5	9/19/2011
Lead	ND	0.005		mg/L	5	9/19/2011
Selenium	ND	0.01		mg/L	5	9/19/2011
Silver	ND	0.01		mg/L	5	9/19/2011
TCLP Semivolatile Organic Compounds	**SW1311/8270C (SW3510C)**			Prep Date: **9/16/2011**		Analyst: **DM**
1,4-Dichlorobenzene	ND	0.01		mg/L	1	9/16/2011
2,4-Dinitrotoluene	ND	0.01		mg/L	1	9/16/2011
Hexachlorobenzene	ND	0.01		mg/L	1	9/16/2011
Hexachlorobutadiene	ND	0.01		mg/L	1	9/16/2011
Hexachloroethane	ND	0.01		mg/L	1	9/16/2011
Nitrobenzene	ND	0.01		mg/L	1	9/16/2011
2-methylphenol	1	0.1		mg/L	10	9/19/2011
3- & 4-Methylphenol	1.9	0.1		mg/L	10	9/19/2011
Pentachlorophenol	ND	0.05		mg/L	1	9/16/2011
Pyridine	0.03	0.01		mg/L	1	9/16/2011
2,4,5-Trichlorophenol	ND	0.01		mg/L	1	9/16/2011
2,4,6-Trichlorophenol	ND	0.01		mg/L	1	9/16/2011
TCLP Volatile Organic Compounds by GC/MS	**SW1311/8260B (SW5030B)**			Prep Date: **9/14/2011**		Analyst: **EJH**
Benzene	0.45	0.05		mg/L	10	9/15/2011
2-Butanone	ND	0.2		mg/L	10	9/15/2011
Carbon tetrachloride	ND	0.05		mg/L	10	9/15/2011
Chlorobenzene	ND	0.05		mg/L	10	9/15/2011
Chloroform	ND	0.05		mg/L	10	9/15/2011

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202-

Report Date: September 19, 2011
Print Date: September 19, 2011

Client:	Burns & McDonnell	**Client Sample ID:**	MEN-WC01-091411
Lab Order:	11090353	**Tag Number:**	
Project:	57618, Mendota	**Collection Date:**	9/14/2011
Lab ID:	11090353-001A	**Matrix:**	Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
TCLP Volatile Organic Compounds by GC/MS	**SW1311/8260B (SW5030B)**			Prep Date: **9/14/2011**		Analyst: **EJH**
1,2-Dichloroethane	ND	0.05		mg/L	10	9/15/2011
1,1-Dichloroethene	ND	0.05		mg/L	10	9/15/2011
Tetrachloroethene	ND	0.05		mg/L	10	9/15/2011
Trichloroethene	ND	0.05		mg/L	10	9/15/2011
Vinyl chloride	ND	0.05		mg/L	10	9/15/2011
Cyanide, Total	**SW9012A**			Prep Date: **9/15/2011**		Analyst: **YZ**
Cyanide	35	0.61		mg/Kg-dry	2	9/16/2011
Extractable Organic Halogens	**SW9023**			Prep Date: **9/19/2011**		Analyst: **YZ**
Extractable Organic Halogens	20	10		mg/Kg	1	9/19/2011
Flash Point (Open-Cup)	**SW1010(M)**			Prep Date: **9/14/2011**		Analyst: **RW**
Flashpoint	No flash up to 212		*	°F	1	9/14/2011
Paint Filter	**SW9095A**			Prep Date: **9/14/2011**		Analyst: **MNG**
Paint Filter	Pass			Pass/Fail	1	9/14/2011
pH (25 °C)	**SW9045C**			Prep Date: **9/14/2011**		Analyst: **MNG**
pH	8.0			pH Units	1	9/14/2011
Phenolics	**SW9066 (SW9065)**			Prep Date: **9/16/2011**		Analyst: **YZ**
Phenolics, Total Recoverable	110	6.1		mg/Kg-dry	10	9/16/2011
Percent Moisture	**D2974**			Prep Date: **9/14/2011**		Analyst: **RW**
Percent Moisture	18.4	0.2	*	wt%	1	9/15/2011
Sulfide, Reactive	**SW7.3.4.2**			Prep Date: **9/19/2011**		Analyst: **YZ**
Reactive Sulfide	ND	10		mg/Kg	1	9/19/2011

Qualifiers:
- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- HT - Sample received past holding time
- * - Non-accredited parameter
- RL - Reporting / Quantitation Limit for the analysis
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- H - Holding time exceeded

Burns & McDonnell

Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Engineering
1431 Opus Place
Downers Grove, Illinois 60515
Phone: (630) 724-3200 Fax: (630) 724-3201

Attention: Joe Chittet

Laboratory: STAT ANALYSIS
Address: 2242 W. HARRISON ST
City/State/ZIP: CHICAGO IL 60612
Telephone: 312-563-0371

Document Control No.: MEN - 3 - 2011
Lab. Reference No. or Episode No.: 1090353

Project Number: 57618
Site Name: MENDOTA

Sample Number: Group or SWMU Name	Sample Number: Sample Point	Sample Number: Sample Designator	Sample Event: Round	Sample Event: Year	Sample Depth (in feet): From	Sample Depth (in feet): To	Sample Collected: Date	Sample Collected: Time	Matrix: Liquid	Matrix: Solid	Matrix: Gas	Number of Containers	Paint Filter	Open Cup Flashpoint	TCLP VOCs	TCLP SVOCs	EOX	Total PCBs	Reactive Sulfide	Total Phenols	pH	TCLP Metals	Total Cyanide	Remarks
MEN -	WC01 -	091411	—	—	—	—	9/14/11			X		2	X	X	X	X	X	X	X	X	X	X	X	

Page 6 of 7

Sampler (signature): Amanda Hang

Sampler (signature):

Custody Seal Number: 001-091411, 002-091411

Special Instructions: 3 DAY TAT

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
1. Amanda Hang	9/14/11 1255	1. [illegible]	9/14 1255
2. [illegible]	9/14/11 1655	[illegible]	9/14/11 1655

Ice Present in Container: Yes [✓] No [ ]

Temperature Upon Receipt: 4.3°C

Laboratory Comments:

061301 Form WCD-KC1-CHI

STAT Analysis Corporation

Sample Receipt Checklist

Client Name B&M

Date and Time Received: 9/14/2011 4:55:00 PM

Work Order Number 11090353

Received by: JJM

Checklist completed by: _____ Signature | 9/14/11 Date

Reviewed by: _____ Initials | 9/15/11 Date

Matrix:

Carrier name STAT Analysis

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 signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels/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 ☐	
Container or Temp Blank temperature in compliance?	Yes ☑	No ☐	Temperature 4.3 °C
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☐	No ☐
Water - Samples pH checked?	Yes ☐	No ☐	Checked by: _____
Water - Samples properly preserved?	Yes ☐	No ☐	pH Adjusted? _____

Any No response must be detailed in the comments section below.

Comments: _____

Client / Person contacted: _____ Date contacted: _____ Contacted by: _____

Response: _____

VEOLIA
ENVIRONMENTAL SERVICES

Profile #:

Special Waste Profile Sheet

Designated Facility: Orchard Hills Landfill

Sales Representative:

A. Generator

Name:	Nicor-Mendota MGP
Site Address:	501 9th Ave
City, State, Zip:	Mendota, IL 61342
Contact:	Keith Bodger
Phone:	630-388-2381
Fax:	

B. Billing

Name:	SET Environmental
Address:	450 Sumac Road
City, State, Zip:	Wheeling IL 60090
Contact:	
Phone:	847-537-9221
Fax:	

C. Description of Waste

Name of Waste: **Soil cuttings**

Process Generating Waste: *Excavated soil from site investigation.*

Estimated Volume: *60 tons* *Frequency:* *One time*

Special Handling Instructions:

D. Chemical Composition/Physical Properties

Constituents	*Concentration*
Soil cuttings	100 %

Physical State:	*Solid*	*Color:*	
Free Liquids:		*Flashpoint:*	
pH:		*Total Solids:*	
Reactive Cyanide:		*Reactive Sulfide:*	

F. Sample/Analysis Information

Sample submitted with profile X *Laboratory analysis submitted* *Material Data Safety Sheet submitted*

Laboratory Name: *STAT Analysis* *Sample Date:* *9/19/11* *Sample ID:* *MEN-WC01091411*

G. Generator Certifications

1. *This waste is not a hazardous waste as defined by federal, state, or local laws and regulations.*
2. *This waste does not contain regulated quantities of PCBs as defined by federal, state or local laws and regulations.*
3. *This waste does not contain infectious wastes as defined by federal, state, or local laws and regulations.*
4. *To the best of my knowledge, all information submitted in this and all attached documents contains true and accurate descriptions of this waste. Any analysis submitted was performed on a representative sample as defined in 40 CFR 261 -Appendix 1 and was obtained by using this or an equivalent sampling method. All relevant information regarding known or suspected hazards in the possession of the generator has been disclosed.*

Generator's Signature: ***Title:***

Print Name: ***Date:***

04/22/11

VEOLIA
ENVIRONMENTAL SERVICES

Profile # :

Generator's Certification of Non-Special Waste

Waste Name: Soil cuttings **Generator Name:** Nicor-Mendota

Generating Process: Soil cuttings from site Investigation.

Is the Waste Identified above:

1.	**A Potentially Infectious Medical Waste (PIMW)** as defined by 415 ILCS 5 Section 3.360 of the Environmental Protection Act	**Yes**	____	**No**	x
2.	**A Hazardous Waste as defined by 40 CFR 261 or; 35 IAC 722.111?**	**Yes**	____	**No**	x
3.	**A Liquid Waste, as determined using the paint filter test set forth in 35 IAC 811.107 (m) 3 (a)?**	**Yes**	____	**No**	x
4.	**A regulated Asbestos containing material as defined under the National Emission Standards for Hazardous Pollution in 40 CFR 61.141?**	**Yes**	____	**No**	x
5.	**A regulated Polychlorinated Biphenyl waste as defined by 40 CFR 761?**	**Yes**	____	**No**	x
6.	**Waste Material generated by processing recyclable metals by shredding (auto fluff)?**	**Yes**	____	**No**	x
7.	**A waste which has been treated to render it non-hazardous which is subject to the waste analysis requirements of 35 LAC 728.107?**	**Yes**	____	**No**	x

If you answered yes to any of the above questions the waste cannot be certified non-special waste.

I hereby certify that the waste identified above is not a special waste. This document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly collect and evaluate the information gathered. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted herein is true, accurate and complete. I have used knowledge of the process. Generating the waste and the attached supporting documentation to determine that the waste in question is not a special waste. I am aware that there are significant penalties for knowingly and falsely certifying that a special waste is not a special waste, including the possibility of fine and imprisonment.

Signature: _____ **Date:** _____
(Owner/Operator/Authorized Agent)

Printed Name: _____ **Title:** _____

Attach all required information used to make this certification. Information used to make this determination:

_____ Process Knowledge, ____x__ Analytical, _____ MSDS, _____ Other

1. The determination must be in accordance with the requirements of 35 Illinois Administrative code 722.11. Testing must be in accordance with methods set forth in 35 Illinois Administrative Code 721. Subpart C.
2. Liquid wastes may be determined by using paint-filter test SW3-46.
3. Waste material generated by processing recyclable metals by shredding (e.g. auto fluff) must be managed under Section 22.29 of the Illinois Environmental Protection Act.

VEOLIA ENVIRONMENTAL SERVICES

CERTIFIED NON-SPECIAL WASTE MANIFEST

No. 371590

Section I — GENERATOR (Generator completes all of Section I)

a. Generator Name: Nicor Gas
b. Generating Location: [illegible]
c. Address: [illegible] Rd
[illegible] IL [illegible]
d. Address: [illegible] Ave
[illegible] IL
e. Phone No.: [illegible]
f. Phone No.: [illegible]

If owner of the generating facility differs from the generator, provide:

g. Owner's Name:
h. Owner's Phone No.:
i. Waste Profile No.: OHL0102 HH
j. Description of Waste: [illegible]

	Quantity	Units	TYPE
k. Quantity — Ld 1	[illegible]	Y	T
Quantity — Ld 2			
Quantity — Ld 3			
Quantity — Ld 4			

TYPE: D – DRUM, T – TRUCK, O – OTHER
UNITS: Y – YARDS, O – OTHER

*GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; **AND, If the waste is a treatment residue of a previously restricted hazardous waste** subject to the Land Disposal Restrictions, I certify and warrant that the waste has been treated in accordance with the requirements of 40 CFR Part 268 and is no longer a hazardous waste as defined by 40 CFR Part 261.

TOTAL VOLUME: [illegible] yards

Generator Authorized Agent Name: [illegible] Signature: [illegible] Shipment Date: [illegible]

Section II — TRANSPORTER (Generator completes a-d; Transporter I completes c-g, Transporter II completes h-n)

TRANSPORTER I

a. Name: [illegible]
b. Address: [illegible]
[illegible]
c. Driver Name/Title: [illegible]
d. Phone No.: [illegible] e. Truck No.: [illegible]
(PRINT/TYPE)
f. Vehicle License No./State: [illegible]

Acknowledgement of Receipt of Materials.

g. Driver Signature: [illegible] Shipment Date: [illegible]

TRANSPORTER II

h. Name: [illegible]
i. Address: [illegible]
[illegible]
j. Driver Name/Title: [illegible]
k. Phone No.: [illegible] l. Truck No.: [illegible]
(PRINT/TYPE)
m. Vehicle License No./State:

Acknowledgement of Receipt of Materials.

n. Driver Signature: [illegible] Shipment Date: [illegible]

Section III — DESTINATION (Generator completes a-d; destination site completes e-f)

a. Site Name: Veolia ES Orchard Hills Landfill, Inc.
b. Physical Address: 8290 Hwy 251
Davis Junction, IL 61020
c. Phone No.: 815-874-9000
d. Mailing Address: SAME
IEPA Site No.: 1410175005
e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent: [illegible] Signature: [illegible] Receipt Date: [illegible]

* Shipper refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both.

WHITE – Destination Retain CANARY – Return to Generator PINK – Transporter Retain GOLD – Generator Retain

VEOLIA ENVIRONMENTAL SERVICES

CERTIFIED NON-SPECIAL WASTE MANIFEST

No. 371589

Section I — GENERATOR (Generator completes all of Section I)

a. Generator Name: NICOR GAS

b. Generating Location: NICOR GAS - Black Bolt Gas

c. Address: 1844 Ferry Road
Naperville, IL 60563

d. Address: 501 9th Ave
MENDOTA, IL 61342

e. Phone No.: 630 388 2381

f. Phone No.: 630.388.2381

If owner of the generating facility differs from the generator, provide:

g. Owner's Name: KEITH BODGER

h. Owner's Phone No.: 630 388 2381

i. Waste Profile No.: OLH 01027

j. Description of Waste: Soil Cuttings

	Quantity	Units	TYPE
k. Quantity — Ld 1	1	Y	T
Quantity — Ld 2			
Quantity — Ld 3			
Quantity — Ld 4			

TYPE: D – DRUM; T – TRUCK; O – OTHER

UNITS: Y – YARDS; O – OTHER

*GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; **AND, If the waste is a treatment residue of a previously restricted hazardous waste** subject to the Land Disposal Restrictions, I certify and warrant that the waste has been treated in accordance with the requirements of 40 CFR Part 268 and is no longer a hazardous waste as defined by 40 CFR Part 261.

TOTAL VOLUME: 1 Y

Generator Authorized Agent Name — Signature — Shipment Date: 7/23/12

Section II — TRANSPORTER (Generator completes a-d; Transporter I completes c-g; Transporter II completes h-n)

TRANSPORTER I

a. Name: SCI Environmental

b. Address: 450 Sumac Road
Wheeling IL 60090

c. Driver Name/Title:

d. Phone No.: 847 537 9221 (PRINT/TYPE) e. Truck No.:

f. Vehicle License No./State:

Acknowledgement of Receipt of Materials.

g. Driver Signature — Shipment Date: 7/23/12

TRANSPORTER II

h. Name:

i. Address:

j. Driver Name/Title:

k. Phone No.: (PRINT/TYPE) l. Truck No.:

m. Vehicle License No./State:

Acknowledgement of Receipt of Materials.

n. Driver Signature — Shipment Date

Section III — DESTINATION (Generator completes a-d; destination site completes e-f)

a. Site Name: Veolia ES Orchard Hills Landfill, Inc.

b. Physical Address: 8290 Hwy 251
Davis Junction, IL 61020

c. Phone No.: 815-874-9000

d. Mailing Address: SAME

IEPA Site No.: 1410175005

e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Name of Authorized Agent — Signature — Receipt Date

* Shipper refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both.

WHITE – Destination Retain CANARY – Return to Generator PINK – Transporter Retain GOLD – Generator Retain

VEOLIA
ENVIRONMENTAL SERVICES

CERTIFIED NON-SPECIAL WASTE MANIFEST

20-48

974346

No. 371609

Section I **GENERATOR** (Generator completes all of Section I)

a. Generator Name: NICOR GAS
b. Generating Location: NICOR GAS
c. Address: 1844 Ferry Road, Naperville, IL 60563
d. Address: 501 9th Ave, MENDOTA, IL 61342
e. Phone No.: 630-388-2381
f. Phone No.: 630-388-2381

If owner of the generating facility differs from the generator, provide:

g. Owner's Name: KEITH BODGER
h. Owner's Phone No.: 630-388-2381

i. Waste Profile No.: OHL01027 - 244
j. Description of Waste: Soil Cuttings

	Quantity	Units	TYPE
k. Quantity — Ld 1	10	Y	T
Quantity — Ld 2			
Quantity — Ld 3			
Quantity — Ld 4			

TYPE: D – DRUM, T – TRUCK, O – OTHER
UNITS: Y – YARDS, O – OTHER

*GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; **AND, if the waste is a treatment residue of a previously restricted hazardous waste** subject to the Land Disposal Restrictions, I certify and warrant that the waste has been treated in accordance with the requirements of 40 CFR Part 268 and is no longer a hazardous waste as defined by 40 CFR Part 261.

TOTAL VOLUME: 10 Y

Angel Camacho for N.C.
Generator Authorized Agent Name — Signature — Shipment Date: 040513

Section II **TRANSPORTER** (Generator completes a-d; Transporter I completes c-g, Transporter II completes h-n)

TRANSPORTER I

a. Name: SET Environmental
b. Address: 450 Sumac Road, Wheeling IL 60090
c. Driver Name/Title: Michael Nefiel Driver (PRINT/TYPE)
d. Phone No.: 847-537-9221 e. Truck No.: 1222
f. Vehicle License No./State: A794266 IL

Acknowledgement of Receipt of Materials.

g. Driver Signature — Shipment Date: 040513

TRANSPORTER II

h. Name:
i. Address:
j. Driver Name/Title: (PRINT/TYPE)
k. Phone No.: l. Truck No.:
m. Vehicle License No./State:

Acknowledgement of Receipt of Materials.

n. Driver Signature — Shipment Date:

Section III **DESTINATION** (Generator completes a-d; destination site completes e-f)

a. Site Name: Veolia ES Orchard Hills Landfill, Inc.
b. Physical Address: 8290 Hwy 251, Davis Junction, IL 61020
c. Phone No.: 815-874-9000
d. Mailing Address: SAME
IEPA Site No.: 1410175005
e. Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name Authorized Agent — Signature — Receipt Date: 040513

* Shipper refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation, or both.

WHITE – Destination Retain CANARY – Return to Generator PINK – Transporter Retain GOLD – Generator Retain

SET 1222

liquid ENVIRONMENTAL SOLUTIONS

UNIFORM WASTE PROFILE

866 • 694 • 7327
www.liquidenviro.com

Profile #:
Account #:
◯ Approved ◯ Non-Approved

Profile Information

US EPA ID#: ILD005144787 State ID#: 0990555005 TCEQ ID#(TX-Only): ◉ Analytical Attached ◯ MSDS Attached

Generator Information

Name: Nicor Gas - Black Brothers Company Site
Address: 501 9th Ave
City: Mendota State: IL Zip: 61342
Contact: Keith Bodger Title:
Phone: (630) 388-2381 Fax:
Email:

Billing Information

Name: SET Environmental
Address: 450 Sumac Road
City: Wheeling State: IL Zip: 60090
Contact: Star Sualeh Title:
Phone: (847) 537-9221 Fax:
Email:

Waste Questionnaire (Check all that apply)

Non-hazardous Waste	Yes	No	Unkown
1) Is the waste hazardous by: Ignitability? (40 CFR Part 261.21)	◯	◉	◯
Corrosivity? (40 CFR Part 261.21)	◯	◉	◯
Reactivity? (40 CFR Part 261.21)	◯	◉	◯
Toxicity? (40 CFR Part 261.21)	◯	◉	◯
2) Does the waste contain: Herbicides, pesticides, insecticides?	◯	◉	◯
Dioxins?	◯	◉	◯
Radioactive substances?	◯	◉	◯
Domestic Wastes?	◯	◉	◯
Biohazardous materials?	◯	◉	◯
3) Is this a hazardous waste (F, K, U, or P listed) as defined by 40 CFR 261 Subpart D? If yes to the above, identify the listing.	◯	◉	◯
4) Is the waste derived from outside an underground storage tank (UST)?	◯	◉	◯
5) If waste is derived from fuel, is the fuel leaded?	◯	◉	◯
Used Oil (as defined by CFR 279.1)			
1) Has this used oil been mixed with hazardous waste?	◯	◯	◯
2) Does this used oil contain chlorinated paraffins? If yes, attach MSDS	◯	◯	◯
3) Does this used oil contain TSCA (40 CFR 761) regulated levels of PCB? If yes, list PCB level:	◯	◯	◯
4) Does this used oil contain greater(>) than 1,000 mg/L Total Organic Halogens (TOX)? * If yes, rebuttal per 40 CFR 279.10(b)(1)(ii) must be included.	◯	◯	◯
5) Is this used oil soluble in water?	◯	◯	◯

Virgin Product (must include MSDS)	Yes	No	Unkown
1) Has this product been mixed with a hazardous waste?	◯	◉	◯
Off-Spec Product (must include MSDS)			
1) Has this product been mixed with a hazardous waste?	◯	◉	◯
Petroleum Contact Water (PCW)/Leaking Underground Storage Tank (Lust) Water	◯	◉	◯
Conditional Exempt Small Quantity Generator (CESQG)	◯	◉	◯

Waste Description

Common Name of Waste: Waste water

Process Generating Waste: Water removed from site remediation.

Other Process Information:

Unused Product or Chemical	◯	◉	◯
Waste by-product from process	◯	◉	◯
Spill Clean Up	◯	◉	◯
Planned Site Remediation	◯	◉	◯
Representative Sample Provided	◯	◉	◯

Waste Stream Composition (Total Must Equal 100%)

Major Components	Concentration Range		
Water	100	100	100

◯ 100% Solid Without Free Liquid
◉ 100% Liquid With No Solids
◯ Liquid/Solid Mixture
____ % Free Liquid
____ % Settled Solids
____ % Total Suspended Solids

◉ Single Phase ◯ Bi-Layered ◯ Multi Layered

◯ <2 ◉ 8-12.5 ◯ 2-6 ◯ >12.5 ◯ 6-8 ◯ N/A

◯ <73 F ◯ 141-200 F ◯ 73-100 F ◯ >200 F ◯ 101-140 F ◉ N/A

Range: To:
Describe: muddy

◉ None ◯ Mild ◯ Strong
Describe:

◉ Low ◯ Medium ◯ High

◯ Class I ◯ Class II ◯ Other:

TX-Only: Process Knowledge in Lieu of TCLP Analysis (Check Tests Not Needed)

◯ TCLP Metals (Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, and Silver)
◯ TCLP Semivolitiles (o-Cresol, m-Cresol, p-Cresol, Cresol (total) 2-4 Dinitrotoluene, Hexachlorobenzene, Hexachlorobutadiene, Hexachloroethane, Nitrobenzene, Pentachlorophenol, Pyridine, 2-4-5 Trichlorophenol, and 2-4-6 Trichlorophenol)
◯ TCEQ Appendix 1 (TAC 31, Section 335-Subchapter R) or Total Petroleum Table 1, Constituents Hydrocarbons)
◯ TCLP Herbicides/ Pesticides (Chlordane, 2-4 Endrin, Heptachlor, Heptachlor epoxide, Lindane, Methoxyclor, Toxaphene, and 2-4-5 TP/Silvex)
◯ TCLP Volatiles (Benzene, Carbon tetrachloride, Chlorobenzene, Chloroform, Methyl Ethyl Ketone, 1-4 Dichlorobenzene, 1-2 Dichloroethane, 1-1 Dichloroethylene, Trichloroethylene, Tetrachloroethylene, and Vinyl Chloride)
◯ RCI (Reactive Cyanide, Reactive Sulfide, Corrosivity, Ignitability

Transportation Information

Method of Shipment: ◯ Bulk Liquid ◯ Bulk Sludge ◯ Bulk Solid ◯ Drum/Box ◉ Other: 275 gallon totes
Shipment Frequency: ◉ One Time ◯ Weekly ◯ Monthly ◯ Quarterly ◯ Annually ◯ Other:
Anticipated Volume: 550 gallons

Generator Certification

By signing this profile sheet, the generator (or representative) certifies that all information submitted on this profile and attached documents is correct to the best of my knowledge. In addition, I certify the following: 1) This waste does not contain regulated quantities of PCB's (polychlorinated Biphenyls). 2) This waste is not hazardous by reference to local and state law or by reference to US EPA rules 40 CFR Part 261 Subpart C. 3) This profile sheet and its attachments contain true and accurate descriptions of the waste material. 4) [illegible] relevant information regarding known or suspected hazards in the possession of the generator have been disclosed. 5) The generator will promptly notify LES of any material c[illegible] in the composition of the waste which could result in the waste otherwise being characterized as hazardous pursuant to US EPA rules. 6) The generator will not deliver or arrange to delivery waste material to LES that does not conform to the description in the profile. 7) A representative sample initiates a chain of custody.

Generator Authorization Signature Date 10/31/11 Keith Bodger Environmental Consultant
Print Name and Title

LES Rev: 08/01/

liquid
ENVIRONMENTAL
SOLUTIONS

847-537-9265

November 2, 2011

Angel
SET Environmental, Inc.
450 Sumac Road
Wheeling Illinois

Re: MATERIAL PROFILE APPROVAL #: 034011
Waste Water
Nicor Gas - Black Brothers Company Site
501 9th ave
Mendota Illinois
IL Facility ID #: 0990555005

This letter is in response to your submission of a material profile form to LES for approval and acceptance. LES would like to inform you that your material profile form has been approved for acceptance at our facility located at:

12123 South Stony Island Avenue Chicago, IL 60633
IL EPA # 0316550007 US EPA # ILR 000 115 287

When shipping this material to our facility, you must ship with a Uniform Hazardous Waste Manifest. Be sure to include the generator's IL Facility ID Number on the manifest. Also, please reference the MATERIAL PROFILE APPROVAL # on your manifest. The MPA # should be written in the additional information block of the manifest. This approval applies only to the material referenced on the profile form. All other material must be profiled separately. To schedule this load into our facility, you may contact me at (773) 646-9700, or customer service at (800) 447-3592.

This approval is valid for one year. Upon expiration of this profile, you will be prompted to re-certify the profile. Re-certification may include a profile review, re-sample and analysis of the waste stream, or submission of more current material safety data sheets and/or laboratory analyticals. If you have any questions concerning this approval number, please do not hesitate to call. LES appreciates the opportunity to serve you.

Sincerely,

Tom Reeder
General Manager

12123 South Stony Island Avenue
Chicago, IL 60633
Ph. 773-646-9700
Fax 773-646-9730

1640 Talleyrand Avenue
Jacksonville, FL 32206
Ph. 904-354-0372
Fax 904-354-7612

1980 Avenue "A"
Mobile, AL 36615
Ph. 251-694-7500
Fax 251-694-7508

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001;AIHA 101160; NVLAP LabCode 101202-

October 25, 2011

Burns & McDonnell
1431 Opus Place
Suite 400
Downers Grove, IL 60515
Telephone: (630) 724-3200
Fax: (630) 724-3201

RE: 57618, Black Brother Company Site STAT Project No: 11100535

Dear Joe Chittet:

STAT Analysis received 1 sample for the referenced project on 10/18/2011 6:25:00 PM. The analytical results are presented in the following report.

All analyses were performed in accordance with the requirements of 35 IAC Part 186 / NELAC standards. Analyses were performed in accordance with methods as referenced on the analytical report. Those analytical results expressed on a dry weight basis are also noted on the analytical report.

All analyses were performed within established holding time criteria, and all Quality Control criteria met EPA or laboratory specifications except when noted in the Case Narrative or Analytical Report. If required, an estimate of uncertainty for the analyses can be provided. A listing of accredited methods/parameters can also be provided.

Thank you for the opportunity to serve you and I look forward to working with you in the future. If you have any questions regarding the enclosed materials, please contact me at (312) 733-0551.

Sincerely,

Katelin Lewis

Katelin Lewis
Project Manager

MED

STAT Analysis Corporation

Date: October 25, 2011

Client: Burns & McDonnell
Project: 57618, Black Brother Company Site
Lab Order: 11100535

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
11100535-001A	MEN-WWC-101811		10/18/2011 1:40:00 PM	10/18/2011
11100535-001B	MEN-WWC-101811		10/18/2011 1:40:00 PM	10/18/2011
11100535-001C	MEN-WWC-101811		10/18/2011 1:40:00 PM	10/18/2011
11100535-001D	MEN-WWC-101811		10/18/2011 1:40:00 PM	10/18/2011
11100535-001E	MEN-WWC-101811		10/18/2011 1:40:00 PM	10/18/2011
11100535-001F	MEN-WWC-101811		10/18/2011 1:40:00 PM	10/18/2011

STAT Analysis Corporation **Date:** *October 25, 2011*

CLIENT:	Burns & McDonnell
Project:	57618, Black Brother Company Site
Lab Order:	11100535

CASE NARRATIVE

Please refer to Analytical QC Summary Report for QC outliers.

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATInfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Date Reported: October 25, 2011
Date Printed: October 25, 2011

Client: Burns & McDonnell
Lab Order: 11100535
Project: 57618, Black Brother Company Site
Lab ID: 11100535-001

Client Sample ID: MEN-WWC-101811
Collection Date: 10/18/2011 1:40:00 PM
Matrix: Water

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
TCLP Mercury		**SW1311/7470A**		Prep Date: **10/20/2011**		Analyst: **LB**
Mercury	ND	0.0002		mg/L	1	10/20/2011
TCLP Metals by ICP/MS		**SW1311/6020 (SW3005A)**		Prep Date: **10/20/2011**		Analyst: **JG**
Arsenic	0.024	0.01		mg/L	5	10/20/2011
Barium	1.1	0.5		mg/L	5	10/20/2011
Cadmium	ND	0.005		mg/L	5	10/20/2011
Chromium	0.027	0.01		mg/L	5	10/20/2011
Lead	0.0097	0.005		mg/L	5	10/20/2011
Selenium	ND	0.01		mg/L	5	10/20/2011
Silver	ND	0.01		mg/L	5	10/20/2011
Semivolatile Organic Compounds by GC/MS		**SW8270C-SIM (SW3510C)**		Prep Date: **10/21/2011**		Analyst: **VS**
Acenaphthene	0.1	0.1		mg/L	10	10/25/2011
Acenaphthylene	0.32	0.1		mg/L	10	10/25/2011
Anthracene	0.3	0.1		mg/L	10	10/25/2011
Benz(a)anthracene	0.16	0.01		mg/L	10	10/25/2011
Benzo(a)pyrene	0.14	0.01		mg/L	10	10/25/2011
Benzo(b)fluoranthene	0.12	0.01		mg/L	10	10/25/2011
Benzo(g,h,i)perylene	0.051	0.01		mg/L	1	10/24/2011
Benzo(k)fluoranthene	0.038	0.001		mg/L	1	10/24/2011
Chrysene	0.13	0.01		mg/L	10	10/25/2011
Dibenz(a,h)anthracene	0.029	0.001		mg/L	1	10/24/2011
Fluoranthene	0.53	0.1		mg/L	10	10/25/2011
Fluorene	0.35	0.1		mg/L	10	10/25/2011
Indeno(1,2,3-cd)pyrene	0.058	0.001		mg/L	1	10/24/2011
Naphthalene	2.3	1		mg/L	100	10/25/2011
Phenanthrene	0.99	0.1		mg/L	10	10/25/2011
Pyrene	0.41	0.1		mg/L	10	10/25/2011
Carbazole	0.09	0.001		mg/L	1	10/24/2011
Dibenzofuran	0.27	0.1		mg/L	10	10/25/2011
2,4-Dinitrotoluene	ND	0.001		mg/L	1	10/24/2011
2,6-Dinitrotoluene	ND	0.001		mg/L	1	10/24/2011
N-Nitrosodi-n-propylamine	ND	0.001		mg/L	1	10/24/2011
Nitrobenzene	ND	0.01		mg/L	1	10/24/2011
Pentachlorophenol	0.0091	0.005		mg/L	1	10/24/2011
Semivolatile Organic Compounds by GC/MS		**SW8270C (SW3510C)**		Prep Date: **10/21/2011**		Analyst: **DM**
Aniline	ND	0.005		mg/L	1	10/24/2011
Benzidine	ND	0.005		mg/L	1	10/24/2011
Benzoic acid	ND	0.025		mg/L	1	10/24/2011

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Date Reported: October 25, 2011
Date Printed: October 25, 2011

Client: Burns & McDonnell
Lab Order: 11100535
Project: 57618, Black Brother Company Site
Lab ID: 11100535-001

Client Sample ID: MEN-WWC-101811
Collection Date: 10/18/2011 1:40:00 PM
Matrix: Water

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C (SW3510C)**			Prep Date: **10/21/2011**		Analyst: **DM**
Benzyl alcohol	ND	0.005		mg/L	1	10/24/2011
Bis(2-chloroethoxy)methane	ND	0.005		mg/L	1	10/24/2011
Bis(2-chloroethyl)ether	ND	0.005		mg/L	1	10/24/2011
Bis(2-ethylhexyl)phthalate	ND	0.005		mg/L	1	10/24/2011
4-Bromophenyl phenyl ether	ND	0.005		mg/L	1	10/24/2011
Butyl benzyl phthalate	ND	0.005		mg/L	1	10/24/2011
4-Chloroaniline	ND	0.005		mg/L	1	10/24/2011
4-Chloro-3-methylphenol	ND	0.005		mg/L	1	10/24/2011
2-Chloronaphthalene	ND	0.005		mg/L	1	10/24/2011
2-Chlorophenol	ND	0.005		mg/L	1	10/24/2011
4-Chlorophenyl phenyl ether	ND	0.005		mg/L	1	10/24/2011
Dibenzofuran	0.027	0.005		mg/L	1	10/24/2011
1,2-Dichlorobenzene	ND	0.005		mg/L	1	10/24/2011
1,3-Dichlorobenzene	ND	0.005		mg/L	1	10/24/2011
1,4-Dichlorobenzene	ND	0.005		mg/L	1	10/24/2011
3,3'-Dichlorobenzidine	ND	0.01		mg/L	1	10/24/2011
2,4-Dichlorophenol	ND	0.005		mg/L	1	10/24/2011
Diethyl phthalate	ND	0.005		mg/L	1	10/24/2011
2,4-Dimethylphenol	0.023	0.005		mg/L	1	10/24/2011
Dimethyl phthalate	ND	0.005		mg/L	1	10/24/2011
4,6-Dinitro-2-methylphenol	ND	0.025		mg/L	1	10/24/2011
2,4-Dinitrophenol	ND	0.025		mg/L	1	10/24/2011
Di-n-butyl phthalate	ND	0.005		mg/L	1	10/24/2011
Di-n-octyl phthalate	ND	0.005		mg/L	1	10/24/2011
Hexachlorobenzene	ND	0.005		mg/L	1	10/24/2011
Hexachlorobutadiene	ND	0.005		mg/L	1	10/24/2011
Hexachlorocyclopentadiene	ND	0.005		mg/L	1	10/24/2011
Hexachloroethane	ND	0.005		mg/L	1	10/24/2011
Isophorone	ND	0.005		mg/L	1	10/24/2011
2-Methylnaphthalene	0.12	0.005		mg/L	1	10/24/2011
2-Methylphenol	0.014	0.005		mg/L	1	10/24/2011
4-Methylphenol	0.017	0.005		mg/L	1	10/24/2011
2-Nitroaniline	ND	0.025		mg/L	1	10/24/2011
3-Nitroaniline	ND	0.025		mg/L	1	10/24/2011
4-Nitroaniline	ND	0.025		mg/L	1	10/24/2011
2-Nitrophenol	ND	0.005		mg/L	1	10/24/2011
4-Nitrophenol	ND	0.025		mg/L	1	10/24/2011
N-Nitrosodimethylamine	ND	0.005		mg/L	1	10/24/2011

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* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Date Reported: October 25, 2011
Date Printed: October 25, 2011

Client: Burns & McDonnell
Lab Order: 11100535
Project: 57618, Black Brother Company Site
Lab ID: 11100535-001

Client Sample ID: MEN-WWC-101811
Collection Date: 10/18/2011 1:40:00 PM
Matrix: Water

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS		**SW8270C (SW3510C)**		Prep Date: **10/21/2011**		Analyst: **DM**
N-Nitrosodiphenylamine	ND	0.005		mg/L	1	10/24/2011
2, 2'-oxybis(1-Chloropropane)	ND	0.005		mg/L	1	10/24/2011
Phenol	0.012	0.005		mg/L	1	10/24/2011
Pyridine	ND	0.005		mg/L	1	10/24/2011
1,2,4-Trichlorobenzene	ND	0.005		mg/L	1	10/24/2011
2,4,5-Trichlorophenol	ND	0.01		mg/L	1	10/24/2011
2,4,6-Trichlorophenol	ND	0.005		mg/L	1	10/24/2011
Volatile Organic Compounds by GC/MS		**SW8260B (SW5030B)**		Prep Date:		Analyst: **EJH**
Acetone	ND	0.1		mg/L	5	10/22/2011
Benzene	0.11	0.025		mg/L	5	10/22/2011
Bromodichloromethane	ND	0.025		mg/L	5	10/22/2011
Bromoform	ND	0.025		mg/L	5	10/22/2011
Bromomethane	ND	0.05		mg/L	5	10/22/2011
2-Butanone	ND	0.1		mg/L	5	10/22/2011
Carbon disulfide	ND	0.05		mg/L	5	10/22/2011
Carbon tetrachloride	ND	0.025		mg/L	5	10/22/2011
Chlorobenzene	ND	0.025		mg/L	5	10/22/2011
Chloroethane	ND	0.05		mg/L	5	10/22/2011
Chloroform	ND	0.025		mg/L	5	10/22/2011
Chloromethane	ND	0.05		mg/L	5	10/22/2011
Dibromochloromethane	ND	0.025		mg/L	5	10/22/2011
1,1-Dichloroethane	ND	0.025		mg/L	5	10/22/2011
1,2-Dichloroethane	ND	0.025		mg/L	5	10/22/2011
1,1-Dichloroethene	ND	0.025		mg/L	5	10/22/2011
cis-1,2-Dichloroethene	ND	0.025		mg/L	5	10/22/2011
trans-1,2-Dichloroethene	ND	0.025		mg/L	5	10/22/2011
1,2-Dichloropropane	ND	0.025		mg/L	5	10/22/2011
cis-1,3-Dichloropropene	ND	0.005		mg/L	5	10/22/2011
trans-1,3-Dichloropropene	ND	0.005		mg/L	5	10/22/2011
Ethylbenzene	ND	0.025		mg/L	5	10/22/2011
2-Hexanone	ND	0.1		mg/L	5	10/22/2011
4-Methyl-2-pentanone	ND	0.1		mg/L	5	10/22/2011
Methylene chloride	ND	0.025		mg/L	5	10/22/2011
Methyl tert-butyl ether	ND	0.025		mg/L	5	10/22/2011
Styrene	ND	0.025		mg/L	5	10/22/2011
1,1,2,2-Tetrachloroethane	ND	0.025		mg/L	5	10/22/2011
Tetrachloroethene	ND	0.025		mg/L	5	10/22/2011
Toluene	0.081	0.025		mg/L	5	10/22/2011

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Date Reported: October 25, 2011
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Client: Burns & McDonnell
Lab Order: 11100535
Project: 57618, Black Brother Company Site
Lab ID: 11100535-001

Client Sample ID: MEN-WWC-101811
Collection Date: 10/18/2011 1:40:00 PM
Matrix: Water

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Volatile Organic Compounds by GC/MS	**SW8260B (SW5030B)**			Prep Date:		Analyst: **EJH**
1,1,1-Trichloroethane	ND	0.025		mg/L	5	10/22/2011
1,1,2-Trichloroethane	ND	0.025		mg/L	5	10/22/2011
Trichloroethene	ND	0.025		mg/L	5	10/22/2011
Vinyl chloride	ND	0.01		mg/L	5	10/22/2011
Xylenes, Total	0.1	0.075		mg/L	5	10/22/2011
Sulfide	**4500S2,C,D**			Prep Date:		Analyst: **SUB**
Sulfide	ND	0.05	*	mg/L	1	10/21/2011
Cyanide, Total	**SW9012A**			Prep Date:	**10/19/2011**	Analyst: **YZ**
Cyanide	0.66	0.01		mg/L	1	10/19/2011
Flash Point (Closed Cup)	**SW1010**			Prep Date:	**10/19/2011**	Analyst: **RW**
Flashpoint	No flash up to 212			°F	1	10/19/2011
pH	**E150.1**			Prep Date:	**10/18/2011**	Analyst: **MNG**
pH	10.0			pH units	1	10/18/2011
Phenolics	**SW9066 (SW9065)**			Prep Date:	**10/20/2011**	Analyst: **YZ**
Phenolics, Total Recoverable	0.89	0.05		mg/L	5	10/20/2011

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E - Value above quantitation range
H - Holding time exceeded

Burns McDonnell SINCE 1898

Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Engineering
1431 Opus Place
Downers Grove, Illinois 60515
Phone: (630) 724-3200 Fax: (630) 724-3201

Attention: Joe Chittet

Laboratory: STAT Analysis Corporation
Address: 2242 West Harrison Street
City/State/ZIP: Chicago, IL 60612
Telephone: (312) 733-0551

Document Control No.: MEN-043-2011
Lab. Reference No. or Episode No.: 1100535

Project Number: 57618

Site Name: Black Brothers Company Site

Sample Number: Group or SWMU Name	Sample Number: Sample Point	Sample Number: Sample Designator	Sample Event: Round	Sample Event: Year	Sample Depth (in feet): From	Sample Depth (in feet): To	Sample Collected: Date	Sample Collected: Time	Sample Type / Matrix: Liquid	Sample Type / Matrix: Solid	Sample Type / Matrix: Gas	Number of Containers	Open Cup Flashpoint	TCL VOCs	TCL SVOCs	Total Phenols	TCLP RCRA Metals	Total Cyanide	pH	Sulfide	Remarks
MEN-	WWC-101811		—	—	—	—	10/18/11	1340	X			8	X	X	X	X	X	X	X	X	001

10/18/11

AC

Sampler (signature):

Sampler (signature):

Custody Seal Number: MEN-119351, MEN-119352

Special Instructions: STANDARD TAT

Relinquished By (signature): 1.
Date/Time: 10/18/11 1532
Received By (signature):
Date/Time: 10/18/11 1532

Relinquished By (signature): 2.
Date/Time: 10/18/11 1825
Received By (signature):
Date/Time: 10/18/11 1825

Ice Present in Container: Yes ☑ No ☐

Temperature Upon Receipt: 0.4°C

Laboratory Comments:

061301 Form WCD-KC1-CHI

STAT Analysis Corporation

Sample Receipt Checklist

Client Name B&M

Date and Time Received: 10/18/2011 6:25:00 PM

Work Order Number 11100535

Received by: JJM

Checklist completed by: [signature] 10/18 (Signature / Date)

Reviewed by: KL 10/20/11 (Initials / Date)

Matrix:

Carrier name STAT Analysis

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 signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels/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 ☐	
Container or Temp Blank temperature in compliance?	Yes ☑	No ☐	Temperature 0.4 °C
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☑	No ☐
Water - Samples pH checked?	Yes ☑	No ☐	Checked by: [initials]
Water - Samples properly preserved?	Yes ☐	No ☑	pH Adjusted? Yes

Any No response must be detailed in the comments section below.

Comments: No H_2SO_4 Preserved bottle was submitted for Total Phenolics Analysis, therefore one was prepared in lab.

Client / Person contacted: _____ Date contacted: _____ Contacted by: _____

Response: _____

STAT Analysis Corporation

CLIENT: Burns & McDonnell
Work Order: 11100535
Project: 57618, Black Brother Company Site
Test No: SW8260B **Matrix:** W

QC SUMMARY REPORT
SURROGATE RECOVERIES

Sample ID	BR4FBZ	BZMED8	DBFM	DCA12D4				
VBLK102111A-3	101	99.8	103	98.2				
VLCS102111A-3	103	103	105	95.1				
VLCSD102111A-3	106	103	105	95.9				
11100535-001A:5	104	101	105	95.3				
11100544-003AMS	103	103	105	101				
11100544-003AMSD	104	103	104	95.5				

Acronym		Surrogate	QC Limits
BR4FBZ	=	4-Bromofluorobenzene	86-115
BZMED8	=	Toluene-d8	88-110
DBFM	=	Dibromofluoromethane	86-118
DCA12D4	=	1,2-Dichloroethane-d4	80-120

*** Surrogate recovery outside acceptance limit**

CLIENT: Burns & McDonnell
Work Order: 11100535
Project: 57618, Black Brother Company Site

ANALYTICAL QC SUMMARY REPORT

BatchID: R75839

Sample ID: VBLK102111A-3 | SampType: MBLK | TestCode: VOC_W+ | Units: mg/L | Prep Date: | Run ID: VOA-3_111021B
Client ID: ZZZZZ | Batch ID: R75839 | TestNo: SW8260B | Analysis Date: 10/21/2011 | SeqNo: 2035132

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	ND	0.0050									
1,1,2,2-Tetrachloroethane	ND	0.0050									
1,1,2-Trichloroethane	ND	0.0050									
1,1-Dichloroethane	ND	0.0050									
1,1-Dichloroethene	ND	0.0050									
1,2-Dichloroethane	ND	0.0050									
1,2-Dichloropropane	ND	0.0050									
2-Butanone	ND	0.020									
2-Hexanone	ND	0.020									
4-Methyl-2-pentanone	ND	0.020									
Acetone	ND	0.020									
Benzene	ND	0.0050									
Bromodichloromethane	ND	0.0050									
Bromoform	ND	0.0050									
Bromomethane	ND	0.010									
Carbon disulfide	0.00055	0.010									J
Carbon tetrachloride	ND	0.0050									
Chlorobenzene	ND	0.0050									
Chloroethane	ND	0.010									
Chloroform	ND	0.0050									
Chloromethane	ND	0.010									
cis-1,2-Dichloroethene	ND	0.0050									
cis-1,3-Dichloropropene	ND	0.0010									
Dibromochloromethane	ND	0.0050									
Ethylbenzene	ND	0.0050									
Methyl tert-butyl ether	ND	0.0050									
Methylene chloride	ND	0.0050									
Styrene	ND	0.0050									
Tetrachloroethene	ND	0.0050									
Toluene	ND	0.0050									
trans-1,2-Dichloroethene	ND	0.0050									

Qualifiers:
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R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
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E - Value above quantitation range

CLIENT: Burns & McDonnell
Work Order: 11100535
Project: 57618, Black Brother Company Site

ANALYTICAL QC SUMMARY REPORT

BatchID: R75839

Sample ID: VBLK102111A-3	SampType: MBLK	TestCode: VOC_W+	Units: mg/L	Prep Date:	Run ID: VOA-3_111021B
Client ID: ZZZZZ	Batch ID: R75839	TestNo: SW8260B		Analysis Date: 10/21/2011	SeqNo: 2035132

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropene	ND	0.0010									
Trichloroethene	ND	0.0050									
Vinyl chloride	ND	0.0020									
Xylenes, Total	ND	0.015									

Sample ID: VLCS102111A-3	SampType: LCS	TestCode: VOC_W+	Units: mg/L	Prep Date:	Run ID: VOA-3_111021B
Client ID: ZZZZZ	Batch ID: R75839	TestNo: SW8260B		Analysis Date: 10/21/2011	SeqNo: 2035138

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.05531	0.0050	0.05	0	111	70	130	0	0		
1,1,2,2-Tetrachloroethane	0.05714	0.0050	0.05	0	114	70	130	0	0		
1,1,2-Trichloroethane	0.05181	0.0050	0.05	0	104	70	130	0	0		
1,1-Dichloroethane	0.05603	0.0050	0.05	0	112	70	130	0	0		
1,1-Dichloroethene	0.05562	0.0050	0.05	0	111	70	130	0	0		
1,2-Dichloroethane	0.0545	0.0050	0.05	0	109	70	130	0	0		
1,2-Dichloropropane	0.05521	0.0050	0.05	0	110	70	130	0	0		
2-Butanone	0.1297	0.020	0.1	0	130	70	130	0	0		
2-Hexanone	0.1132	0.020	0.1	0	113	70	130	0	0		
4-Methyl-2-pentanone	0.1278	0.020	0.1	0	128	70	130	0	0		
Acetone	0.1144	0.020	0.1	0	114	50	150	0	0		
Benzene	0.05539	0.0050	0.05	0	111	70	130	0	0		
Bromodichloromethane	0.05873	0.0050	0.05	0	117	70	130	0	0		
Bromoform	0.04786	0.0050	0.05	0	95.7	70	130	0	0		
Bromomethane	0.04146	0.010	0.05	0	82.9	70	130	0	0		
Carbon disulfide	0.1181	0.010	0.1	0.00055	118	70	130	0	0		
Carbon tetrachloride	0.05522	0.0050	0.05	0	110	70	130	0	0		
Chlorobenzene	0.05134	0.0050	0.05	0	103	70	130	0	0		
Chloroethane	0.05165	0.010	0.05	0	103	70	130	0	0		
Chloroform	0.05667	0.0050	0.05	0	113	70	130	0	0		
Chloromethane	0.04883	0.010	0.05	0	97.7	70	130	0	0		
cis-1,2-Dichloroethene	0.05823	0.0050	0.05	0	116	70	130	0	0		

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E - Value above quantitation range

CLIENT: Burns & McDonnell
Work Order: 11100535
Project: 57618, Black Brother Company Site

ANALYTICAL QC SUMMARY REPORT

BatchID: R75839

Sample ID: VLCS102111A-3 SampType: LCS TestCode: VOC_W+ Units: mg/L Prep Date: Run ID: VOA-3_111021B
Client ID: ZZZZZ Batch ID: R75839 TestNo: SW8260B Analysis Date: 10/21/2011 SeqNo: 2035138

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	0.05592	0.0010	0.05	0	112	70	130	0	0		
Dibromochloromethane	0.05414	0.0050	0.05	0	108	70	130	0	0		
Ethylbenzene	0.05289	0.0050	0.05	0	106	70	130	0	0		
Methyl tert-butyl ether	0.05477	0.0050	0.05	0	110	50	150	0	0		
Methylene chloride	0.05609	0.0050	0.05	0	112	70	130	0	0		
Styrene	0.05615	0.0050	0.05	0	112	70	130	0	0		
Tetrachloroethene	0.05131	0.0050	0.05	0	103	70	130	0	0		
Toluene	0.0554	0.0050	0.05	0	111	70	130	0	0		
trans-1,2-Dichloroethene	0.05763	0.0050	0.05	0	115	70	130	0	0		
trans-1,3-Dichloropropene	0.05024	0.0010	0.05	0	100	70	130	0	0		
Trichloroethene	0.05306	0.0050	0.05	0	106	70	130	0	0		
Vinyl chloride	0.04953	0.0020	0.05	0	99.1	70	130	0	0		
Xylenes, Total	0.1627	0.015	0.15	0	108	70	130	0	0		

Sample ID: VLCSD102111A-3 SampType: LCSD TestCode: VOC_W+ Units: mg/L Prep Date: Run ID: VOA-3_111021B
Client ID: ZZZZZ Batch ID: R75839 TestNo: SW8260B Analysis Date: 10/21/2011 SeqNo: 2035139

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.05827	0.0050	0.05	0	117	70	130	0.05531	5.21	20	
1,1,2,2-Tetrachloroethane	0.05866	0.0050	0.05	0	117	70	130	0.05714	2.63	20	
1,1,2-Trichloroethane	0.05489	0.0050	0.05	0	110	70	130	0.05181	5.77	20	
1,1-Dichloroethane	0.05863	0.0050	0.05	0	117	70	130	0.05603	4.54	20	
1,1-Dichloroethene	0.05997	0.0050	0.05	0	120	70	130	0.05562	7.53	20	
1,2-Dichloroethane	0.05648	0.0050	0.05	0	113	70	130	0.0545	3.57	20	
1,2-Dichloropropane	0.05656	0.0050	0.05	0	113	70	130	0.05521	2.42	20	
2-Butanone	0.1338	0.020	0.1	0	134	70	130	0.1297	3.17	20	S
2-Hexanone	0.1198	0.020	0.1	0	120	70	130	0.1132	5.71	20	
4-Methyl-2-pentanone	0.13	0.020	0.1	0	130	70	130	0.1278	1.75	20	
Acetone	0.121	0.020	0.1	0	121	50	150	0.1144	5.65	20	
Benzene	0.05743	0.0050	0.05	0	115	70	130	0.05539	3.62	20	
Bromodichloromethane	0.05989	0.0050	0.05	0	120	70	130	0.05873	1.96	20	

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CLIENT: Burns & McDonnell
Work Order: 11100535
Project: 57618, Black Brother Company Site

ANALYTICAL QC SUMMARY REPORT

BatchID: R75839

Sample ID: VLCSD102111A-3 SampType: LCSD TestCode: VOC_W+ Units: mg/L Prep Date: Run ID: VOA-3_111021B
Client ID: ZZZZZ Batch ID: R75839 TestNo: SW8260B Analysis Date: 10/21/2011 SeqNo: 2035139

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromoform	0.0499	0.0050	0.05	0	99.8	70	130	0.04786	4.17	20	
Bromomethane	0.04354	0.010	0.05	0	87.1	70	130	0.04146	4.89	20	
Carbon disulfide	0.1254	0.010	0.1	0.00055	125	70	130	0.1181	6.04	20	
Carbon tetrachloride	0.05848	0.0050	0.05	0	117	70	130	0.05522	5.73	20	
Chlorobenzene	0.05421	0.0050	0.05	0	108	70	130	0.05134	5.44	20	
Chloroethane	0.05287	0.010	0.05	0	106	70	130	0.05165	2.33	20	
Chloroform	0.0594	0.0050	0.05	0	119	70	130	0.05667	4.70	20	
Chloromethane	0.05226	0.010	0.05	0	105	70	130	0.04883	6.79	20	
cis-1,2-Dichloroethene	0.05981	0.0050	0.05	0	120	70	130	0.05823	2.68	20	
cis-1,3-Dichloropropene	0.05829	0.0010	0.05	0	117	70	130	0.05592	4.15	20	
Dibromochloromethane	0.05766	0.0050	0.05	0	115	70	130	0.05414	6.30	20	
Ethylbenzene	0.0563	0.0050	0.05	0	113	70	130	0.05289	6.25	20	
Methyl tert-butyl ether	0.05603	0.0050	0.05	0	112	50	150	0.05477	2.27	20	
Methylene chloride	0.05829	0.0050	0.05	0	117	70	130	0.05609	3.85	20	
Styrene	0.05911	0.0050	0.05	0	118	70	130	0.05615	5.14	20	
Tetrachloroethene	0.05511	0.0050	0.05	0	110	70	130	0.05131	7.14	20	
Toluene	0.05837	0.0050	0.05	0	117	70	130	0.0554	5.22	20	
trans-1,2-Dichloroethene	0.06067	0.0050	0.05	0	121	70	130	0.05763	5.14	20	
trans-1,3-Dichloropropene	0.05253	0.0010	0.05	0	105	70	130	0.05024	4.46	20	
Trichloroethene	0.05584	0.0050	0.05	0	112	70	130	0.05306	5.11	20	
Vinyl chloride	0.05346	0.0020	0.05	0	107	70	130	0.04953	7.63	20	
Xylenes, Total	0.1729	0.015	0.15	0	115	70	130	0.1627	6.10	20	

Sample ID: 11100544-003AMS SampType: MS TestCode: VOC_W+ Units: mg/L Prep Date: Run ID: VOA-3_111021B
Client ID: ZZZZZ Batch ID: R75839 TestNo: SW8260B Analysis Date: 10/22/2011 SeqNo: 2035148

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.05835	0.0050	0.05	0	117	70	130	0	0		
1,1,2,2-Tetrachloroethane	0.05683	0.0050	0.05	0	114	70	130	0	0		
1,1,2-Trichloroethane	0.05345	0.0050	0.05	0	107	70	130	0	0		
1,1-Dichloroethane	0.0586	0.0050	0.05	0	117	70	130	0	0		

Qualifiers:
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R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

CLIENT: Burns & McDonnell
Work Order: 11100535
Project: 57618, Black Brother Company Site

ANALYTICAL QC SUMMARY REPORT

BatchID: R75839

Sample ID: 11100544-003AMS SampType: MS TestCode: VOC_W+ Units: mg/L Prep Date: Run ID: VOA-3_111021B
Client ID: ZZZZZ Batch ID: R75839 TestNo: SW8260B Analysis Date: 10/22/2011 SeqNo: 2035148

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.0611	0.0050	0.05	0	122	70	130	0	0		
1,2-Dichloroethane	0.05712	0.0050	0.05	0	114	70	130	0	0		
1,2-Dichloropropane	0.05763	0.0050	0.05	0	115	70	130	0	0		
2-Butanone	0.1286	0.020	0.1	0	129	70	130	0	0		
2-Hexanone	0.1126	0.020	0.1	0	113	70	130	0	0		
4-Methyl-2-pentanone	0.1264	0.020	0.1	0	126	70	130	0	0		
Acetone	0.1176	0.020	0.1	0	118	70	130	0	0		
Benzene	0.0579	0.0050	0.05	0	116	70	130	0	0		
Bromodichloromethane	0.06067	0.0050	0.05	0	121	70	130	0	0		
Bromoform	0.04866	0.0050	0.05	0	97.3	70	130	0	0		
Bromomethane	0.03389	0.010	0.05	0	67.8	70	130	0	0		S
Carbon disulfide	0.1301	0.010	0.1	0	130	70	130	0	0		S
Carbon tetrachloride	0.05817	0.0050	0.05	0	116	70	130	0	0		
Chlorobenzene	0.05323	0.0050	0.05	0	106	70	130	0	0		
Chloroethane	0.05754	0.010	0.05	0	115	70	130	0	0		
Chloroform	0.06007	0.0050	0.05	0	120	70	130	0	0		
Chloromethane	0.05361	0.010	0.05	0	107	70	130	0	0		
cis-1,2-Dichloroethene	0.06201	0.0050	0.05	0	124	70	130	0	0		
cis-1,3-Dichloropropene	0.05587	0.0010	0.05	0	112	70	130	0	0		
Dibromochloromethane	0.05763	0.0050	0.05	0	115	70	130	0	0		
Ethylbenzene	0.05544	0.0050	0.05	0	111	70	130	0	0		
Methyl tert-butyl ether	0.0633	0.0050	0.05	0	127	50	150	0	0		
Methylene chloride	0.07315	0.0050	0.05	0	146	70	130	0	0		S
Styrene	0.05757	0.0050	0.05	0	115	70	130	0	0		
Tetrachloroethene	0.05317	0.0050	0.05	0	106	70	130	0	0		
Toluene	0.05816	0.0050	0.05	0	116	70	130	0	0		
trans-1,2-Dichloroethene	0.07403	0.0050	0.05	0	148	70	130	0	0		S
trans-1,3-Dichloropropene	0.05008	0.0010	0.05	0	100	70	130	0	0		
Trichloroethene	0.05605	0.0050	0.05	0	112	70	130	0	0		
Vinyl chloride	0.05111	0.0020	0.05	0	102	70	130	0	0		
Xylenes, Total	0.1694	0.015	0.15	0	113	70	130	0	0		

Qualifiers:
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R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

CLIENT: Burns & McDonnell
Work Order: 11100535
Project: 57618, Black Brother Company Site

ANALYTICAL QC SUMMARY REPORT

BatchID: R75839

Sample ID: 11100544-003AMSD SampType: MSD TestCode: VOC_W+ Units: mg/L Prep Date: Run ID: VOA-3_111021B
Client ID: ZZZZZ Batch ID: R75839 TestNo: SW8260B Analysis Date: 10/22/2011 SeqNo: 2035149

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.06111	0.0050	0.05	0	122	70	130	0.05835	4.62	15	
1,1,2,2-Tetrachloroethane	0.05767	0.0050	0.05	0	115	70	130	0.05683	1.47	15	
1,1,2-Trichloroethane	0.0534	0.0050	0.05	0	107	70	130	0.05345	0.0936	15	
1,1-Dichloroethane	0.06003	0.0050	0.05	0	120	70	130	0.0586	2.41	15	
1,1-Dichloroethene	0.06254	0.0050	0.05	0	125	70	130	0.0611	2.33	15	
1,2-Dichloroethane	0.05642	0.0050	0.05	0	113	70	130	0.05712	1.23	15	
1,2-Dichloropropane	0.05918	0.0050	0.05	0	118	70	130	0.05763	2.65	15	
2-Butanone	0.1242	0.020	0.1	0	124	70	130	0.1286	3.51	15	
2-Hexanone	0.112	0.020	0.1	0	112	70	130	0.1126	0.481	15	
4-Methyl-2-pentanone	0.1278	0.020	0.1	0	128	70	130	0.1264	1.11	15	
Acetone	0.1177	0.020	0.1	0	118	70	130	0.1176	0.102	15	
Benzene	0.05951	0.0050	0.05	0	119	70	130	0.0579	2.74	15	
Bromodichloromethane	0.06213	0.0050	0.05	0	124	70	130	0.06067	2.38	15	
Bromoform	0.0491	0.0050	0.05	0	98.2	70	130	0.04866	0.900	15	
Bromomethane	0.03605	0.010	0.05	0	72.1	70	130	0.03389	6.18	15	
Carbon disulfide	0.1405	0.010	0.1	0	140	70	130	0.1301	7.70	15	S
Carbon tetrachloride	0.05993	0.0050	0.05	0	120	70	130	0.05817	2.98	15	
Chlorobenzene	0.05445	0.0050	0.05	0	109	70	130	0.05323	2.27	15	
Chloroethane	0.05836	0.010	0.05	0	117	70	130	0.05754	1.42	15	
Chloroform	0.06129	0.0050	0.05	0	123	70	130	0.06007	2.01	15	
Chloromethane	0.05459	0.010	0.05	0	109	70	130	0.05361	1.81	15	
cis-1,2-Dichloroethene	0.06299	0.0050	0.05	0	126	70	130	0.06201	1.57	15	
cis-1,3-Dichloropropene	0.05805	0.0010	0.05	0	116	70	130	0.05587	3.83	15	
Dibromochloromethane	0.05761	0.0050	0.05	0	115	70	130	0.05763	0.0347	15	
Ethylbenzene	0.05701	0.0050	0.05	0	114	70	130	0.05544	2.79	15	
Methyl tert-butyl ether	0.06476	0.0050	0.05	0	130	50	150	0.0633	2.28	15	
Methylene chloride	0.074	0.0050	0.05	0	148	70	130	0.07315	1.16	15	S
Styrene	0.05905	0.0050	0.05	0	118	70	130	0.05757	2.54	15	
Tetrachloroethene	0.05529	0.0050	0.05	0	111	70	130	0.05317	3.91	15	
Toluene	0.0598	0.0050	0.05	0	120	70	130	0.05816	2.78	15	
trans-1,2-Dichloroethene	0.07552	0.0050	0.05	0	151	70	130	0.07403	1.99	15	S

Qualifiers:
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H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

CLIENT: Burns & McDonnell
Work Order: 11100535
Project: 57618, Black Brother Company Site

ANALYTICAL QC SUMMARY REPORT

BatchID: R75839

Sample ID: **11100544-003AMSD** SampType: **MSD** TestCode: **VOC_W+** Units: **mg/L** Prep Date: Run ID: **VOA-3_111021B**
Client ID: **ZZZZZ** Batch ID: **R75839** TestNo: **SW8260B** Analysis Date: **10/22/2011** SeqNo. **2035149**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropene	0.0516	0.0010	0.05	0	103	70	130	0.05008	2.99	15	
Trichloroethene	0.05669	0.0050	0.05	0	113	70	130	0.05605	1.14	15	
Vinyl chloride	0.05333	0.0020	0.05	0	107	70	130	0.05111	4.25	15	
Xylenes, Total	0.1742	0.015	0.15	0	116	70	130	0.1694	2.78	15	

Qualifiers:
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R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
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E - Value above quantitation range

STAT Analysis Corporation

CLIENT: Burns & McDonnell
Work Order: 11100535
Project: 57618, Black Brother Company Site
Test No: SW8270C Matrix: W

QC SUMMARY REPORT
SURROGATE RECOVERIES

Sample ID	CLPH2D4	DCBZ12D4	NO2BZD5	PH246BR	PH2F	PHD5	PHEN2F	PHEND14
lcs-59338-svoc	91.2	88.8	97.1	114	70.3	49.9	97.1	132
MB-59338-SVOC	90.5	103	83.6	120	78.4	44.0	105	138
11100535-001B	58.4	71.0	53.6	92.2	48.1	30.4	64.1	39.1
11100544-003BMS	82.5	69.6	74.6	120	60.3	38.3	79.2	134
11100544-003BMSD	69.4	52.4	63.9	123 *	4.90 *	36.4	80.1	124

Acronym		Surrogate	QC Limits
CLPH2D4	=	2-Chlorophenol-d4	33-110
DCBZ12D4	=	1,2-Dichlorobenzene-d4	16-110
NO2BZD5	=	Nitrobenzene-d5	35-114
PH246BR	=	2,4,6-Tribromophenol	10-123
PH2F	=	2-Fluorophenol	21-110
PHD5	=	Phenol-d5	10-110
PHEN2F	=	2-Fluorobiphenyl	43-116
PHEND14	=	4-Terphenyl-d14	33-141

* Surrogate recovery outside acceptance limit

STAT Analysis Corporation

PREP BATCH REPORT

Prep Start Date: **10/21/2011 11:13:47**
Prep End Date:

Prep Factor Units: mL / L

Prep Batch **59338** Prep Code: **3510_SVOC** Technician: **PEM**

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
MB-59338-SVOC			1	0	0	1	1.000	10/21/2011	10/21/2011
LCS-59338-SVOC			1	0	0	1	1.000	10/21/2011	10/21/2011
11100527-001B	Water		1	0	0	1	1.000	10/21/2011	10/21/2011
11100528-001A	Soil		0.5	0	0	1	2.000	10/21/2011	10/21/2011
11100535-001B	Water		1	0	0	1	1.000	10/21/2011	10/21/2011
11100544-001B	Water		1	0	0	1	1.000	10/21/2011	10/21/2011
11100544-002B	Water		1	0	0	1	1.000	10/21/2011	10/21/2011
11100544-003B	Water		1	0	0	1	1.000	10/21/2011	10/21/2011
11100544-003BMS	Water		1	0	0	1	1.000	10/21/2011	10/21/2011
11100544-003BMSD	Water		1	0	0	1	1.000	10/21/2011	10/21/2011
11100544-004B	Water		1	0	0	1	1.000	10/21/2011	10/21/2011
11100544-005B	Water		1	0	0	1	1.000	10/21/2011	10/21/2011
11100544-006B	Water		1	0	0	1	1.000	10/21/2011	10/21/2011
MB-59338-TCLP			0.5	0	0	1	2.000	10/21/2011	10/21/2011

CLIENT: Burns & McDonnell
Work Order: 11100535
Project: 57618, Black Brother Company Site

ANALYTICAL QC SUMMARY REPORT

BatchID: 59338

Sample ID: MB-59338-SVOC	SampType: MBLK	TestCode: SVOC_WATE	Units: mg/L	Prep Date: 10/21/2011	Run ID: SVOC-6_111024A
Client ID: ZZZZZ	Batch ID: 59338	TestNo: SW8270C		Analysis Date: 10/24/2011	SeqNo: 2036012

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aniline	ND	0.025									
Benzidine	ND	0.025									
Benzoic acid	ND	0.025									
Benzyl alcohol	ND	0.0050									
Bis(2-chloroethoxy)methane	ND	0.0050									
Bis(2-chloroethyl)ether	ND	0.0050									
Bis(2-ethylhexyl)phthalate	ND	0.0060									
4-Bromophenyl phenyl ether	ND	0.0050									
Butyl benzyl phthalate	ND	0.0050									
4-Chloroaniline	ND	0.0050									
4-Chloro-3-methylphenol	ND	0.0050									
2-Chloronaphthalene	ND	0.0050									
2-Chlorophenol	ND	0.0050									
4-Chlorophenyl phenyl ether	ND	0.0050									
Dibenzofuran	ND	0.0050									
1,2-Dichlorobenzene	ND	0.0050									
1,3-Dichlorobenzene	ND	0.0050									
1,4-Dichlorobenzene	ND	0.0050									
3,3'-Dichlorobenzidine	ND	0.010									
2,4-Dichlorophenol	ND	0.0050									
Diethyl phthalate	ND	0.0050									
2,4-Dimethylphenol	ND	0.0050									
Dimethyl phthalate	ND	0.0050									
4,6-Dinitro-2-methylphenol	ND	0.025									
2,4-Dinitrophenol	ND	0.025									
Di-n-butyl phthalate	ND	0.0050									
Di-n-octyl phthalate	ND	0.0050									
Hexachlorobenzene	ND	0.0050									
Hexachlorobutadiene	ND	0.0050									
Hexachlorocyclopentadiene	ND	0.0050									
Hexachloroethane	ND	0.0050									

Qualifiers:
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H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

CLIENT: Burns & McDonnell
Work Order: 11100535
Project: 57618, Black Brother Company Site

ANALYTICAL QC SUMMARY REPORT

BatchID: 59338

Sample ID: MB-59338-SVOC	SampType: MBLK	TestCode: SVOC_WATE	Units: mg/L	Prep Date: 10/21/2011	Run ID: SVOC-6_111024A
Client ID: ZZZZZ	Batch ID: 59338	TestNo: SW8270C		Analysis Date: 10/24/2011	SeqNo. 2036012

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Isophorone	ND	0.0050									
2-Methylnaphthalene	0.00099	0.0050									J
2-Methylphenol	ND	0.0050									
4-Methylphenol	ND	0.0050									
2-Nitroaniline	ND	0.0050									
3-Nitroaniline	ND	0.025									
4-Nitroaniline	ND	0.025									
2-Nitrophenol	ND	0.0050									
4-Nitrophenol	ND	0.025									
N-Nitrosodimethylamine	ND	0.0050									
N-Nitrosodiphenylamine	ND	0.0050									
2, 2'-oxybis(1-Chloropropane)	ND	0.0050									
Phenol	ND	0.0050									
Pyridine	ND	0.0050									
1,2,4-Trichlorobenzene	ND	0.0050									
2,4,5-Trichlorophenol	ND	0.010									
2,4,6-Trichlorophenol	ND	0.0050									

Sample ID: lcs-59338-svoc	SampType: lcs	TestCode: SVOC_water	Units: mg/L	Prep Date: 10/21/2011	Run ID: SVOC-6_111021A
Client ID: ZZZZZ	Batch ID: 59338	TestNo: SW8270C		Analysis Date: 10/21/2011	SeqNo: 2035542

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	0.04727	0.0050	0.05	0	94.5	54	116	0	0		
4-Chloro-3-methylphenol	0.09581	0.0050	0.1	0	95.8	49	117	0	0		
2-Chlorophenol	0.08807	0.0050	0.1	0	88.1	44	103	0	0		
1,4-Dichlorobenzene	0.04375	0.0050	0.05	0	87.5	41	90	0	0		
2,4-Dinitrotoluene	0.04185	0.0050	0.05	0	83.7	46	122	0	0		
4-Nitrophenol	0.04844	0.025	0.1	0	48.4	15	78	0	0		
N-Nitrosodi-n-propylamine	0.03963	0.0050	0.05	0	79.3	43	108	0	0		
Pentachlorophenol	0.09453	0.025	0.1	0	94.5	10	221	0	0		
Phenol	0.04649	0.0050	0.1	0	46.5	23	58	0	0		

Qualifiers:
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E - Value above quantitation range

CLIENT: Burns & McDonnell
Work Order: 11100535
Project: 57618, Black Brother Company Site

ANALYTICAL QC SUMMARY REPORT

BatchID: 59338

Sample ID: lcs-59338-svoc | SampType: lcs | TestCode: SVOC_water | Units: mg/L | Prep Date: 10/21/2011 | Run ID: SVOC-6_111021A
Client ID: ZZZZZ | Batch ID: 59338 | TestNo: SW8270C | Analysis Date: 10/21/2011 | SeqNo: 2035542

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pyrene	0.05086	0.0050	0.05	0	102	53	140	0	0		
1,2,4-Trichlorobenzene	0.04178	0.0050	0.05	0	83.6	42	96	0	0		

Sample ID: 11100544-003BMS | SampType: MS | TestCode: SVOC_WATE | Units: mg/L | Prep Date: 10/21/2011 | Run ID: SVOC-6_111024A
Client ID: ZZZZZ | Batch ID: 59338 | TestNo: SW8270C | Analysis Date: 10/24/2011 | SeqNo: 2036243

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	0.0454	0.0050	0.05	0	90.8	62	97	0	0		
4-Chloro-3-methylphenol	0.08329	0.0050	0.1	0	83.3	64	104	0	0		
2-Chlorophenol	0.08178	0.0050	0.1	0	81.8	41	95	0	0		
1,4-Dichlorobenzene	0.03175	0.0050	0.05	0	63.5	44	85	0	0		
2,4-Dinitrotoluene	0.04526	0.0050	0.05	0	90.5	66	106	0	0		
4-Nitrophenol	0.02899	0.025	0.1	0	29	22	77	0	0		
N-Nitrosodi-n-propylamine	0.03434	0.0050	0.05	0	68.7	47	93	0	0		
Pentachlorophenol	0.08657	0.025	0.1	0	86.6	50	151	0	0		
Phenol	0.04194	0.0050	0.1	0	41.9	27	52	0	0		
Pyrene	0.05234	0.0050	0.05	0	105	67	104	0	0		S
1,2,4-Trichlorobenzene	0.03641	0.0050	0.05	0	72.8	48	90	0	0		

Sample ID: 11100544-003BMSD | SampType: MSD | TestCode: SVOC_WATE | Units: mg/L | Prep Date: 10/21/2011 | Run ID: SVOC-6_111024A
Client ID: ZZZZZ | Batch ID: 59338 | TestNo: SW8270C | Analysis Date: 10/24/2011 | SeqNo: 2036244

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	0.04722	0.0050	0.05	0	94.4	62	97	0.0454	3.93	18	
4-Chloro-3-methylphenol	0.07712	0.0050	0.1	0	77.1	64	104	0.08329	7.69	22	
2-Chlorophenol	0.07401	0.0050	0.1	0	74	41	95	0.08178	9.97	37	
1,4-Dichlorobenzene	0.02477	0.0050	0.05	0	49.5	44	85	0.03175	24.7	24	R
2,4-Dinitrotoluene	0.04951	0.0050	0.05	0	99	66	106	0.04526	8.97	21	
4-Nitrophenol	0.03278	0.025	0.1	0	32.8	22	77	0.02899	12.3	31	
N-Nitrosodi-n-propylamine	0.03161	0.0050	0.05	0	63.2	47	93	0.03434	8.28	29	
Pentachlorophenol	0.08801	0.025	0.1	0	88	50	151	0.08657	1.65	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

CLIENT: Burns & McDonnell
Work Order: 11100535
Project: 57618, Black Brother Company Site

ANALYTICAL QC SUMMARY REPORT

BatchID: 59338

Sample ID: **11100544-003BMSD** SampType: **MSD** TestCode: **SVOC_WATE** Units: **mg/L** Prep Date: **10/21/2011** Run ID: **SVOC-6_111024A**
Client ID: **ZZZZZ** Batch ID: **59338** TestNo. **SW8270C** Analysis Date: **10/24/2011** SeqNo: **2036244**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	0.03633	0.0050	0.1	0	36.3	27	52	0.04194	14.3	33	
Pyrene	0.04882	0.0050	0.05	0	97.6	67	104	0.05234	6.96	19	
1,2,4-Trichlorobenzene	0.03461	0.0050	0.05	0	69.2	48	90	0.03641	5.07	25	

Qualifiers:
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R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

STAT Analysis Corporation

CLIENT: Burns & McDonnell
Work Order: 11100535
Project: 57618, Black Brother Company Site
Test No: SW8270C-SIM Matrix: W

QC SUMMARY REPORT
SURROGATE RECOVERIES

Sample ID	DCBZ12D4	NO2BZD5	PHEN2F	PHEND14				
11100544-003BMS	52.0	96.2	63.0	94.2				
11100544-003BMSD	55.2	93.6	60.4	84.8				
LCS-59337-PNA	81.2	124 *	84.0	106				
MB-59337-PNA	75.6	113	85.2	119				
11100535-001B	52.9	87.5	37.5 *	24.1 *				

Acronym		Surrogate	QC Limits
DCBZ12D4	=	1,2-Dichlorobenzene-d4	16-110
NO2BZD5	=	Nitrobenzene-d5	35-114
PHEN2F	=	2-Fluorobiphenyl	43-116
PHEND14	=	4-Terphenyl-d14	33-141

*** Surrogate recovery outside acceptance limit**

STAT Analysis Corporation

PREP BATCH REPORT

Prep Start Date: **10/21/2011 11:12:33**
Prep End Date:

Prep Factor Units: mL / L

Prep Batch **59337** Prep Code: **3510_PNA** Technician: **PEM**

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
MB-59337-PNA			1	0	0	1	1.000	10/21/2011	10/21/2011
LCS-59337-PNA			1	0	0	1	1.000	10/21/2011	10/21/2011
11100527-001B	Water		1	0	0	1	1.000	10/21/2011	10/21/2011
11100535-001B	Water		0.1	0	0	1	10.000	10/21/2011	10/21/2011
11100543-001B	Water		1	0	0	1	1.000	10/21/2011	10/21/2011
11100543-002B	Water		1	0	0	1	1.000	10/21/2011	10/21/2011
11100544-001B	Water		1	0	0	1	1.000	10/21/2011	10/21/2011
11100544-002B	Water		1	0	0	1	1.000	10/21/2011	10/21/2011
11100544-003B	Water		1	0	0	1	1.000	10/21/2011	10/21/2011
11100544-003BMS	Water		1	0	0	1	1.000	10/21/2011	10/21/2011
11100544-003BMSD	Water		1	0	0	1	1.000	10/21/2011	10/21/2011
11100544-004B	Water		1	0	0	1	1.000	10/21/2011	10/21/2011
11100544-005B	Water		1	0	0	1	1.000	10/21/2011	10/21/2011
11100544-006B	Water		1	0	0	1	1.000	10/21/2011	10/21/2011

CLIENT: Burns & McDonnell
Work Order: 11100535
Project: 57618, Black Brother Company Site

ANALYTICAL QC SUMMARY REPORT

BatchID: 59337

Sample ID: MB-59337-PNA | SampType: MBLK | TestCode: PNA_WATER | Units: mg/L | Prep Date: 10/21/2011 | Run ID: SVOC-3_111023A
Client ID: ZZZZZ | Batch ID: 59337 | TestNo: SW8270C-SI | Analysis Date: 10/24/2011 | SeqNo: 2035794

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	0.00010									
2,6-Dinitrotoluene	ND	0.00010									
Acenaphthene	ND	0.0010									
Acenaphthylene	ND	0.0010									
Anthracene	ND	0.0010									
Benz(a)anthracene	ND	0.00010									
Benzo(a)pyrene	ND	0.00010									
Benzo(b)fluoranthene	ND	0.00010									
Benzo(g,h,i)perylene	ND	0.0010									
Benzo(k)fluoranthene	ND	0.00010									
Carbazole	ND	0.00010									
Chrysene	ND	0.00010									
Dibenz(a,h)anthracene	ND	0.00010									
Fluoranthene	ND	0.0010									
Fluorene	ND	0.0010									
Indeno(1,2,3-cd)pyrene	ND	0.00010									
N-Nitrosodi-n-propylamine	ND	0.00010									
Naphthalene	0.00019	0.0010									J
Nitrobenzene	ND	0.0010									
Pentachlorophenol	ND	0.00050									
Phenanthrene	ND	0.0010									
Pyrene	ND	0.0010									

Sample ID: LCS-59337-PNA | SampType: LCS | TestCode: PNA_WATER | Units: mg/L | Prep Date: 10/21/2011 | Run ID: SVOC-3_111023A
Client ID: ZZZZZ | Batch ID: 59337 | TestNo: SW8270C-SI | Analysis Date: 10/24/2011 | SeqNo: 2035793

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	0.03859	0.00010	0.005	0	772	50	125	0	0		SE
2,6-Dinitrotoluene	0.00683	0.00010	0.005	0	137	50	125	0	0		S
Acenaphthene	0.00599	0.0010	0.005	0	120	50	125	0	0		
Acenaphthylene	0.00542	0.0010	0.005	0	108	50	125	0	0		

Qualifiers:
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H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

CLIENT: Burns & McDonnell
Work Order: 11100535
Project: 57618, Black Brother Company Site

ANALYTICAL QC SUMMARY REPORT

BatchID: 59337

Sample ID: LCS-59337-PNA SampType: LCS TestCode: PNA_WATER Units: mg/L Prep Date: 10/21/2011 Run ID: SVOC-3_111023A
Client ID: ZZZZZ Batch ID: 59337 TestNo: SW8270C-SI Analysis Date: 10/24/2011 SeqNo: 2035793

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Anthracene	0.00638	0.0010	0.005	0	128	50	125	0	0		S
Benz(a)anthracene	0.00623	0.00010	0.005	0	125	50	125	0	0		
Benzo(a)pyrene	0.00675	0.00010	0.005	0	135	50	125	0	0		S
Benzo(b)fluoranthene	0.00682	0.00010	0.005	0	136	50	125	0	0		S
Benzo(g,h,i)perylene	0.00399	0.0010	0.005	0	79.8	50	125	0	0		
Benzo(k)fluoranthene	0.00762	0.00010	0.005	0	152	50	125	0	0		S
Carbazole	0.00651	0.00010	0.005	0	130	50	125	0	0		S
Chrysene	0.00565	0.00010	0.005	0	113	50	125	0	0		
Dibenz(a,h)anthracene	0.00525	0.00010	0.005	0	105	50	125	0	0		
Fluoranthene	0.00606	0.0010	0.005	0	121	50	125	0	0		
Fluorene	0.00591	0.0010	0.005	0	118	50	125	0	0		
Indeno(1,2,3-cd)pyrene	0.00474	0.00010	0.005	0	94.8	50	125	0	0		
N-Nitrosodi-n-propylamine	0.00747	0.00010	0.005	0	149	50	125	0	0		S
Naphthalene	0.0055	0.0010	0.005	0.00019	106	50	125	0	0		
Nitrobenzene	0.00678	0.0010	0.005	0	136	50	125	0	0		S
Pentachlorophenol	0.01266	0.00050	0.005	0	253	50	125	0	0		SE
Phenanthrene	0.0055	0.0010	0.005	0	110	50	125	0	0		
Pyrene	0.00597	0.0010	0.005	0	119	50	125	0	0		

Sample ID: 11100544-003BMS SampType: MS TestCode: PNA_WATER Units: mg/L Prep Date: 10/21/2011 Run ID: SVOC-3_111023A
Client ID: ZZZZZ Batch ID: 59337 TestNo: SW8270C-SI Analysis Date: 10/24/2011 SeqNo: 2035791

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	0.00884	0.00010	0.005	0	177	50	125	0	0		S
2,6-Dinitrotoluene	0.00645	0.00010	0.005	0	129	50	125	0	0		S
Acenaphthene	0.00527	0.0010	0.005	0.00015	102	50	125	0	0		
Acenaphthylene	0.00431	0.0010	0.005	0	86.2	50	125	0	0		
Anthracene	0.0057	0.0010	0.005	0	114	50	125	0	0		
Benz(a)anthracene	0.00584	0.00010	0.005	0	117	50	125	0	0		
Benzo(a)pyrene	0.00632	0.00010	0.005	0	126	50	125	0	0		S
Benzo(b)fluoranthene	0.00492	0.00010	0.005	0	98.4	50	125	0	0		

Qualifiers:
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R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

CLIENT: Burns & McDonnell
Work Order: 11100535
Project: 57618, Black Brother Company Site

ANALYTICAL QC SUMMARY REPORT

BatchID: 59337

Sample ID: 11100544-003BMS SampType: MS TestCode: PNA_WATER Units: mg/L Prep Date: 10/21/2011 Run ID: SVOC-3_111023A
Client ID: ZZZZZ Batch ID: 59337 TestNo: SW8270C-SI Analysis Date: 10/24/2011 SeqNo: 2035791

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(g,h,i)perylene	0.00391	0.0010	0.005	0	78.2	50	125	0	0		
Benzo(k)fluoranthene	0.00571	0.00010	0.005	0	114	50	125	0	0		
Carbazole	0.00593	0.00010	0.005	0	119	50	125	0	0		
Chrysene	0.00505	0.00010	0.005	0	101	50	125	0	0		
Dibenz(a,h)anthracene	0.00502	0.00010	0.005	0	100	50	125	0	0		
Fluoranthene	0.00529	0.0010	0.005	0	106	50	125	0	0		
Fluorene	0.00533	0.0010	0.005	0	107	50	125	0	0		
Indeno(1,2,3-cd)pyrene	0.00448	0.00010	0.005	0	89.6	50	125	0	0		
N-Nitrosodi-n-propylamine	0.00597	0.00010	0.005	0	119	50	125	0	0		
Naphthalene	0.00438	0.0010	0.005	0.00025	82.6	50	125	0	0		
Nitrobenzene	0.00542	0.0010	0.005	0	108	50	125	0	0		
Pentachlorophenol	0.00751	0.00050	0.005	0	150	50	125	0	0		S
Phenanthrene	0.00501	0.0010	0.005	0.00016	97.2	50	125	0	0		
Pyrene	0.00523	0.0010	0.005	0	105	50	125	0	0		

Sample ID: 11100544-003BMSD SampType: MSD TestCode: PNA_WATER Units: mg/L Prep Date: 10/21/2011 Run ID: SVOC-3_111023A
Client ID: ZZZZZ Batch ID: 59337 TestNo: SW8270C-SI Analysis Date: 10/24/2011 SeqNo: 2035792

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	0.00513	0.0010	0.005	0	103	50	125	0.00527	-2.69	25	
Acenaphthylene	0.00361	0.0010	0.005	0	72.2	50	125	0.00431	17.7	25	
Anthracene	0.00513	0.0010	0.005	0	103	50	125	0.0057	10.5	25	
Benz(a)anthracene	0.00512	0.00010	0.005	0	102	50	125	0.00584	13.1	25	
Benzo(a)pyrene	0.00562	0.00010	0.005	0	112	50	125	0.00632	11.7	25	
Benzo(b)fluoranthene	0.0054	0.00010	0.005	0	108	50	125	0.00492	9.30	25	
Benzo(g,h,i)perylene	0.00354	0.0010	0.005	0	70.8	50	125	0.00391	9.93	25	
Benzo(k)fluoranthene	0.00304	0.00010	0.005	0	60.8	50	125	0.00571	61.0	25	R
Chrysene	0.00465	0.00010	0.005	0	93	50	125	0.00505	8.25	25	
Dibenz(a,h)anthracene	0.00461	0.00010	0.005	0	92.2	50	125	0.00502	8.52	25	
Fluoranthene	0.00477	0.0010	0.005	0	95.4	50	125	0.00529	10.3	25	
Fluorene	0.00498	0.0010	0.005	0	99.6	50	125	0.00533	6.79	25	

Qualifiers:
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H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

CLIENT: Burns & McDonnell
Work Order: 11100535
Project: 57618, Black Brother Company Site

ANALYTICAL QC SUMMARY REPORT

BatchID: 59337

Sample ID: **11100544-003BMSD** SampType: **MSD** TestCode: **PNA_WATER** Units: **mg/L** Prep Date: **10/21/2011** Run ID: **SVOC-3_111023A**
Client ID: **ZZZZZ** Batch ID: **59337** TestNo: **SW8270C-SI** Analysis Date: **10/24/2011** SeqNo: **2035792**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Indeno(1,2,3-cd)pyrene	0.00413	0.00010	0.005	0	82.6	50	125	0.00448	8.13	25	
Naphthalene	0.00422	0.0010	0.005	0	84.4	50	125	0.00438	3.72	25	
Phenanthrene	0.00449	0.0010	0.005	0	89.8	50	125	0.00501	10.9	25	
Pyrene	0.0047	0.0010	0.005	0	94	50	125	0.00523	10.7	25	
Carbazole	0.00557	0.00010	0.005	0	111	50	125	0.00593	6.26	25	
2,4-Dinitrotoluene	0.00822	0.00010	0.005	0	164	50	125	0.00884	7.27	25	S
2,6-Dinitrotoluene	0.00473	0.00010	0.005	0	94.6	50	125	0.00645	30.8	25	R
N-Nitrosodi-n-propylamine	0.00586	0.00010	0.005	0	117	50	125	0.00597	1.86	25	
Nitrobenzene	0.00524	0.0010	0.005	0	105	50	125	0.00542	3.38	25	
Pentachlorophenol	0.00664	0.00050	0.005	0	133	50	125	0.00751	12.3	25	S

Qualifiers:
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H/HT - Holding Time Exceeded
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STAT Analysis Corporation

PREP BATCH REPORT

Prep Start Date: **10/20/2011 12:00:00**
Prep End Date: **10/20/2011 1:50:00**

Prep Batch **59304** Prep Code: **M_W_PREP** Technician: **DMR**

Prep Factor Units: **mL / mL**

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
IMBW1 10/20/11			50	0	0	50	1.000	10/20/2011	10/20/2011
ILCSW1 10/20/11			50	0	0	50	1.000	10/20/2011	10/20/2011
IMBTA1 10/19/11			50	0	0	50	1.000	10/20/2011	10/20/2011
11100379-001B	Soil		50	0	0	50	1.000	10/20/2011	10/20/2011
11100379-002B	Soil		50	0	0	50	1.000	10/20/2011	10/20/2011
11100379-003B	Soil		50	0	0	50	1.000	10/20/2011	10/20/2011
11100379-004B	Soil		50	0	0	50	1.000	10/20/2011	10/20/2011
11100379-005B	Soil		50	0	0	50	1.000	10/20/2011	10/20/2011
11100379-006B	Soil		50	0	0	50	1.000	10/20/2011	10/20/2011
11100535-001B	Water		50	0	0	50	1.000	10/20/2011	10/20/2011
11100536-002A	Water		50	0	0	50	1.000	10/20/2011	10/20/2011
11100537-001A	Solid		50	0	0	50	1.000	10/20/2011	10/20/2011
11100537-003A	Solid		50	0	0	50	1.000	10/20/2011	10/20/2011
11100580-001B	Soil		50	0	0	50	1.000	10/20/2011	10/20/2011
11100580-002B	Soil		50	0	0	50	1.000	10/20/2011	10/20/2011
11100580-003B	Soil		50	0	0	50	1.000	10/20/2011	10/20/2011
11100585-001A	Sludge		50	0	0	50	1.000	10/20/2011	10/20/2011
11100585-002A	Sludge		50	0	0	50	1.000	10/20/2011	10/20/2011
11100586-001A	Water		50	0	0	50	1.000	10/20/2011	10/20/2011
11100586-002A	Soil		50	0	0	50	1.000	10/20/2011	10/20/2011
11100587-002A	Sludge		50	0	0	50	1.000	10/20/2011	10/20/2011
11100588-002A	Sludge		50	0	0	50	1.000	10/20/2011	10/20/2011
11100588-003A	Sludge		50	0	0	50	1.000	10/20/2011	10/20/2011
11100580-003BMS	Soil		50	0	0	50	1.000	10/20/2011	10/20/2011
11100580-003BMSD	Soil		50	0	0	50	1.000	10/20/2011	10/20/2011

CLIENT: Burns & McDonnell
Work Order: 11100535
Project: 57618, Black Brother Company Site

ANALYTICAL QC SUMMARY REPORT

BatchID: 59304

Sample ID: IMBTA1 10/19/11 | SampType: MBLK | TestCode: M_ICPMS_T+ | Units: mg/L | Prep Date: 10/20/2011 | Run ID: ICPMS_111020A
Client ID: ZZZZZ | Batch ID: 59304 | TestNo: SW1311/6020 | Analysis Date: 10/20/2011 | SeqNo: 2033683

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.010									
Barium	0.00285	0.50									J
Cadmium	ND	0.0050									
Chromium	ND	0.010									
Lead	ND	0.0050									
Selenium	ND	0.010									
Silver	0.0028	0.010									J

Sample ID: 11100580-003BMS | SampType: MS | TestCode: M_ICPMS_T+ | Units: mg/L | Prep Date: 10/20/2011 | Run ID: ICPMS_111020A
Client ID: ZZZZZ | Batch ID: 59304 | TestNo: SW1311/6020 | Analysis Date: 10/20/2011 | SeqNo: 2033688

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4859	0.010	0.5	0	97.2	75	125	0	0		
Barium	0.6213	0.50	0.5	0.1186	101	75	125	0	0		
Cadmium	0.4391	0.0050	0.5	0	87.8	75	125	0	0		
Chromium	0.4903	0.010	0.5	0	98.1	75	125	0	0		
Lead	0.5242	0.0050	0.5	0	105	75	125	0	0		
Selenium	0.4224	0.010	0.5	0	84.5	75	125	0	0		
Silver	0.1799	0.010	0.2	0.00268	88.6	75	125	0	0		

Sample ID: 11100580-003BMSD | SampType: MSD | TestCode: M_ICPMS_T+ | Units: mg/L | Prep Date: 10/20/2011 | Run ID: ICPMS_111020A
Client ID: ZZZZZ | Batch ID: 59304 | TestNo: SW1311/6020 | Analysis Date: 10/20/2011 | SeqNo: 2033689

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4811	0.010	0.5	0	96.2	75	125	0.4859	0.993	20	
Barium	0.6387	0.50	0.5	0.1186	104	75	125	0.6213	2.76	20	
Cadmium	0.4532	0.0050	0.5	0	90.6	75	125	0.4391	3.16	20	
Chromium	0.4986	0.010	0.5	0	99.7	75	125	0.4903	1.68	20	
Lead	0.533	0.0050	0.5	0	107	75	125	0.5242	1.66	20	
Selenium	0.4255	0.010	0.5	0	85.1	75	125	0.4224	0.731	20	
Silver	0.1835	0.010	0.2	0.00268	90.4	75	125	0.1799	1.98	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

CLIENT: Burns & McDonnell
Work Order: 11100535
Project: 57618, Black Brother Company Site

ANALYTICAL QC SUMMARY REPORT

BatchID: 59304

Sample ID: IMBW1 10/20/11 SampType: MBLK TestCode: M_ICPMS_W Units: mg/L Prep Date: 10/20/2011 Run ID: ICPMS_111020A
Client ID: ZZZZZ Batch ID: 59304 TestNo: SW6020 Analysis Date: 10/20/2011 SeqNo: 2033684

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.0040									
Barium	ND	0.0040									
Cadmium	ND	0.0020									
Chromium	ND	0.0040									
Lead	ND	0.0020									
Ruthenium	ND	0.0020									*
Selenium	ND	0.0040									
Silver	0.00113	0.0040									J
Tungsten	ND	0.010									*

Sample ID: ILCSW1 10/20/11 SampType: LCS TestCode: M_ICPMS_W Units: mg/L Prep Date: 10/20/2011 Run ID: ICPMS_111020A
Client ID: ZZZZZ Batch ID: 59304 TestNo: SW6020 Analysis Date: 10/20/2011 SeqNo: 2033685

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5001	0.0040	0.5	0	100	80	120	0	0		
Barium	0.5005	0.0040	0.5	0	100	80	120	0	0		
Cadmium	0.4908	0.0020	0.5	0	98.2	80	120	0	0		
Chromium	0.4968	0.0040	0.5	0	99.4	80	120	0	0		
Lead	0.4997	0.0020	0.5	0	99.9	80	120	0	0		
Ruthenium	ND	0.0020	0.5	0	0	80	120	0	0		S*
Selenium	0.49	0.0040	0.5	0	98	80	120	0	0		
Silver	0.198	0.0040	0.2	0.00113	98.4	80	120	0	0		
Tungsten	ND	0.010	0.5	0	0	80	120	0	0		S*

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

STAT Analysis Corporation

PREP BATCH REPORT

Prep Start Date: **10/20/2011 1:10:00**
Prep End Date:

Prep Factor Units:
mL / mL

Prep Batch **59281** Prep Code: **M_HG_W_PRE** Technician: **LB**

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
HGMBW1 10/19/11			30	0	0	30	1.000	10/19/2011	10/19/2011
HGLCSW1 10/19/11			30	0	0	30	1.000	10/19/2011	10/19/2011
11100526-001B	Soil		30	0	0	30	1.000	10/19/2011	10/19/2011
11100526-002B	Soil		30	0	0	30	1.000	10/19/2011	10/19/2011
11100526-003B	Soil		30	0	0	30	1.000	10/19/2011	10/19/2011
11100526-004B	Soil		30	0	0	30	1.000	10/19/2011	10/19/2011
11100526-001BMS	Soil		30	0	0	30	1.000	10/19/2011	10/19/2011
11100526-001BMSD	Soil		30	0	0	30	1.000	10/19/2011	10/19/2011
HGMBTA1 10/19/11			30	0	0	30	1.000	10/20/2011	10/20/2011
11100379-001B	Soil		30	0	0	30	1.000	10/20/2011	10/20/2011
11100379-002B	Soil		30	0	0	30	1.000	10/20/2011	10/20/2011
11100379-003B	Soil		30	0	0	30	1.000	10/20/2011	10/20/2011
11100379-004B	Soil		30	0	0	30	1.000	10/20/2011	10/20/2011
11100379-005B	Soil		30	0	0	30	1.000	10/20/2011	10/20/2011
11100379-006B	Soil		30	0	0	30	1.000	10/20/2011	10/20/2011
11100535-001B	Water		30	0	0	30	1.000	10/20/2011	10/20/2011
11100580-001B	Soil		30	0	0	30	1.000	10/20/2011	10/20/2011
11100580-002B	Soil		30	0	0	30	1.000	10/20/2011	10/20/2011
11100580-003B	Soil		30	0	0	30	1.000	10/20/2011	10/20/2011
11100580-002BMS	Soil		30	0	0	30	1.000	10/20/2011	10/20/2011

CLIENT: Burns & McDonnell
Work Order: 11100535
Project: 57618, Black Brother Company Site

ANALYTICAL QC SUMMARY REPORT

BatchID: 59281

Sample ID: HGMBTA1 10/19/11	SampType: MBLK	TestCode: M_1311_HG	Units: mg/L	Prep Date: 10/20/2011	Run ID: CETAC_111020C
Client ID: ZZZZZ	Batch ID: 59281	TestNo: SW1311/7470		Analysis Date: 10/20/2011	SeqNo: 2033813

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.00020									

Sample ID: 11100526-001BMS	SampType: MS	TestCode: M_1311_HG	Units: mg/L	Prep Date: 10/19/2011	Run ID: CETAC_111019C
Client ID: ZZZZZ	Batch ID: 59281	TestNo: SW1311/7470		Analysis Date: 10/19/2011	SeqNo: 2032476

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0027	0.00020	0.0025	0	108	75	125	0	0		

Sample ID: 11100580-002BMS	SampType: MS	TestCode: M_1311_HG	Units: mg/L	Prep Date: 10/20/2011	Run ID: CETAC_111020C
Client ID: ZZZZZ	Batch ID: 59281	TestNo: SW1311/7470		Analysis Date: 10/20/2011	SeqNo: 2033822

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0029	0.00020	0.0025	0	116	75	125	0	0		

Sample ID: 11100526-001BMSD	SampType: MSD	TestCode: M_1311_HG	Units: mg/L	Prep Date: 10/19/2011	Run ID: CETAC_111019C
Client ID: ZZZZZ	Batch ID: 59281	TestNo: SW1311/7470		Analysis Date: 10/19/2011	SeqNo: 2032477

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00285	0.00020	0.0025	0	114	75	125	0.0027	5.41	20	

Sample ID: HGMBW1 10/19/11	SampType: MBLK	TestCode: M_HG_WATE	Units: mg/L	Prep Date: 10/19/2011	Run ID: CETAC_111019C
Client ID: ZZZZZ	Batch ID: 59281	TestNo: SW7470A		Analysis Date: 10/19/2011	SeqNo: 2032473

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.00020									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

CLIENT: Burns & McDonnell
Work Order: 11100535
Project: 57618, Black Brother Company Site

ANALYTICAL QC SUMMARY REPORT

BatchID: 59281

Sample ID: **HGLCSW1 10/19/11** SampType: **LCS** TestCode: **M_HG_WATE** Units: **mg/L** Prep Date: **10/19/2011** Run ID: **CETAC_111019C**
Client ID: **ZZZZZ** Batch ID: **59281** TestNo: **SW7470A** Analysis Date: **10/19/2011** SeqNo: **2032474**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00232	0.00020	0.0025	0	92.8	85	115	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

STAT Analysis Corporation

PREP BATCH REPORT

Prep Start Date: 10/19/2011 10:00:00
Prep End Date: 10/19/2011 11:45:00

Prep Batch 59279 Prep Code: TCNPREP_W Technician: YZ

Prep Factor Units: mL / mL

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
TCNMBW1 101911			50	0	0	50	1.000	10/19/2011	10/19/2011
TCNLCSW1 101911			50	0	0	50	1.000	10/19/2011	10/19/2011
11100518-001D	Water		50	0	0	50	1.000	10/19/2011	10/19/2011
11100527-001D	Water		50	0	0	50	1.000	10/19/2011	10/19/2011
11100535-001D	Water		25	0	0	50	2.000	10/19/2011	10/19/2011
11100544-001D	Water		50	0	0	50	1.000	10/19/2011	10/19/2011
11100544-002D	Water		50	0	0	50	1.000	10/19/2011	10/19/2011
11100544-003D	Water		50	0	0	50	1.000	10/19/2011	10/19/2011
11100544-003DMS	Water		50	0	0	50	1.000	10/19/2011	10/19/2011
11100544-003DMSD	Water		50	0	0	50	1.000	10/19/2011	10/19/2011
11100544-004D	Water		50	0	0	50	1.000	10/19/2011	10/19/2011
11100544-005D	Water		50	0	0	50	1.000	10/19/2011	10/19/2011
11100544-006D	Water		50	0	0	50	1.000	10/19/2011	10/19/2011

CLIENT: Burns & McDonnell
Work Order: 11100535
Project: 57618, Black Brother Company Site

ANALYTICAL QC SUMMARY REPORT

BatchID: 59279

Sample ID: TCNMBW1 101911	SampType: MBLK	TestCode: CN_TW	Units: mg/L	Prep Date: 10/19/2011	Run ID: LACHAT_111019B
Client ID: ZZZZZ	Batch ID: 59279	TestNo: SW9012A		Analysis Date: 10/19/2011	SeqNo: 2032231

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	ND	0.0050									

Sample ID: TCNLCSW1 101911	SampType: LCS	TestCode: CN_TW	Units: mg/L	Prep Date: 10/19/2011	Run ID: LACHAT_111019B
Client ID: ZZZZZ	Batch ID: 59279	TestNo: SW9012A		Analysis Date: 10/19/2011	SeqNo: 2032232

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.208	0.0050	0.2	0	104	90	110	0	0		

Sample ID: 11100544-003DMS	SampType: MS	TestCode: CN_TW	Units: mg/L	Prep Date: 10/19/2011	Run ID: LACHAT_111019B
Client ID: ZZZZZ	Batch ID: 59279	TestNo: SW9012A		Analysis Date: 10/19/2011	SeqNo: 2032234

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.1862	0.0050	0.2	0.005126	90.6	75	125	0	0		

Sample ID: 11100544-003DMSD	SampType: MSD	TestCode: CN_TW	Units: mg/L	Prep Date: 10/19/2011	Run ID: LACHAT_111019B
Client ID: ZZZZZ	Batch ID: 59279	TestNo: SW9012A		Analysis Date: 10/19/2011	SeqNo: 2032235

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.2187	0.0050	0.2	0.005126	107	75	125	0.1862	16.0	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

STAT Analysis Corporation

PREP BATCH REPORT

Prep Start Date: **10/20/2011 2:00:00**
Prep End Date:

Prep Batch **59311** Prep Code: **PHENOLPR_W** Technician: **YZ**

Prep Factor Units:
mL / mL

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
PHMBW1 102011			50	0	0	50	1.000	10/20/2011	10/20/2011
PHLCSW1 102011			50	0	0	50	1.000	10/20/2011	10/20/2011
11100535-001E	Water		25	0	0	50	2.000	10/20/2011	10/20/2011
11100535-001EMS	Water		25	0	0	50	2.000	10/20/2011	10/20/2011
11100535-001EMSD	Water		25	0	0	50	2.000	10/20/2011	10/20/2011
11100629-001C	Water		50	0	0	50	1.000	10/20/2011	10/20/2011

CLIENT: Burns & McDonnell
Work Order: 11100535
Project: 57618, Black Brother Company Site

ANALYTICAL QC SUMMARY REPORT

BatchID: 59311

Sample ID: PHMBW1 102011	SampType: MBLK	TestCode: PHENOLICS_	Units: mg/L	Prep Date: 10/20/2011	Run ID: LACHAT_111020B
Client ID: ZZZZZ	Batch ID: 59311	TestNo: SW9066		Analysis Date: 10/20/2011	SeqNo: 2034344

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenolics, Total Recoverable	ND	0.0050									

Sample ID: PHLCSW1 102011	SampType: LCS	TestCode: PHENOLICS_	Units: mg/L	Prep Date: 10/20/2011	Run ID: LACHAT_111020B
Client ID: ZZZZZ	Batch ID: 59311	TestNo: SW9066		Analysis Date: 10/20/2011	SeqNo: 2034345

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenolics, Total Recoverable	0.1001	0.0050	0.1	0	100	80	120	0	0		

Sample ID: 11100535-001EMS	SampType: MS	TestCode: PHENOLICS_	Units: mg/L	Prep Date: 10/20/2011	Run ID: LACHAT_111020B
Client ID: MEN-WWC-101811	Batch ID: 59311	TestNo: SW9066		Analysis Date: 10/20/2011	SeqNo: 2034351

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenolics, Total Recoverable	1.063	0.050	0.2	0.8934	84.7	75	125	0	0		

Sample ID: 11100535-001EMSD	SampType: MSD	TestCode: PHENOLICS_	Units: mg/L	Prep Date: 10/20/2011	Run ID: LACHAT_111020B
Client ID: MEN-WWC-101811	Batch ID: 59311	TestNo: SW9066		Analysis Date: 10/20/2011	SeqNo: 2034352

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenolics, Total Recoverable	1.08	0.050	0.2	0.8934	93.2	75	125	1.063	1.59	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	ILD005144787	1	877-437-7455	010094659 JJK

5. Generator's Name and Mailing Address
Nicor-Mendota Black Brothers Company Site
1844 Ferry Road
Naperville, IL 60563

Generator's Site Address (if different than mailing address)
501 9th Ave
Mendota, IL 61342

Generator's Phone: 630-388-2381

6. Transporter 1 Company Name
SET Environmental, Inc.
U.S. EPA ID Number: ILD981957236

7. Transporter 2 Company Name
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Liquid Environmental Solutions
12123 S. Stony Island Ave
Chicago, IL 60633
U.S. EPA ID Number: ILR000115287
Facility's Phone: (773) 646-9700

9a. HM	9b. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Regulated	01	TP	75	G	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
I=034011:Waste water

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Angel Camacho for Nicor
Signature:
Month Day Year: 07 25 12

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: James Koeima
Signature:
Month Day Year: 07 25 12
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year:

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Signature: Month Day Year

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ILD005144787
2. Page 1 of: 1
3. Emergency Response Phone: 877-437-7455
4. Manifest Tracking Number: 010096329 JJK

GENERATOR

5. Generator's Name and Mailing Address
Nicor-Mendota Black Brothers Company Site
1844 Ferry Road
Naperville, IL 60563
Generator's Phone: ~~630-388-2381~~

Generator's Site Address (if different than mailing address)
501 9th Ave
Mendota, IL 61342

6. Transporter 1 Company Name
SET Environmental, Inc
U.S. EPA ID Number: ILD981957236

7. Transporter 2 Company Name
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Valley City Environmental Services
1040 Market Street SW
Grand Rapids, MI 49503
Facility's Phone: ~~(616) 235-1500~~
U.S. EPA ID Number: MID981956063

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
	1. Not regulated (waste water)	3	DM	120	G		029L	
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1=: Waste water
(3x55)

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Angel Camacho for Nicor
Signature:
Month 3 Day 28 Year 13

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Steven Schmidt
Signature:
Month 3 Day 28 Year 13
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Signature: Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ILD005144787
2. Page 1 of 1
3. Emergency Response Phone: 877-437-7455
4. Manifest Tracking Number: 010096392 JJK

GENERATOR

5. Generator's Name and Mailing Address
Nicor-Mendota Black Brothers Company Site
1844 Ferry Road
Naperville, IL 60563
Generator's Phone: 630-388-2381

Generator's Site Address (if different than mailing address)
501 9th Ave
Mendota, IL 61342

6. Transporter 1 Company Name: SET Environmental, Inc.
U.S. EPA ID Number: ILD981957236

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Valley City Environmental Services
1040 Market Street SW
Grand Rapids, MI 49503
Facility's Phone: (616) 235-1500
U.S. EPA ID Number: MID981956063

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
	1. Not regulated (waste water)	C	PM	15	L		029L	
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
I=: Waste water
0327130/LIW (Xs5)

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Angel Camacho for Nicor
Signature:
Month 04 Day 05 Year 13

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Michael Nesset + Steven Schmidt
Signature:
Month 04 Day 05 Year 13

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Appendix D
Drilling Logs
Offsite Summary Report
Mendota MGP – Black Brothers Company Site – City Property

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: HA01
Coordinates: N 1778248.163 E 768759.35		Ground Elevation: 730.17	Page: 1 of 1
Total Depth (feet): 2	Hole Size (inches): 3	Driller: Sam Redmond	
Drilling Rig: Hand Auger		Drilling Company: GeoServe Inc.	
Date: 4/2/2013	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Jeff Binder

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks (▽ Depth to water while drilling; ▼ Depth to water after drilling)
730		SAND (SM), silty, olive Gray (5Y 4/1), coarse to fine, well graded, loose, saturated								0.0	HA = Hand Auger
729	1	CLAY (CL), silty, olive Gray (5Y 4/1), trace fine gravel, low plasticity, stiff, moist		HA	1	NA	NA	2.0/2	NA	0.0 0.0	Free water observed above ground surface (creek)
	2	Refusal - End of boring at 2 feet bgs.									Abandoned with hydrated bentonite chips on 4/2/2013
	3										
	4										
	5										
	6										
	7										
	8										
	9										
	10										
	11										
	12										
	13										

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: HA02
Coordinates: N 1778249 E 768775		Ground Elevation: 730.30	Page: 1 of 1
Total Depth (feet): 1.8	Hole Size (inches): 3	Driller: Sam Redmond	
Drilling Rig: Hand Auger		Drilling Company: GeoServe Inc.	
Date: 4/2/2013	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Jeff Binder

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks (▽ Depth to water while drilling; ▼ Depth to water after drilling)
730		SAND (SW), olive Gray (5Y 4/1), coarse to fine, well graded, loose, saturated		HA	1	NA	NA	1.8/1.8	NA	0.0	HA = Hand Auger
	1									0.0	Free water observed above ground surface (creek)
729		CLAY (CL), silty, olive Gray (5Y 4/1), low plasticity, stiff, wet								0.0	
	2	Refusal - End of boring at 1.8 feet bgs.									Abandoned with hydrated bentonite chips on 4/2/2013
	3										Location not surveyed; coordinates based on field measurements
	4										
	5										
	6										
	7										
	8										
	9										
	10										
	11										
	12										
	13										

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP51
Coordinates: N 1778055.19 E 768555.22		Ground Elevation: 738.17	Page: 1 of 2
Total Depth (feet): 16	Hole Size (inches): 3.25	Driller: Dave Breede	
Drilling Rig: Geoprobe 7822DT		Drilling Company: Raimonde Drilling Corp.	
Date: 6/25/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
738		ASPHALT									DT = dual tube
		FILL: gravel base course							0.50	0.0	PID readings are approximate and were used for selection of soil samples for laboratory analysis only
737	1	FILL: clay, silty, Black (N1), trace brick, trace fine gravel, low plasticity, soft, moist		3" DT	1	PUSH	NA	2.6/4		0.0	
736	2									0.1	
735	3	SILT (ML), moderate yellowish Brown (10YR 5/4), little fine sand, nonplastic, loose, moist									
734	4									0.0	
733	5	No Recovery	NR								
732	6			3" DT	2	PUSH	NA	0.9/4	NA		
731	7										No free water observed
730	8	CLAY (CL), silty, moderate yellowish Brown (10YR 5/4), low plasticity, very stiff, moist							4.0	0.0	
729	9										
728	10			3" DT	3	PUSH	NA	0.2/4			
727	11										
726	12	No Recovery: See drilling log for SP51B.	NR							0.0	
725	13			3" DT	4	PUSH	NA	0.2/4	NA		

Depth to water while drilling

Depth to water after drilling

Drilling Log, continued

Burns & McDonnell
SINCE 1898

Project Name	Mendota MGP Site	Boring/Monitoring Well Number	SP51
Project Number	57618	Page	2 of 2
		Date	6/25/2012

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
724		No Recovery: See drilling log for SP51B.	NR								
723	15			3" DT	4	PUSH	NA	0.2/4	NA	NA	
	16	End of probe at 16 feet bgs.									Abandoned with cement-bentonite grout on 6/25/2012
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										
	27										
	28										

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP51B
Coordinates: N 1778053.73 E 768553.71		Ground Elevation: 738.16	Page: 1 of 2
Total Depth (feet): 26	Hole Size (inches): 3.25	Driller: Dave Breede	
Drilling Rig: Geoprobe 7822DT		Drilling Company: Raimonde Drilling Corp.	
Date: 6/25/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
738		ASPHALT									DT = dual tube
		FILL: gravel base course								0.0	
737	1	FILL: silt, brownish Black (5YR 2/1), little brick, trace coal, nonplastic, dense, moist		3" DT	1	PUSH	NA	2.5/4	NA	0.0	Sampled 1.2'-2.2' (001) (1449)
736	2										
735	3	SILT (ML), moderate yellowish Brown (10YR 5/4), trace fine sand, nonplastic, dense, moist									
734	4									0.0	
733	5	SAND (SP), olive Gray (5Y 5/2), fine, poorly graded, dense, wet								0.0	
732	6	CLAY (CL), silty, moderate yellowish Brown (10YR 5/4), little coarse to fine gravel, low plasticity, very stiff, moist		3" DT	2	PUSH	NA	2.0/4	3.5	0.0	
731	7										No free water observed
730	8								3.5	0.0	
729	9	very stiff to hard							4.5+	0.0	
728	10	moderate yellowish Brown (10YR 5/4) to light olive Gray (5Y 6/1)		3" DT	3	PUSH	NA	3.2/4	4.5+	0.0	
727	11								4.5+	0.0	
726	12								4.5+	0.0	
725	13			3" DT	4	PUSH	NA	4.0/4			

Depth to water while drilling

Depth to water after drilling

MENDOTA SI 2012.GPJ 4/20/15

Drilling Log, continued

Burns & McDonnell
SINCE 1898

Project Name	Mendota MGP Site	Boring/Monitoring Well Number	SP51B
Project Number	57618	Page	2 of 2
		Date	6/25/2012

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
724		CLAY (CL), silty, light olive Gray (5Y 6/1), little coarse to fine gravel, low plasticity, very stiff, moist							4.5+	0.0	
723	15			3" DT	4	PUSH	NA	4.0/4	4.5+	0.0	
722	16								4.5+	0.0	
721	17										
720	18	light olive Gray (5Y 6/1) to olive Gray (5Y 4/1)		3" DT	5	PUSH	NA	4.0/4	4.5+	0.0	
719	19								4.5+	0.0	
718	20								4.5+	0.0	
717	21										
716	22			3" DT	6	PUSH	NA	4.0/4	4.5+	0.0	
715	23								4.5+	0.0	
714	24								4.5+	0.0	
713	25			3" DT	7	PUSH	NA	2.0/2	4.5+	0.0	
									4.5+	0.0	
	26	End of probe at 26 feet bgs.									Abandoned with cement-bentonite grout on 6/25/2012
	27										
	28										

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP52
Coordinates: N 1778232.65 E 768574.31		Ground Elevation: 735.01	Page: 1 of 1
Total Depth (feet): 8.5	Hole Size (inches): 2.25	Driller: Dave Breede	
Drilling Rig: Jackhammer probe		Drilling Company: Raimonde Drilling Corp.	
Date: 6/26/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		FILL: silt, brownish Black (5YR 2/1), nonplastic, loose, dry		EXC	1	NA	NA	NA	NA	NA	Excavated creek bank to an approximate ground elevation of 734.51 feet to create a flat working space for drilling rig.
734	1									0.2 0.6	
733	2			2" MC	2	PUSH	NA	1.0/4	NA		MC = macro core
732	3	CLAY (CL), silty, light olive Gray (5Y 5/2), trace gravel, low plasticity, stiff, moist									
731	4										
730	5								2.0 1.25	0.1 0.2	
729	6	No Recovery	NR						1.25	0.2	
728	7			2" MC	3	PUSH	NA	1.3/4			No free water observed
727	8										
		End of probe at 8.5 feet bgs.									Abandoned with cement-bentonite grout on 6/26/2012
	9										
	10										
	11										
	12										
	13										

Depth to water while drilling

Depth to water after drilling

MENDOTA SI 2012.GPJ 4/20/15

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP53
Coordinates: N 1778235.74 E 768595.22		Ground Elevation: 733.80	Page: 1 of 1
Total Depth (feet): 9.8	Hole Size (inches): 2.25	Driller: Dave Breede	
Drilling Rig: Jackhammer probe		Drilling Company: Raimonde Drilling Corp.	
Date: 6/26/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
733	1	FILL: silt, brownish Black (5YR 2/1), nonplastic, loose, dry		EXC	1	NA	NA	NA	NA	NA	Excavated creek bank to an approximate ground elevation of 732 feet to create flat a working space for drilling rig.
732	2										MC = macro core
731	3									0.0	
730	4			2" MC	2	PUSH	NA	0.6/4	NA		
		CLAY (CL), silty, light olive Gray (5Y 5/2), low plasticity, stiff, moist, stained									
729	5										
728	6								1.0	4.41	Sample collected 4.9'-5.7' below top of boring (6.5'-7.5' bgs after surface restoration) (001) (1143) No free water observed
		SAND (SM), silty, light olive Gray (5Y 6/1), coarse to fine, dense, moist, odor tar saturated (6.7'-7.5')									
727	7									642	
										174	
726	8	CLAY (CL), silty, light olive Gray (5Y 5/2), little coarse sand, low plasticity, very stiff, moist, odor		2" MC	3	PUSH	NA	2.5/4	3.5	18.7	
		No Recovery	NR								
725	9										
724	10	End of probe at 9.8 feet bgs.									Abandoned with cement-bentonite grout on 6/26/2012
	11										
	12										
	13										

Depth to water while drilling

Depth to water after drilling

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP54
Coordinates: N 1778239.13 E 768595.19		Ground Elevation: 731.43	Page: 1 of 1
Total Depth (feet): 8	Hole Size (inches): 2.25	Driller: Dave Breede	
Drilling Rig: Jackhammer probe		Drilling Company: Raimonde Drilling Corp.	
Date: 6/26/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
731		FILL: silt, brownish Black (5YR 2/1), nonplastic, loose, dry								0.7	MC = macro core
730	1										
729	2			2" MC	1	PUSH	NA	0.6/4	NA		
728	3	SAND (SM), silty, light olive Gray (5Y 6/1), coarse to fine, well graded, trace fine gravel, dense, moist, odor									
727	4	tar coated (4.2'-4.4')								201.1	Sampled 4.2'-4.4' (001) (1419)
726	5	CLAY (CL), silty, light olive Gray (5Y 5/2), trace coarse to fine sand, low plasticity, very stiff, moist, slight odor							2.75	28.5	
725	6	slight odor to no odor		2" MC	2	PUSH	NA	2.7/4	2.75	11.6	
724	7	No Recovery	NR						3.5	2.02	
	8	End of probe at 8 feet bgs.							3.75	0.0	No free water observed
	9										Abandoned with cement-bentonite grout on 6/26/2012
	10										
	11										
	12										
	13										

Depth to water while drilling

Depth to water after drilling

MENDOTA SI 2012.GPJ 4/20/15

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP55
Coordinates: N 1778235.77 E 768640.08		Ground Elevation: 735.09	Page: 1 of 1
Total Depth (feet): 9.2	Hole Size (inches): 2.25	Driller: Dave Breede	
Drilling Rig: Jackhammer probe		Drilling Company: Raimonde Drilling Corp.	
Date: 6/26/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
735		FILL: silt, brownish Black (5YR 2/1), nonplastic, loose, dry		EXC	1	NA	NA	NA	NA	NA	Excavated creek bank to an approximate ground elevation of 733.89 feet to create a flat working space for drilling rig. MC = macro core
734	1										
733	2			2" MC	2	PUSH	NA	0.2/4	NA	0.0	
732	3										
731	4	SAND (SM), silty, light olive Gray (5Y 6/1), medium to fine, poorly graded, dense, moist									
730	5										
729	6	CLAY (CL), silty, light olive Gray (5Y 5/2), low plasticity, very stiff, moist		2" MC	3	PUSH	NA	2.5/4	NA	0.15 0.56 0.2 0.31 0.27	Sample collected 4.5'-4.7' below top of boring (5.7'-5.9' bgs after surface restoration) (001) (1445) No free water observed
728	7										
727	8	No Recovery	NR								
726	9										
		End of probe at 9.2 feet bgs.									Abandoned with cement-bentonite grout on 6/26/2012
	10										
	11										
	12										
	13										

Depth to water while drilling

Depth to water after drilling

MENDOTA SI 2012.GPJ 4/20/15

Drilling Log

Burns & McDonnell SINCE 1898	Project Name: Mendota MGP Site	Project No.: 57618	Boring/Monitoring Well Number: SP56
	Coordinates: N 1778240.32 E 768639.86	Ground Elevation: 732.63	Page: 1 of 1
	Total Depth (feet): 8 / Hole Size (inches): 2.25	Driller: Dave Breede	
Drilling Rig: Jackhammer probe		Drilling Company: Raimonde Drilling Corp.	
Date: 6/26/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
											▽ Depth to water while drilling; ▼ Depth to water after drilling
732	1	FILL: silt, brownish Black (5YR 2/1), nonplastic, loose, dry								0.0	MC = macro core
731	2			2" MC	1	PUSH	NA	0.5/4	NA		
730	3	SAND (SM), silty, light olive Gray (5Y 6/1), coarse to fine, well graded, dense, moist									
729	4	stained (4.0'-4.2')								0.31	
728	5	CLAY (CL), silty, light olive Gray (5Y 5/2), trace coarse to fine sand, low plasticity, very stiff, moist							1.5		
727									2.25	0.0	
	6			2" MC	2	PUSH	NA	3.3/4	3.5	0.0	
726	7								3.5	0.0	
725		No Recovery	NR								No free water observed
	8	End of probe at 8 feet bgs.									Abandoned with cement-bentonite grout on 6/26/2012
	9										
	10										
	11										
	12										
	13										

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP57
Coordinates: N 1778233.2 E 768677.57		Ground Elevation: 736.91	Page: 1 of 1
Total Depth (feet): 9.3	Hole Size (inches): 2.25	Driller: Dave Breede	
Drilling Rig: Jackhammer probe		Drilling Company: Raimonde Drilling Corp.	
Date: 6/27/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
736	1	FILL: silt, brownish Black (5YR 2/1), nonplastic, loose, dry		EXC	1	NA	NA	NA	NA	NA	Excavated creek bank to an approximate ground elevation of 735.61 feet to create a flat working space for drilling rig. MC = macro core
735	2	No Recovery	NR								
734	3			2" MC	2	PUSH	NA	0.0/4	NA	NA	
733	4										
732	5										
731	6										
730	7			2" MC	3	PUSH	NA	0.0/4	NA	NA	No free water observed
729	8										
728	9										
	10	End of probe at 9.3 feet bgs.									Abandoned with cement-bentonite grout on 6/27/2012
	11										
	12										
	13										

Depth to water while drilling

Depth to water after drilling

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP57B
Coordinates: N 1778234.19 E 768677.78		Ground Elevation: 736.35	Page: 1 of 1
Total Depth (feet): 9.1	Hole Size (inches): 2.25	Driller: Dave Breede	
Drilling Rig: Jackhammer probe		Drilling Company: Raimonde Drilling Corp.	
Date: 6/27/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
736	1	FILL: silt, brownish Black (5YR 2/1), some brick, nonplastic, loose, dry		EXC	1	NA	NA	NA	NA	NA	Excavated creek bank to an approximate 735.25 feet to create a flat working space for drilling rig.
735	2									0.0	MC = macro core
734	3			2" MC	2	PUSH	NA	0.4/4	NA		
733	4	SILT (ML), light olive Gray (5Y 5/2), little medium to fine sand, nonplastic, soft, moist									
732	5										
731	6								0.50	0.0	
730		SAND (SM), silty, dark yellowish Orange (10YR 6/6), little fine gravel, dense, wet								0.0	Free water observed at approximately 6.1'
729	7	CLAY (CL), silty, dark yellowish Brown (10YR 4/2), low plasticity, stiff, moist		2" MC	3	PUSH	NA	2.3/4	1.0	0.0	
		No Recovery	NR						2.0	0.0	
728	8										
	9	End of probe at 9.1 feet bgs.									Abandoned with cement-bentonite grout on 6/27/2012
	10										
	11										
	12										
	13										

Depth to water while drilling

Depth to water after drilling

MENDOTA SI 2012.GPJ 4/20/15

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP58
Coordinates: N 1778234.51 E 768717.08		Ground Elevation: 736.14	Page: 1 of 1
Total Depth (feet): 2.8	Hole Size (inches): 2.25	Driller: Dave Breede	
Drilling Rig: Jackhammer probe		Drilling Company: Raimonde Drilling Corp.	
Date: 6/27/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks (▽ Depth to water while drilling; ▼ Depth to water after drilling)
736		FILL: silt, brownish Black (5YR 2/1), nonplastic, loose, dry		EXC	1	NA	NA	NA	NA	NA	Excavated creek bank to an approximate ground elevation of 735.34 feet to create a flat working space for drilling rig.
735	1	No Recovery	NR								
734	2			2" MC	2	PUSH	NA	0.0/2	NA	NA	MC = macro core No free water observed.
	3	End of probe at 2.8 feet bgs.									Abandoned with cement-bentonite grout on 6/27/2012
	4										
	5										
	6										
	7										
	8										
	9										
	10										
	11										
	12										
	13										

Drilling Log

Burns & McDonnell SINCE 1898	Project Name: Mendota MGP Site	Project No.: 57618	Boring/Monitoring Well Number: SP58B
	Coordinates: N 1778234.52 E 768715.22	Ground Elevation: 736.27	Page: 1 of 1
	Total Depth (feet): 2.9 / Hole Size (inches): 2.25	Driller: Dave Breede	
Drilling Rig: Jackhammer probe		Drilling Company: Raimonde Drilling Corp.	
Date: 6/27/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
736		FILL: silt, brownish Black (5YR 2/1), nonplastic, loose, dry		EXC	1	NA	NA	NA	NA	NA	Excavated creek bank to an approximate ground elevation of 735.37 feet to create a flat working space for drilling rig.
735	1	No Recovery	NR								
734	2			2" MC	2	PUSH	NA	0.0/2	NA	NA	MC = macro core No free water observed
	3	End of probe at 2.9 feet bgs.									Abandoned with cement-bentonite grout on 6/27/2012
	4										
	5										
	6										
	7										
	8										
	9										
	10										
	11										
	12										
	13										

Depth to water while drilling

Depth to water after drilling

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP58C
Coordinates: N 1778236.17 E 768713.97		Ground Elevation: 735.32	Page: 1 of 1
Total Depth (feet): 8.3	Hole Size (inches): 2.25	Driller: Dave Breede	
Drilling Rig: Jackhammer probe		Drilling Company: Raimonde Drilling Corp.	
Date: 6/27/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
735		FILL: silt, brownish Black (5YR 2/1), nonplastic, loose, dry		EXC	1	NA	NA	NA	NA	NA	Excavated creek bank to an approximate ground elevation of 735.02 feet to create a flat working space for drilling rig.
		No Recovery	NR								
734	1										
733	2			2" MC	2	PUSH	NA	0.0/4	NA	NA	MC = macro core
732	3										
731	4										
730	5										
729	6			2" MC	3	PUSH	NA	0.0/4	NA	NA	
728	7										No free water observed
	8										
		End of probe at 8.3 feet bgs.									Abandoned with cement-bentonite grout on 6/27/2012
	9										
	10										
	11										
	12										
	13										

Depth to water while drilling

Depth to water after drilling

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP58D
Coordinates: N 1778240.39 E 768715.91		Ground Elevation: 733.41	Page: 1 of 1
Total Depth (feet): 8	Hole Size (inches): 2.25	Driller: Dave Breede	
Drilling Rig: Jackhammer probe		Drilling Company: Raimonde Drilling Corp.	
Date: 6/27/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks (▽ Depth to water while drilling; ▼ Depth to water after drilling)
733		No Recovery	NR								MC = macro core
	1										
732											
	2			2" MC	1	PUSH	NA	0.0/4	NA	NA	
731											
	3										
730											
	4										
729											
	5										
728											
	6			2" MC	2	PUSH	NA	0.0/4	NA	NA	
727											
	7										
726											No free water observed
	8	End of probe at 8 feet bgs.									Abandoned with cement-bentonite grout on 6/27/2012
	9										
	10										
	11										
	12										
	13										

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP58E
Coordinates: N 1778243.75 E 768714.88		Ground Elevation: 732.76	Page: 1 of 1
Total Depth (feet): 8	Hole Size (inches): 2.25	Driller: Dave Breede	
Drilling Rig: Jackhammer probe		Drilling Company: Raimonde Drilling Corp.	
Date: 6/27/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks (▽ Depth to water while drilling; ▼ Depth to water after drilling)
732	1	FILL: silt, brownish Black (5YR 2/1), nonplastic, loose, dry No Recovery	NR							0.0	MC = macro core
731	2			2" MC	1	PUSH	NA	0.4/4	NA		
730	3										
729	4	SAND (SW), light olive Gray (5Y 6/1), coarse to fine, well graded, loose, moist							1.75	0.0	
728	5	CLAY (CL), silty, light olive Gray (5Y 5/2), low plasticity, stiff, moist No Recovery	NR								
727	6			2" MC	2	PUSH	NA	0.6/4			
726	7										No free water observed
725	8	End of probe at 8 feet bgs.									Abandoned with cement-bentonite grout on 6/27/2012
	9										
	10										
	11										
	12										
	13										

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP59
Coordinates: N 1778113.38 E 768556.96		Ground Elevation: 737.66	Page: 1 of 2
Total Depth (feet): 16.5	Hole Size (inches): 3.25	Driller: Dave Breede	
Drilling Rig: Geoprobe 7822DT		Drilling Company: Raimonde Drilling Corp.	
Date: 6/27/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
737		TOPSOIL: silt, brownish Black (5YR 2/1), nonplastic, loose dry								0.0	DT = dual tube
	1	FILL: silt, brownish Black (5YR 2/1), some brick, trace cinders, nonplastic, loose, dry								0.0	Sampled 1.0'-2.0' (001) (1028)
736	2			3" DT	1	PUSH	NA	2.9/4		0.0	
		CLAY (CL), silty, brownish Black (5YR 2/1), low plasticity, stiff, moist							1.5		
735	3								1.5	0.0	
734	4										
733	5								1.5	0.0	
732	6	brownish Black (5YR 2/1) to light olive Gray (5Y 5/2)		3" DT	2	PUSH	NA	3.3/4	1.0	0.0	
731		little orange mottling, little fine gravel									
	7								1.0	0.0	No free water observed
730	8										
729		little orange mottling to some orange mottling stiff to very stiff							2.75	0.0	
	9								4.0	0.0	
728	10			3" DT	3	PUSH	NA	3.8/4	3.75	0.0	
727									2.5	0.0	
	11	some orange mottling to trace orange mottling							2.5	0.0	
726	12	trace orange to mottling to no orange mottling very stiff to hard									
725	13			3" DT	4	PUSH	NA	4.0/4	4.5+	0.0	
724											

Depth to water while drilling
Depth to water after drilling

Drilling Log, continued

Burns & McDonnell
SINCE 1898

Project Name	Mendota MGP Site	Boring/Monitoring Well Number	SP59
Project Number	57618	Page	2 of 2
		Date	6/27/2012

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		CLAY (CL), silty, brownish Black (5YR 2/1), low plasticity, stiff, moist							4.5+	0.0	
723	15			3" DT	4	PUSH	NA	4.0/4			
									4.5+	0.0	
722	16			3" DT	5	PUSH	NA	0.5/0.5	4.5+	0.0	
		little cobbles									
	17	Refusal on obstruction - End of probe at 16.5 feet bgs.									Abandoned with cement-bentonite grout on 6/27/2012
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										
	27										
	28										

Drilling Log

Burns & McDonnell SINCE 1898	Project Name: Mendota MGP Site	Project No.: 57618	Boring/Monitoring Well Number: SP60
	Coordinates: N 1778115.83 E 768545.8	Ground Elevation: 737.64	Page: 1 of 2
	Total Depth (feet): 24 / Hole Size (inches): 3.25	Driller: Dave Breede	
Drilling Rig: Geoprobe 7822DT		Drilling Company: Raimonde Drilling Corp.	
Date: 6/27/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks (▽ Depth to water while drilling; ▼ Depth to water after drilling)
		TOPSOIL									DT = dual tube
737										0.0	
	1	FILL: silt, brownish Gray (5YR 4/1), nonplastic, loose, dry									
736											Sampled 1.5'-2.5' (001) (1053)
	2			3" DT	1	PUSH	NA	2.5/4	NA	0.0	
735											
	3										
734		CLAY (CL), silty, brownish Black (5YR 2/1), low plasticity, stiff, moist									
	4										
733										0.0	
	5	brownish Black (5YR 2/1) to light olive Gray (5Y 5/2), some orange mottling							0.50		
732		SILT (ML), sandy, light olive Gray (5Y 5/2), little fine gravel, little coarse to fine sand, nonplastic, soft, wet								0.0	▼ Free water observed at approximately 5.6'
	6			3" DT	2	PUSH	NA	1.8/4			
731											
	7										
730											
	8										
729										0.0	
	9	CLAY (CL), silty, light olive Gray (5Y 5/2), little orange mottling, low plasticity, stiff, moist									
728											
	10			3" DT	3	PUSH	NA	2.9/4	1.75	0.0	
727		stiff to very stiff									
	11								3.5	0.0	
726											
	12										
725									3.5	0.0	
	13	little orange mottling to no orange mottling		3" DT	4	PUSH	NA	3.8/4			
724											

Drilling Log, continued

Burns & McDonnell
SINCE 1898

Project Name	Mendota MGP Site	Boring/Monitoring Well Number	SP60
Project Number	57618	Page	2 of 2
		Date	6/27/2012

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
723	15	CLAY (CL), silty, light olive Gray (5Y 5/2), little orange mottling, low plasticity, stiff, moist light olive Gray (5Y 5/2) to olive Gray (5Y 4/1)		3" DT	4	PUSH	NA	3.8/4	4.5+ 4.5+	0.0 0.0	
722	16										
721	17								4.5+	0.0	
720	18			3" DT	5	PUSH	NA	4.0/4	4.5+	0.0	
719	19	SAND (SW), light olive Gray (5Y 5/2), coarse to fine, well graded, little fine gravel, little silt, dense, saturated								0.0	
718	20										
717	21									0.0	
716	22			3" DT	6	PUSH	NA	4.0/4		0.0	
715	23										
714		CLAY (CL), silty, olive Gray (5Y 4/1), little fine gravel, low plasticity, hard, moist							4.5+	0.0	
	24	End of probe at 24 feet bgs.									Abandoned with cement-bentonite grout on 6/27/2012
	25										
	26										
	27										
	28										

Drilling Log

Burns & McDonnell SINCE 1898	Project Name: Mendota MGP Site	Project No.: 57618	Boring/Monitoring Well Number: SP61
	Coordinates: N 1778053.03 E 768544.01	Ground Elevation: 737.92	Page: 1 of 2
	Total Depth (feet): 26 / Hole Size (inches): 3.25	Driller: Dave Breede	
Drilling Rig: Geoprobe 7822DT		Drilling Company: Raimonde Drilling Corp.	
Date: 6/27/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		ASPHALT									DT = dual tube
737	1	FILL: gravel base course								0.0	
										0.0	
736	2	FILL: clay, silty, brownish Black (5Y 2/1), little coarse to fine sand, low plasticity, medium stiff, moist		3" DT	1	PUSH	NA	2.5/4	0.75	0.0	
735	3	CLAY (CL), silty, dark yellowish Orange (10YR 6/6), trace coarse to fine sand, low plasticity, medium stiff, moist									
734	4										
733	5								0.75	0.0	
732	6	medium stiff to hard dark yellowish Orange (10YR 6/6) to moderate yellowish Brown (10YR 5/4)		3" DT	2	PUSH	NA	2.6/4	4.5+	0.0	
731	7										No free water observed
730	8	hard to stiff									
729	9								1.5	0.0	
728	10	trace coarse to fine sand to little coarse to fine sand Brown (10YR 5/4 to light olive Gray (5Y 5/2), stiff to very stiff		3" DT	3	PUSH	NA	3.0/4	1.25	0.0	
727	11								2.5	0.0	
726	12										
725	13			3" DT	4	PUSH	NA	4.0/4	2.25	0.0	
724									1.5	0.0	

Depth to water while drilling

Depth to water after drilling

Drilling Log, continued

Burns & McDonnell
SINCE 1898

Project Name	Mendota MGP Site	Boring/Monitoring Well Number	SP61
Project Number	57618	Page	2 of 2
		Date	6/27/2012

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		CLAY (CL), silty, light olive Gray (5Y 5/2), trace coarse to fine sand, low plasticity, medium stiff, moist							2.5	0.0	
723	15			3" DT	4	PUSH	NA	4.0/4	2.5	0.0	
									2.0	0.0	
722	16	light olive Gray (5Y 5/2) to olive Gray (5Y 4/1)									
									2.5	0.0	
721	17										
									3.0	0.0	
720	18			3" DT	5	PUSH	NA	4.0/4	3.5	0.0	
									3.0	0.0	
719	19										
									3.5	0.0	
718	20										
		very stiff to stiff							2.25	0.0	
717	21										
									1.75	0.0	
716	22			3" DT	6	PUSH	NA	4.0/4	2.0	0.0	
715	23	some coarse to fine sand (23.0'-23.3')							1.75	0.0	
714	24										
		stiff to very stiff							3.25	0.0	
713	25			3" DT	7	PUSH	NA	2.0/2	4.0	0.0	
									2.25	0.0	
712	26	End of probe at 26 feet bgs.									Abandoned with cement-bentonite grout on 6/27/2012
	27										
	28										

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP62
Coordinates: N 1778136.34 E 768556.88		Ground Elevation: 737.56	Page: 1 of 1
Total Depth (feet): 3	Hole Size (inches): 3.25	Driller: Dave Breede	
Drilling Rig: Geoprobe 7822DT		Drilling Company: Raimonde Drilling Corp.	
Date: 6/27/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks (▽ Depth to water while drilling; ▼ Depth to water after drilling)
		TOPSOIL									DT = dual tube
737		FILL: silt, brownish Gray (5YR 4/1), little brick, trace coal, trace fine sand, nonplastic, loose, dry								0.0	
736	1			3" DT	1	PUSH	NA	2.2/3	NA	0.0	Sampled 1.2'-2.2' (001) (1430)
	2										
735		No Recovery	NR								No free water observed.
	3	Refusal on obstruction - End of probe at 3 feet bgs.									Abandoned with cement-bentonite grout on 6/27/2012
	4										
	5										
	6										
	7										
	8										
	9										
	10										
	11										
	12										
	13										

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP62B
Coordinates: N 1778136.82 E 768558.34		Ground Elevation: 737.66	Page: 1 of 1
Total Depth (feet): 3	Hole Size (inches): 3.25	Driller: Dave Breede	
Drilling Rig: Geoprobe 7822DT		Drilling Company: Raimonde Drilling Corp.	
Date: 6/27/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		TOPSOIL								0.0	DT = dual tube
737	1	FILL: silt, brownish Gray (5YR 4/1), trace brick, trace cinders, nonplastic, loose, dry								0.0	
736	2	No Recovery	NR	3" DT	1	PUSH	NA	1.5/3	NA		
735	3										No free water observed
		Refusal on obstruction - End of probe at 3 feet bgs.									Abandoned with cement-bentonite grout on 6/27/2012
	4										
	5										
	6										
	7										
	8										
	9										
	10										
	11										
	12										
	13										

Depth to water while drilling ▽
Depth to water after drilling ▼

Drilling Log

Burns & McDonnell SINCE 1898	Project Name: Mendota MGP Site	Project No.: 57618	Boring/Monitoring Well Number: SP63
	Coordinates: N 1778137.87 E 768545.54	Ground Elevation: 737.51	Page: 1 of 2
	Total Depth (feet): 24 / Hole Size (inches): 3.25	Driller: Dave Breede	
Drilling Rig: Geoprobe 7822DT		Drilling Company: Raimonde Drilling Corp.	
Date: 6/27/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		TOPSOIL									DT = dual tube
737		FILL: silt, brownish Gray (5YR 4/1), nonplastic, loose, dry								0.0	
	1										
736										0.0	
	2	dry to moist		3" DT	1	PUSH	NA	2.5/4	NA	0.0	
735											
	3										
734											
	4	brownish Gray (5YR 4/1) to brownish Black (5YR 2/1)								0.0	
733		CLAY (CL), silty, dark greenish Gray (5GY 4/1), low plasticity, medium stiff, moist							0.75	0.0	
	5										
732									1.0	0.0	
	6	medium stiff to stiff		3" DT	2	PUSH	NA	1.9/4	2.0	0.0	
731											
	7										
730											
	8								1.75	0.0	
729		SAND (SM), silty, light olive Gray (5Y 5/2), coarse to fine well graded, some fine gravel, dense, wet									Free water observed at approximately 8.5'
	9									0.0	
728		CLAY (CL), silty, olive Gray (5Y 4/1), low plasticity, very stiff, moist									
	10			3" DT	3	PUSH	NA	2.8/4	3.25	0.0	
727									3.75	0.0	
	11										
726											
	12								4.25	0.0	
725		trace coarse to fine gravel, very stiff to hard							4.0	0.0	
	13			3" DT	4	PUSH	NA	4.0/4			
724									4.5+	0.0	

Depth to water while drilling

Depth to water after drilling

MENDOTA SI 2012.GPJ 4/20/15

Drilling Log, continued

Burns & McDonnell
SINCE 1898

Project Name	Mendota MGP Site	Boring/Monitoring Well Number	SP63
Project Number	57618	Page	2 of 2
		Date	6/27/2012

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		CLAY (CL), silty, olive Gray (5Y 4/1), low plasticity, hard, moist									
723									4.5+	0.0	
	15			3" DT	4	PUSH	NA	4.0/4			
722									4.5+	0.0	
	16										
721									4.5+	0.0	
	17										
720											
	18			3" DT	5	PUSH	NA	4.0/4	4.5+	0.0	
719											
	19										
718									4.5+	0.0	
	20										
717									4.5+	0.0	
	21										
716											
	22			3" DT	6	PUSH	NA	4.0/4	4.5+	0.0	
715											
	23										
714									4.5+	0.0	
	24	End of probe at 24 feet bgs.									Abandoned with cement-bentonite grout on 6/27/2012
	25										
	26										
	27										
	28										

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP63B
Coordinates: N 1778136.319 E 768545.902		Ground Elevation: 737.47	Page: 1 of 2
Total Depth (feet): 14	Hole Size (inches): 3.25	Driller: Sam Redmond	
Drilling Rig: Geoprobe 66DTR		Drilling Company: GeoServe Inc.	
Date: 3/28/2013	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Jeff Binder

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks (▽ Depth to water while drilling; ▼ Depth to water after drilling)
737	1	TOPSOIL		3" DT	1	PUSH	NA	0.6/2	NA	0.0	DT = Dual Tube
736	2	FILL: silt, clayey, dark yellowish Brown (10YR 4/2), trace fine gravel, little coarse to fine sand, nonplastic, stiff, moist									
735	3	some coal (2.4' - 2.9')		3" DT	2	PUSH	NA	1.0/4	2.0	0.0	Sampled 2.0'-2.9' (001) (1051)
734	4	wood chunk (3.0')							1.5	0.0	
733	5	CLAY (CL), silty, dark greenish Gray (5G 4/1), low plasticity, medium stiff, moist									
732	6										
731	7			3" DT	3	PUSH	NA	2.6/4	0.75	0.0	Sampled 6.0'-7.0' (002) (1058)
730	8	SILT (ML), sandy, light olive Gray (5Y 6/1), coarse to fine, little fine gravel, dense, saturated							0.75	0.0	▽ Free water observed at approximately 7.3'
729	9	CLAY (CL), silty, light olive Gray (5Y 6/1), low plasticity, stiff, moist							1.25	0.0	Sampled 7.3'-8.0' (003) (1103)
728	10										
727	11	stiff to very stiff		3" DT	4	PUSH	NA	2.6/4	3.0	0.0	
726	12	trace coarse to fine sand, trace coarse to fine gravel							3.0	0.0	Sampled 11.0'-12.0' (004) (1111)
725	13								3.0	0.0	
724									3.25	0.0	

MENDOTA SI 2013.GPJ 4/20/15

Drilling Log, continued

Burns & McDonnell
SINCE 1898

Project Name	Mendota MGP Site	Boring/Monitoring Well Number	SP63B
Project Number	57618	Page	2 of 2
		Date	3/28/2013

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		End of probe at 14 feet bgs.									Abandoned with cement-bentonite grout on 3/28/2013
	15										
	16										
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										
	27										
	28										

Drilling Log

Burns & McDonnell SINCE 1898	Project Name: Mendota MGP Site	Project No.: 57618	Boring/Monitoring Well Number: SP64
	Coordinates: N 1778160.99 E 768561.34	Ground Elevation: 737.54	Page: 1 of 2
	Total Depth (feet): 24 / Hole Size (inches): 3.25	Driller: Dave Breede	
Drilling Rig: Geoprobe 7822DT		Drilling Company: Raimonde Drilling Corp.	
Date: 6/28/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		TOPSOIL									DT = dual tube
737	1	FILL: silt, brownish Gray (5YR 4/1), little brick, trace cinders, nonplastic, loose, dry								0.0	Sampled 0.5'-1.5' (001) (0818)
736	2	FILL: silt, brownish Black (5YR 2/1), trace concrete, trace brick, nonplastic, loose, moist		3" DT	1	PUSH	NA	3.0/4	NA	0.0	
735	3										
734	4										
733										0.0	
	5	CLAY (CL), silty, dark greenish Gray (5GY 4/1), low plasticity, stiff, moist								0.0	
732										0.56	
	6			3" DT	2	PUSH	NA	1.7/4	NA		
731											
	7	SAND (SW), light olive Gray (5Y 5/2), coarse to fine well graded, some coarse to fine gravel, little silt, dense, wet, tar coated, odor									
730	8									136.3	Free water observed at approximately 8.0' Sampled 8.0'-8.5' (002) (0830)
729	9	CLAY (CL), silty, olive Gray (5Y 4/1), trace coarse to fine sand, low plasticity, very stiff, moist							4.0	16.81	
728										52.9	
	10			3" DT	3	PUSH	NA	3.0/4	4.0	4.42	
727											
	11								4.0	3.34	
726	12	very stiff to hard								0.1	
725									4.5+		
	13			3" DT	4	PUSH	NA	4.0/4		0.0	
724									4.5+	0.0	

Depth to water while drilling

Depth to water after drilling

MENDOTA SI 2012.GPJ 4/20/15

Drilling Log, continued

Burns & McDonnell
SINCE 1898

Project Name	Mendota MGP Site	Boring/Monitoring Well Number	SP64
Project Number	57618	Page	2 of 2
		Date	6/28/2012

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
723		CLAY (CL), silty, olive Gray (5Y 4/1), trace coarse to fine sand, low plasticity, hard, moist							4.5+		
	15			3" DT	4	PUSH	NA	4.0/4			
722									4.5+	0.0	
	16	hard to very stiff									
721									3.0	0.0	
	17										
720									3.75	0.0	
	18			3" DT	5	PUSH	NA	4.0/4	2.75	0.0	
719									3.0	0.0	
	19										
718		very stiff to hard							4.25	0.0	
	20										
717									4.5+	0.0	
	21										
716											
	22			3" DT	6	PUSH	NA	4.0/4	4.5+	0.0	
715											
	23										
714									4.5+	0.0	
	24	End of probe at 24 feet bgs.									Abandoned with cement-bentonite grout on 6/28/2012
	25										
	26										
	27										
	28										

Drilling Log

Burns & McDonnell SINCE 1898	Project Name: Mendota MGP Site	Project No.: 57618	Boring/Monitoring Well Number: SP66
	Coordinates: N 1778162.2 E 768545.52	Ground Elevation: 737.50	Page: 1 of 2
	Total Depth (feet): 28 / Hole Size (inches): 3.25	Driller: Dave Breede	
Drilling Rig: Geoprobe 7822DT		Drilling Company: Raimonde Drilling Corp.	
Date: 6/28/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks (▽ Depth to water while drilling; ▼ Depth to water after drilling)
		TOPSOIL									DT = dual tube
737	1	FILL: silt, brownish Gray (5YR 4/1), nonplastic, loose, dry								0.0	
736	2	FILL: medium to fine sand, dark yellowish Orange (10YR 6/6), poorly graded, loose, dry		3" DT	1	PUSH	NA	2.2/4	NA	0.0	
735	3										
734	4	FILL: clay, silty, dark greenish Gray (5GY 4/1), some coarse to fine sand, low plasticity, soft, moist									
733	5	FILL: fine sand, yellowish Gray (5Y 8/1), poorly graded, loose, saturated							0.25	0.0	▽ Free water observed at approximately 4.5'
732	6	SAND (SM), silty, light olive Gray (5Y 5/2), coarse to fine, well graded, some fine gravel, nonplastic, dense, wet, slight odor, stained		3" DT	2	PUSH	NA	1.6/4		0.0 6.71	
731	7										
730	8										
729	9	CLAY (CL), silty, light olive Gray (5Y 5/2), trace coarse to fine sand, low plasticity, stiff, moist, slight odor, stained slight odor to no odor (9.0'), stained to no staining (9.0')							1.25	8.71 1.0 5.67	Sampled 8.0'-8.3' (001) (1051)
728	10			3" DT	3	PUSH	NA	2.2/4	1.5	1.11	
727	11										
726	12										
725	13	little coarse to fine gravel		3" DT	4	PUSH	NA	2.2/4	2.0	0.05	
724									2.0	0.0	

Drilling Log, continued

Burns & McDonnell
SINCE 1898

Project Name	Mendota MGP Site
Project Number	57618
Boring/Monitoring Well Number	SP66
Page	2 of 2
Date	6/28/2012

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
723		CLAY (CL), silty, light olive Gray (5Y 5/2), little coarse to fine gravel, trace coarse to fine sand, low plasticity, stiff, moist							2.0	0.0	
	15			3" DT	4	PUSH	NA	2.2/4			
722											
	16	light olive Gray (5Y 5/2) to olive Gray (5Y 4/1), stiff to very stiff									
721									3.25	0.0	
	17										
720											
	18	very stiff to hard		3" DT	5	PUSH	NA	4.0/4	4.5+	0.0	
719											
	19										
718									4.5+	0.0	
	20										
717		SAND (SP), light olive Gray (5Y 5/2), medium to fine, poorly graded, dense, saturated							4.5+	0.0	
	21										
716											
	22			3" DT	6	PUSH	NA	4.0/4		0.0	
715											
	23										
714										0.0	
	24	CLAY (CL), silty, olive Gray (5Y 4/1), trace coarse sand, low plasticity, hard, moist									
713									4.5+	0.0	
	25										
712											
	26			3" DT	7	PUSH	NA	4.0/4	4.5+	0.0	
711											
	27										
710									4.5+	0.0	
	28	End of probe at 28 feet bgs.									Abandoned with cement-bentonite grout on 6/28/2012

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP66B
Coordinates: N 1778164.289 E 768545.748		Ground Elevation: 737.49	Page: 1 of 1
Total Depth (feet): 10	Hole Size (inches): 3.25	Driller: Dave Breede	
Drilling Rig: Geoprobe 7822DT		Drilling Company: Raimonde Drilling Corp.	
Date: 7/23/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		TOPSOIL									DT = dual tube
737		FILL: silt, brownish Black (5YR 2/1), nonplastic, very stiff, moist								0.0	
	1										
736									2.5	0.0	
	2			3" DT	1	PUSH	NA	2.7/4	2.5	0.0	
735										0.0	
	3										
734		FILL: clay, silty, brownish Black (5YR 2/1), little coarse to fine sand, low plasticity, medium stiff, moist									
	4								0.50		
733									1.0		
	5			3" DT	2	PUSH	NA	0.6/2		NA	
732		SAND (SM), silty, light olive Gray (5Y 5/2), dense, moist, odor, stained									
	6										
731										0.0	
	7									0.0	
730										6.9	No free water observed
	8			3" DT	3	PUSH	NA	2.9/4		37.5	Sampled 8.0'-8.3' (001) (1338)
729		CLAY (CL), silty, light olive Gray (5Y 5/2), low plasticity, very stiff, moist							2.5		
	9	No Recovery	NR								
728											
	10	End of probe at 10 feet bgs.									Abandoned with cement-bentonite grout on 7/23/2012
	11										
	12										
	13										

Depth to water while drilling

Depth to water after drilling

MENDOTA SI 2012.GPJ 4/20/15

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP67
Coordinates: N 1778194.62 E 768560.58		Ground Elevation: 737.60	Page: 1 of 2
Total Depth (feet): 24	Hole Size (inches): 3.25	Driller: Dave Breede	
Drilling Rig: Geoprobe 7822DT		Drilling Company: Raimonde Drilling Corp.	
Date: 6/28/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		TOPSOIL									DT = dual tube
737	1	FILL: silt, brownish Gray (5YR 4/1), nonplastic, loose, dry coarse to fine sand (1.0'-1.3')								0.0	
736	2	FILL: silt, brownish Black (5YR 2/1), some cinders, little brick, trace sand, nonplastic, loose, moist		3" DT	1	PUSH	NA	2.7/4	NA	0.0	Sampled 1.7'-2.7' (001) (1255)
735	3										
734	4										
733	5	some cinders to no cinders, little brick to no brick, slight odor		3" DT	2	PUSH	NA	1.5/2	NA	0.0 1.4	
732	6	CLAY (CL), silty, brownish Black (5YR 2/1), low plasticity, medium stiff, moist, slight odor, stained							0.50	3.1	Sampled 6.0'-7.0' (002) (1311)
731	7								0.50	0.4	
730	8	brownish Black (5YR 2/1) to dark greenish Gray (5GY 4/1)		3" DT	3	PUSH	NA	3.2/4	0.50 0.75	0.3 1.5	
729	9								0.75	1.9	
728	10										
727	11	SAND (SW), dark greenish Gray (5GY 4/1), coarse to fine, well graded, trace fine gravel, trace silt, dense, saturated CLAY (CL), silty, olive Gray (5Y 4/1), trace coarse to fine gravel, low plasticity, very stiff, moist		3" DT	4	PUSH	NA	1.4/2	2.25	1.7 1.1	Free water observed at approximately 10.2' Sampled 10.9'-11.4' (003) (1340)
726	12										
725	13			3" DT	5	PUSH	NA	4.0/4	2.25	1.1	
724									3.75	1.0	

Depth to water while drilling
Depth to water after drilling

MENDOTA SI 2012.GPJ 4/20/15

Drilling Log, continued

Burns & McDonnell
SINCE 1898

Project Name	Mendota MGP Site	Boring/Monitoring Well Number	SP67
Project Number	57618	Page	2 of 2
		Date	6/28/2012

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		CLAY (CL), silty, olive Gray (5Y 4/1), trace coarse to fine gravel, low plasticity, very stiff, moist							3.75	2.1	
723									3.0	1.1	
	15	very stiff to hard		3" DT	5	PUSH	NA	4.0/4			
722									4.5+	0.5	
	16										
721									4.25	0.0	
	17										
720									4.5	0.0	
	18			3" DT	6	PUSH	NA	4.0/4	4.5+	0.0	
719									4.5+	0.0	
	19	very stiff (19.0'-20.0')									
718									3.5	0.0	
	20										
717									4.0	0.0	
	21										
716											
	22			3" DT	7	PUSH	NA	4.0/4	4.5+	0.0	
715											
	23										
714									4.5+	0.0	
	24	End of probe at 24 feet bgs.									Abandoned with cement-bentonite grout on 6/28/2012
	25										
	26										
	27										
	28										

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP68
Coordinates: N 1778193.8 E 768542.55		Ground Elevation: 737.41	Page: 1 of 1
Total Depth (feet): 2	Hole Size (inches): 3.25	Driller: Dave Breede	
Drilling Rig: Geoprobe 7822DT		Drilling Company: Raimonde Drilling Corp.	
Date: 6/29/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks (▽ Depth to water while drilling; ▼ Depth to water after drilling)
737		TOPSOIL								0.0	DT = dual tube
	1	FILL: silt, brownish Gray (5YR 4/1), nonplastic, loose, dry		3" DT	1	PUSH	NA	1.8/2	NA	0.0	
736										0.0	No free water observed
	2	Refusal on obstruction - End of probe at 2 feet bgs.									Abandoned with cement-bentonite grout on 6/29/2012
	3										
	4										
	5										
	6										
	7										
	8										
	9										
	10										
	11										
	12										
	13										

Drilling Log

Burns & McDonnell SINCE 1898	Project Name: Mendota MGP Site	Project No.: 57618	Boring/Monitoring Well Number: SP68B
	Coordinates: N 1778193.56 E 768545.52	Ground Elevation: 737.48	Page: 1 of 2
	Total Depth (feet): 26 / Hole Size (inches): 3.25	Driller: Dave Breede	
Drilling Rig: Geoprobe 7822DT		Drilling Company: Raimonde Drilling Corp.	
Date: 6/29/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks (▽ Depth to water while drilling; ▼ Depth to water after drilling)
		TOPSOIL									DT = dual tube
737	1	FILL: silt, brownish Gray (5YR 4/1), nonplastic, loose, dry								0.0	
736	2	FILL: silt, brownish Black (5YR 2/1), little cinders, trace brick, trace coal, trace fine gravel, nonplastic, stiff, moist		3" DT	1	PUSH	NA	2.9/4		0.0	Sampled 1.5'-2.5' (001) (0814)
735	3	FILL: clay, silty, brownish Black (5YR 2/1), low plasticity, stiff, moist							1.0	0.0	
734	4								1.5	0.0	
733									0.50	0.0	
	5	stiff to medium stiff									
732									0.50	0.0	
	6	CLAY (CL), silty, dark greenish Gray (5GY 4/1), low plasticity, medium stiff, moist		3" DT	2	PUSH	NA	2.4/4	1.0	0.0	
731	7										
730	8										No free water observed
										0.1	
729		SILT (ML), sandy, light olive Gray (5Y 5/2), coarse to fine, trace coarse to fine gravel, nonplastic, medium dense, moist								0.1	Sampled 8.4'-8.8' (002) (0831)
	9	CLAY (CL), silty, light olive Gray (5Y 5/2), low plasticity, stiff, moist							0.50	0.1	
728	10			3" DT	3	PUSH	NA	2.3/4	1.5	0.0	
727									1.25	0.0	
	11										
726											
	12	little coarse to fine gravel, trace coarse to fine sand									
725									1.5	0.0	
	13			3" DT	4	PUSH	NA	3.5/4			
724									1.5	0.0	

Drilling Log, continued

Burns & McDonnell
SINCE 1898

Project Name	Mendota MGP Site	Boring/Monitoring Well Number	SP68B
Project Number	57618	Page	2 of 2
		Date	6/29/2012

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
723		CLAY (CL), silty, light olive Gray (5Y 5/2), little coarse to fine gravel, trace coarse to fine sand, low plasticity, very stiff, moist							2.5	0.0	
	15			3" DT	4	PUSH	NA	3.5/4			
722									2.75	0.0	
	16	very stiff to hard									
721									4.5+	0.0	
	17										
720											
	18			3" DT	5	PUSH	NA	4.0/4	4.5+	0.0	
719											
	19										
718									4.25	0.0	
	20										
717									4.5+	0.0	
	21										
716											
	22	very stiff (21.8'-23.0')		3" DT	6	PUSH	NA	4.0/4	4.5+	0.0	
715									3.25	0.0	
	23										
714									4.5+	0.0	
	24										
713		very stiff to hard							4.25	0.0	
	25			3" DT	7	PUSH	NA	2.0/2	4.5+	0.0	
712									4.5+	0.0	
	26	End of probe at 26 feet bgs.									Abandoned with cement-bentonite grout on 6/29/2012
	27										
	28										

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP69
Coordinates: N 1778222.86 E 768561.01		Ground Elevation: 737.68	Page: 1 of 2
Total Depth (feet): 28	Hole Size (inches): 3.25	Driller: Dave Breede	
Drilling Rig: Geoprobe 7822DT		Drilling Company: Raimonde Drilling Corp.	
Date: 6/29/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		TOPSOIL									DT = dual tube
737	1	FILL: silt, brownish Gray (5YR 4/1), nonplastic, loose, dry								0.0	
736	2	FILL: silt, brownish Black (5YR 2/1), some cinders, nonplastic, dense, moist								0.1	Sampled 1.5'-2.0' (001) (0922)
		FILL: clay, silty, brownish Black (5YR 2/1), low plasticity, stiff, moist		3" DT	1	PUSH	NA	2.6/4	2.0	1.4	
735	3								2.0	0.7	
734	4										
733	5	very stiff (4.5'-5.0')							1.75	0.0	
732									2.25	0.0	
	6	CLAY (CL), silty, light olive Gray (5Y 5/2), little orange mottling, low plasticity, stiff, moist		3" DT	2	PUSH	NA	2.3/4	2.0	0.0	
731	7								1.25	0.0	
730	8										Depth to the water table was not discernible due to the presence of clay
729	9	some coarse to fine sand, stiff to soft							0.75	0.0	
728		sandy (9.4'-10.0')							0.25	0.0	
	10			3" DT	3	PUSH	NA	2.5/4	<0.25	0.0	
727	11								<0.25	0.0	
726	12	little coarse to fine gravel, soft to very stiff									
725	13			3" DT	4	PUSH	NA	4.0/4	2.5	0.0	
724									3.0	0.0	

Depth to water while drilling
Depth to water after drilling

Drilling Log, continued

Burns & McDonnell
SINCE 1898

Project Name	Mendota MGP Site	Boring/Monitoring Well Number	SP69
Project Number	57618	Page	2 of 2
		Date	6/29/2012

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		CLAY (CL), silty, light olive Gray (5Y 5/2), little orange mottling, some coarse to fine sand, little coarse to fine gravel, low plasticity, very stiff, moist							3.0	0.0	
723	15			3" DT	4	PUSH	NA	4.0/4	2.25	0.0	
									3.5	0.0	
722	16								3.0	0.0	
721									3.0	0.0	
	17										
									3.5	0.0	
720	18			3" DT	5	PUSH	NA	4.0/4	4.0	0.0	
719									3.5	0.0	
	19	very stiff to hard							4.5+	0.0	
718	20										
717									4.5+	0.0	
	21										
716									3.25	0.0	
	22			3" DT	6	PUSH	NA	3.9/4	4.5+	0.0	
715		SAND (SP), light olive Gray (5Y 5/2), medium to fine, poorly graded, little silt, dense, saturated									
	23									0.0	
714	24	CLAY (CL), silty, olive Gray (5Y 4/1), low plasticity, moist									
713									4.5+	0.0	
	25										
712	26	medium to fine sand (25.8'-26.1')		3" DT	7	PUSH	NA	3.8/4	4.5+	0.0	
711	27								4.5+	0.0	
710	28	End of probe at 28 feet bgs.									Abandoned with cement-bentonite grout on 6/29/2012

Drilling Log

Burns & McDonnell SINCE 1898	Project Name: Mendota MGP Site	Project No.: 57618	Boring/Monitoring Well Number: SP69B
	Coordinates: N 1778222.329 E 768562.145	Ground Elevation: 737.64	Page: 1 of 2
	Total Depth (feet): 14 / Hole Size (inches): 3.25	Driller: Sam Redmond	
Drilling Rig: Geoprobe 66DTR		Drilling Company: GeoServe Inc.	
Date: 3/28/2013	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Jeff Binder

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks (▽ Depth to water while drilling; ▼ Depth to water after drilling)
737		TOPSOIL								0.0	DT = Dual Tube
	1	FILL: silt, clayey, olive Black (5Y 2/1), trace brick, nonplastic, stiff, moist		3" DT	1	PUSH	NA	1.2/2	1.25	0.0	
736	2	trace to no brick little coal (2.3' - 2.5')									Sampled 2.0'-3.0' (001) (1020)
735	3									0.0 0.0 0.0	
734	4			3" DT	2	PUSH	NA	1.3/4	NA		
733	5	CLAY (CL), silty, light olive Gray (5Y 6/1), some orange mottling, low plasticity, stiff, moist									
732	6									0.0	Sampled 6.0'-7.0' (002) (1024)
731	7									0.0	
730	8	SAND (SM), silty, light olive Gray (5Y 6/1), coarse to fine, well graded, little fine gravel, dense, wet		3" DT	3	PUSH	NA	2.8/4	NA	0.0	▼ Free water observed at approximately 8.0'
729	9	CLAY (CL), silty, light olive Gray (5Y 6/1), trace fine gravel, trace coarse to fine sand, low plasticity, very stiff, moist								0.0	Sampled 8.0'-8.4' (003) (1028)
728	10										
727	11								2.0	0.0	Sampled 11.0'-12.0' (004) (1036)
726	12			3" DT	4	PUSH	NA	3.2/4	2.75	0.0	
725	13										
724									3.5	0.0	

Drilling Log, continued

Burns & McDonnell
SINCE 1898

Project Name	Mendota MGP Site	Boring/Monitoring Well Number	SP69B
Project Number	57618	Page	2 of 2
		Date	3/28/2013

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		End of probe at 14 feet bgs.									Abandoned with cement-bentonite grout on 3/28/2013
	15										
	16										
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										
	27										
	28										

Drilling Log

Burns & McDonnell SINCE 1898	Project Name: Mendota MGP Site	Project No.: 57618	Boring/Monitoring Well Number: SP70
	Coordinates: N 1778225.01 E 768545.38	Ground Elevation: 737.17	Page: 1 of 2
	Total Depth (feet): 26 / Hole Size (inches): 3.25	Driller: Dave Breede	
Drilling Rig: Geoprobe 7822DT		Drilling Company: Raimonde Drilling Corp.	
Date: 6/29/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
737		TOPSOIL									DT = dual tube
		FILL: silt, brownish Gray (5YR 4/1), trace concrete, trace brick, nonplastic, loose, dry								0.0	
736	1									0.0	
735	2			3" DT	1	PUSH	NA	1.7/4	NA		
734	3	FILL: clay, silty, brownish Black (5YR 2/1), low plasticity, stiff, moist									
733	4								2.0	0.0	
732	5								1.5	0.0	
731	6	CLAY (CL), silty, light olive Gray (5Y 5/2), some orange mottling, low plasticity, stiff, moist		3" DT	2	PUSH	NA	3.1/4	1.25	0.0	
730	7								1.0	0.0	
729	8	SAND (SM), silty, light olive Gray (5Y 5/2), some coarse to fine gravel, dense, wet								0.0	Free water observed at approximately 8.0'
728	9	CLAY (CL), silty, light olive Gray (5Y 5/2), some orange mottling, low plasticity, stiff, moist							1.0	0.0	
									1.75	0.0	
727	10			3" DT	3	PUSH	NA	3.1/4	1.25	0.0	
726	11	trace coarse to fine gravel							1.75	0.0	
725	12	stiff to very stiff									
724	13	trace coarse to fine gravel to little coarse to fine gravel light olive Gray (5Y 5/2) to olive Gray (5Y 4/1)		3" DT	4	PUSH	NA	4.0/4	3.0 3.25	0.0 0.0	

Depth to water while drilling

Depth to water after drilling

Drilling Log, continued

Burns & McDonnell
SINCE 1898

Project Name	Mendota MGP Site	Boring/Monitoring Well Number	SP70
Project Number	57618	Page	2 of 2
		Date	6/29/2012

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
723		CLAY (CL), silty, light olive Gray (5Y 4/1), some orange mottling, little coarse to fine gravel, low plasticity, very stiff, moist							2.25	0.0	
									4.0	0.0	
722	15			3" DT	4	PUSH	NA	4.0/4	4.0	0.0	
721	16										
									3.75	0.0	
720	17	very stiff to hard							4.25	0.0	
719	18			3" DT	5	PUSH	NA	4.0/4	4.5+	0.0	
		hard to stiff							2.0	0.0	
718	19								2.0	0.0	
717	20	SAND (SP), light olive Gray (5Y 5/2), fine, poorly graded, dense, saturated								0.0	
716	21	CLAY (CL), silty, olive Gray (5Y 4/1), low plasticity, very stiff, moist							3.25	0.0	
715	22			3" DT	6	PUSH	NA	4.0/4	3.0	0.0	
		very stiff to hard									
714	23								4.5+	0.0	
713	24								4.5+	0.0	
712	25			3" DT	7	PUSH	NA	2.0/2	4.5+	0.0	
		medium to fine sand (25.7'-26.0')							4.5+	0.0	
	26	End of probe at 26 feet bgs.									Abandoned with cement-bentonite grout on 6/29/2012
	27										
	28										

Drilling Log

Burns & McDonnell SINCE 1898	Project Name: Mendota MGP Site	Project No.: 57618	Boring/Monitoring Well Number: SP71
	Coordinates: N 1778242.66 E 768594.11	Ground Elevation: 730.53	Page: 1 of 1
	Total Depth (feet): 8 / Hole Size (inches): 2.25	Driller: Dave Breede	
Drilling Rig: Jackhammer probe		Drilling Company: Raimonde Drilling Corp.	
Date: 7/2/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
730		FILL: silt, brownish Black (5YR 2/1), nonplastic, loose, moist								4.4	▽ MC = macro core
		SAND (SM), silty, light olive Gray (5Y 5/2), medium to fine, loose, wet, odor, tar coated								120	Free water observed at approximately 0.3'
										150	
729	1										
	2			2" MC	1	PUSH	NA	0.8/4	NA		
728		CLAY (CL), silty, light olive Gray (5Y 5/2), trace coarse to fine sand, low plasticity, very stiff, moist									
	3										
727											
	4										
726									2.5	5.0	
	5										
725		tar in fractures (5.3'-5.8') very stiff to soft							2.5	5.9	
	6			2" MC	2	PUSH	NA	2.7/4	0.50	16	
724									3.5		
		No Recovery	NR								
	7										
723											
	8	End of probe at 8 feet bgs.									Abandoned with cement-bentonite grout on 7/2/2012
	9										
	10										
	11										
	12										
	13										

▽ Depth to water while drilling

▼ Depth to water after drilling

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP71B
Coordinates: N 1778243 E 768592		Ground Elevation: 730.50	Page: 1 of 1
Total Depth (feet): 8	Hole Size (inches): 2.25	Driller: Dave Breede	
Drilling Rig: Jackhammer probe		Drilling Company: Raimonde Drilling Corp.	
Date: 7/2/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
730		FILL: silt, brownish Black (5YR 2/1), nonplastic, loose, moist								150	▽ MC = macro core
	1	SAND (SM), silty, light olive Gray (5Y 5/2), coarse to fine, trace fine gravel, dense, wet, odor, tar coated	NR							100	Free water observed at approximately 0.3'
729		No Recovery									
	2			2" MC	1	PUSH	NA	0.9/4	NA		
728											
	3										
727											
	4										
726											
	5										
725											
	6			2" MC	2	PUSH	NA	0.0/4	NA	NA	
724											
	7										
723											
	8	End of probe at 8 feet bgs.									Abandoned with cement-bentonite grout on 7/2/2012
	9										
	10										
	11										
	12										
	13										

▽ Depth to water while drilling
▼ Depth to water after drilling

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP71C
Coordinates: N 1778243 E 768596		Ground Elevation: 730.50	Page: 1 of 1
Total Depth (feet): 8	Hole Size (inches): 2.25	Driller: Dave Breede	
Drilling Rig: Jackhammer probe		Drilling Company: Raimonde Drilling Corp.	
Date: 7/2/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
730		FILL: silt, brownish Black (5YR 2/1), nonplastic, loose, moist								1.6	▽ MC = macro core
	1	SAND (SM), silty, light olive Gray (5Y 5/2), coarse to fine, dense, wet, odor, tar coated	NR							8.6	Free water observed at approximately 0.3'
729		No Recovery									
	2			2" MC	1	PUSH	NA	0.7/4	NA		
728											
	3										
727											
	4										
726											
	5										
725											
	6			2" MC	2	PUSH	NA	0.0/4	NA	NA	
724											
	7										
723											
	8	End of probe at 8 feet bgs.									Abandoned with cement-bentonite grout on 7/2/2012
	9										
	10										
	11										
	12										
	13										

▽ Depth to water while drilling
▼ Depth to water after drilling

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP71D
Coordinates: N 1778243 E 768589		Ground Elevation: 730.50	Page: 1 of 1
Total Depth (feet): 8	Hole Size (inches): 2.25	Driller: Dave Breede	
Drilling Rig: Jackhammer probe		Drilling Company: Raimonde Drilling Corp.	
Date: 7/2/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
730		FILL: silt, brownish Black (5YR 2/1), nonplastic, loose, moist									▽ Depth to water while drilling; ▼ Depth to water after drilling; MC = macro core
	1	SAND (SM), silty, light olive Gray (5Y 5/2), coarse to fine, little coarse to fine gravel, dense, wet, odor, tar coated								15 12	Free water observed at approximately 0.3'
729	2			2" MC	1	PUSH	NA	1.1/4	NA		
728	3	CLAY (CL), silty, light olive Gray (5Y 5/2), low plasticity, medium stiff, moist									
727	4										
726	5	odor, stained (4.5'-5.0')								11	
725	6			2" MC	2	PUSH	NA	3.0/4	NA	1.5	
724	7	No Recovery	NR							0.9	
723	8	End of probe at 8 feet bgs.									Abandoned with cement-bentonite grout on 7/2/2012
	9										
	10										
	11										
	12										
	13										

Drilling Log

Burns & McDonnell SINCE 1898	Project Name: Mendota MGP Site	Project No.: 57618	Boring/Monitoring Well Number: SP72
	Coordinates: N 1778241.91 E 768640.46	Ground Elevation: 731.96	Page: 1 of 1
	Total Depth (feet): 8 / Hole Size (Inches): 2.25	Driller: Dave Breede	
Drilling Rig: Jackhammer probe		Drilling Company: Raimonde Drilling Corp.	
Date: 7/2/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		FILL: silt, brownish Black (5YR 2/1), nonplastic, loose, moist									MC = macro core
731	1	SAND (SM), silty, light olive Gray (5Y 5/2), coarse to fine, dense, wet								0.0 0.1	Free water observed at approximately 0.5'
730	2			2" MC	1	PUSH	NA	1.0/4	NA		
729	3	CLAY (CL), silty, light olive Gray (5Y 5/2), low plasticity, stiff, moist, stained									
728	4										
		stained to not stained (4.3')							1.75	0.3	
727	5								1.75	0.0	
726	6	stiff to very stiff		2" MC	2	PUSH	NA	2.5/4	2.25	0.0	
									2.5	0.0	
		No Recovery	NR								
725	7										
724	8	End of probe at 8 feet bgs.									Abandoned with cement-bentonite grout on 7/2/2012
	9										
	10										
	11										
	12										
	13										

Depth to water while drilling ▽

Depth to water after drilling ▼

MENDOTA SI 2012.GPJ 4/20/15

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP72B
Coordinates: N 1778242 E 768642		Ground Elevation: 732.00	Page: 1 of 1
Total Depth (feet): 8	Hole Size (inches): 2.25	Driller: Dave Breede	
Drilling Rig: Jackhammer probe		Drilling Company: Raimonde Drilling Corp.	
Date: 7/2/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks (▽ Depth to water while drilling; ▼ Depth to water after drilling)
		No Recovery	NR								MC = macro core
731	1										
730	2			2" MC	1	PUSH	NA	0.0/4	NA	NA	
729	3										
728	4	CLAY (CL), silty, light olive Gray (5Y 5/2), low plasticity, stiff, moist									
										0.0	
727	5										
726	6			2" MC	2	PUSH	NA	3.8/4	NA	0.0	
725	7										
										0.0	No free water observed
724	8	End of probe at 8 feet bgs.									Abandoned with cement-bentonite grout on 7/2/2012
	9										
	10										
	11										
	12										
	13										

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP72C
Coordinates: N 1778242 E 768644		Ground Elevation: 732.00	Page: 1 of 1
Total Depth (feet): 4	Hole Size (inches): 2.25	Driller: Dave Breede	
Drilling Rig: Jackhammer probe		Drilling Company: Raimonde Drilling Corp.	
Date: 7/2/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks (▽ Depth to water while drilling; ▼ Depth to water after drilling)
		No Recovery	NR								MC = macro core
731	1			2" MC	1	PUSH	NA	0.0/2	NA	NA	
730	2	FILL: silt, brownish Gray (5YR 4/1), nonplastic, loose, dry								0.0	
		No Recovery	NR								
729	3			2" MC	2	PUSH	NA	0.6/2	NA		
											No free water observed
728	4	End of probe at 4 feet bgs.									Abandoned with cement-bentonite grout on 7/2/2012
	5										
	6										
	7										
	8										
	9										
	10										
	11										
	12										
	13										

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP72D
Coordinates: N 1778242 E 768639		Ground Elevation: 732.00	Page: 1 of 1
Total Depth (feet): 8	Hole Size (inches): 2.25	Driller: Dave Breede	
Drilling Rig: Jackhammer probe		Drilling Company: Raimonde Drilling Corp.	
Date: 7/2/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		FILL: silt, brownish Black (5YR 2/1), nonplastic, loose, dry									MC = macro core
731	1	FILL: silt, brownish Gray (5YR 4/1), nonplastic, loose, moist								0.0	
730	2			2" MC	1	PUSH	NA	0.6/4	NA		
		CLAY (CL), silty, light olive Gray (5Y 5/2), low plasticity, stiff, moist									
729	3										
728	4										
727	5								1.5	0.0	
									1.25	0.0	
726	6	stiff to very stiff		2" MC	2	PUSH	NA	3.6/4	2.0	0.0	
725	7								2.25	0.0	No free water observed
724	8	End of probe at 8 feet bgs.									Abandoned with cement-bentonite grout on 7/2/2012
	9										
	10										
	11										
	12										
	13										

Depth to water while drilling
Depth to water after drilling

Drilling Log

Burns & McDonnell SINCE 1898	Project Name: Mendota MGP Site	Project No.: 57618	Boring/Monitoring Well Number: SP73
	Coordinates: N 1778240.08 E 768594.13	Ground Elevation: 731.09	Page: 1 of 1
	Total Depth (feet): 4 / Hole Size (inches): 2.25	Driller: Dave Breede	
Drilling Rig: Jackhammer probe		Drilling Company: Raimonde Drilling Corp.	
Date: 7/2/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks (▽ Depth to water while drilling; ▼ Depth to water after drilling)
731		FILL: silt, dark yellowish Brown (10YR 4/2), nonplastic, loose, dry								8.1	MC = macro core
										146 ▽	
		SAND (SM), silty, light olive Gray (5Y 5/2), coarse to fine, dense, saturated, moderate odor, tar coated								923	Free water observed at approximately 0.6'
730	1	No recovery	NR								
729	2			2" MC	1	PUSH	NA	1.0/4	NA		
728	3										
	4	End of probe at 4 feet bgs.									Abandoned with cement-bentonite grout on 7/2/2012
	5										
	6										
	7										
	8										
	9										
	10										
	11										
	12										
	13										

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP83
Coordinates: N 1778240.82 E 768592.37		Ground Elevation: 730.99	Page: 1 of 1
Total Depth (feet): 9	Hole Size (inches): 2.25	Driller: Alvin Martin	
Drilling Rig: Geoprobe 420M		Drilling Company: Raimonde Drilling Corp.	
Date: 7/9/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		FILL: silt, dark yellowish Brown (10YR 4/2), nonplastic, loose, wet								1.2	MC = macro core
		FILL: concrete fragments									
730	1	CLAY (CL), silty, dark greenish Gray (5GY 4/4), low plasticity, stiff, moist, stained								7.2	Sampled 1.0'-1.8' (001) (1127) Free water observed at approximately 1.3'
				2" MC	1	PUSH	NA	1.8/3	NA	110	
729	2	SAND (SM), silty, light olive Gray (5Y 5/2), coarse to fine, dense, saturated, tar coated								88	
728	3									270	Sampled 3.0'-3.4' (002) (1139)
		CLAY (CL), silty, light olive Gray (5Y 5/2), low plasticity, stiff, moist							2.75	85	
727	4								1.75	90	
				2" MC	2	PUSH	NA	3.0/3			
726	5								1.5	41	
									0.75	21	
725	6										
									1.5	3.7	
724	7								1.75		
		stiff to very stiff		2" MC	3	PUSH	NA	3.0/3	2.0	5.5	
723	8										
									2.75	1.2	
722	9	End of probe at 9 feet bgs.									Abandoned with cement-bentonite grout on 7/9/2012
	10										
	11										
	12										
	13										

Depth to water while drilling

Depth to water after drilling

MENDOTA SI 2012.GPJ 4/20/15

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP84
Coordinates: N 1778237 E 768592.52		Ground Elevation: 732.89	Page: 1 of 1
Total Depth (feet): 7.3	Hole Size (inches): 2.25	Driller: Alvin Martin	
Drilling Rig: Geoprobe 420M		Drilling Company: Raimonde Drilling Corp.	
Date: 7/9/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
732	1	FILL: silt, dark yellowish Brown (10YR 4/2), nonplastic, loose, wet		EXC	1	NA	NA	NA	NA	NA	Excavated creek bank to an approximate ground elevation of 731.59 feet to create a flat working space for drilling rig.
731	2	CLAY (CL), silty, dark greenish Gray (5GY 4/4), low plasticity, medium stiff, moist, stained		2" MC	2	PUSH	NA	1.6/3	1.0	7.3 0.8	MC = macro core
730	3										
729	4	SAND (SM), silty, light olive Gray (5Y 5/2), coarse to fine, dense, wet, tar coated									
728	5	wet to saturated								31	Free water observed at approximately 4.5'
727	6	CLAY (CL), silty, light olive Gray (5Y 5/2), low plasticity, stiff, moist		2" MC	3	PUSH	NA	1.7/3	1.25 1.25	480	
		No recovery	NR								
726	7										
		End of probe at 7.3 feet bgs.									Abandoned with cement-bentonite grout on 7/9/2012
	8										
	9										
	10										
	11										
	12										
	13										

Depth to water while drilling

Depth to water after drilling

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP85
Coordinates: N 1778233.85 E 768594.02		Ground Elevation: 734.87	Page: 1 of 1
Total Depth (feet): 7.8	Hole Size (inches): 2.25	Driller: Alvin Martin	
Drilling Rig: Geoprobe 420M		Drilling Company: Raimonde Drilling Corp.	
Date: 7/9/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
734	1	FILL: silt, dark yellowish Brown (10YR 4/2), nonplastic, stiff, moist		EXC	1	NA	NA	NA	NA	NA	Excavated creek bank to an approximate ground elevation of 733.07 feet bgs to create a flat working space for drilling rig.
733	2			2" MC	2	PUSH	NA	2.4/3	1.75	1.1	MC = macro core
732	3	CLAY (CL), silty, dark greenish Gray (5GY 4/4), low plasticity, stiff, moist							1.75	11	
									1.0	0.0	
731	4								1.25	0.3	
730	5			2" MC	3	PUSH	NA	2.8/3	1.5	0.5	
										0.3	
729	6	SAND (SM), silty, light olive Gray (5Y 5/2), coarse to fine, little fine gravel, dense, saturated, odor, tar coated								46	Free water observed at approximately 5.6'
										85.2	
728	7	CLAY (CL), silty, light olive Gray (5Y 5/2), little orange mottling, low plasticity, stiff, moist, tar in fractures							0.75	85	
										37	
									1.75	0.3	
	8	End of probe at 7.8 feet bgs.									Abandoned with cement-bentonite grout on 7/9/2012
	9										
	10										
	11										
	12										
	13										

Depth to water while drilling

Depth to water after drilling

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP86
Coordinates: N 1778239.71 E 768576.57		Ground Elevation: 731.14	Page: 1 of 1
Total Depth (feet): 6	Hole Size (inches): 2.25	Driller: Alvin Martin	
Drilling Rig: Geoprobe 420M		Drilling Company: Raimonde Drilling Corp.	
Date: 7/9/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
731		FILL: silt, dark yellowish Brown (10YR 4/2), nonplastic, loose, moist								0.2	MC = macro core
		SAND (SM), silty, light olive Gray (5Y 6/1), medium to fine, dense, moist								0.0	
730	1			2" MC	1	PUSH	NA	0.9/3	NA		
729	2										Free water observed at approximately 2.0'
728	3	moist to saturated								0.0	
727	4									0.0	
		No Recovery	NR	2" MC	2	PUSH	NA	1.2/3	NA		
726	5										
	6	End of probe at 6 feet bgs.									Abandoned with cement-bentonite grout on 7/9/2012
	7										
	8										
	9										
	10										
	11										
	12										
	13										

Depth to water while drilling
Depth to water after drilling

MENDOTA SI 2012.GPJ 4/20/15

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP86B
Coordinates: N 1778237 E 768577.23		Ground Elevation: 732.35	Page: 1 of 1
Total Depth (feet): 7.1	Hole Size (inches): 2.25	Driller: Alvin Martin	
Drilling Rig: Geoprobe 420M		Drilling Company: Raimonde Drilling Corp.	
Date: 7/9/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
732		FILL: silt, dark yellowish Brown (10YR 4/2), nonplastic, very soft, moist		EXC	1	NA	NA	NA	NA	NA	
731	1	moist to wet								0.0	MC = macro core Free water observed at approximately 1.5'
730	2	SAND (SM), silty, light olive Gray (5Y 6/1), coarse to fine, dense, wet		2" MC	2	PUSH	NA	1.8/3	NA	0.0	Excavated creek bank to an approximate ground elevation of 731.25 feet bgs to create a flat working space for drilling rig.
729	3										
728	4									0.0	
727	5	CLAY (CL), silty, light olive Gray (5Y 5/2), low plasticity, stiff, moist		2" MC	3	PUSH	NA	3.0/3	1.25	0.0	
726	6								1.75	0.0	
	7								1.5	0.0	
		End of probe at 7.1 feet bgs.									Abandoned with cement-bentonite grout on 7/9/2012
	8										
	9										
	10										
	11										
	12										
	13										

Depth to water while drilling

Depth to water after drilling

MENDOTA SI 2012.GPJ 4/20/15

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP87
Coordinates: N 1778240.89 E 768639.84		Ground Elevation: 732.02	Page: 1 of 1
Total Depth (feet): 6	Hole Size (inches): 2.25	Driller: Alvin Martin	
Drilling Rig: Geoprobe 420M		Drilling Company: Raimonde Drilling Corp.	
Date: 7/10/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		FILL: silt, dark yellowish Brown (10YR 4/2), trace fine sand, nonplastic, stiff, moist							0.5	0.0	MC = macro core
731	1								0.5	0.0	
				2" MC	1	PUSH	NA	1.5/3	0.5	0.0	
730	2										▽ Free water observed at approximately 2.3'
		SAND (SM), silty, medium Gray (N5), medium to fine, trace fine gravel, loose, saturated									
729	3										
										0.0	
728	4	CLAY (CL), silty, light olive Gray (5Y 5/2), low plasticity, stiff, moist		2" MC	2	PUSH	NA	3.0/3	NA	0.5	
727	5									0.0	
	6	End of probe at 6 feet bgs.									Abandoned with cement-bentonite grout on 7/10/2012
	7										
	8										
	9										
	10										
	11										
	12										
	13										

▽ Depth to water while drilling
▼ Depth to water after drilling

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP88
Coordinates: N 1778243.795 E 768612.892		Ground Elevation: 730.59	Page: 1 of 1
Total Depth (feet): 6	Hole Size (inches): 2.25	Driller: Alvin Martin	
Drilling Rig: Geoprobe 420M		Drilling Company: Raimonde Drilling Corp.	
Date: 7/10/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		FILL: silt, dark yellowish Brown (10YR 4/2), nonplastic, very soft, wet								0.0	MC = macro core
730		SAND (SM), silty, medium Gray (N5), coarse to fine, loose, wet								0.0	
	1									0.0	
		wet to saturated									Free water observed at approximately 1.3'
729				2" MC	1	PUSH	NA	1.6/3	NA		
	2										
728											
	3										
		slight odor, trace tar globules								0.7	Sampled 3.0'-3.3' (001) (0922)
727		CLAY (CL), silty, light olive Gray (5Y 5/2), low plasticity, medium stiff, moist							0.75	0.6	
	4									0.2	
726				2" MC	2	PUSH	NA	3.0/3	0.5		
	5								0.75	0.0	
725									1.25	0.0	
		medium stiff to stiff									
	6	End of probe at 6 feet bgs.									Abandoned with cement-bentonite grout on 7/10/2012
	7										
	8										
	9										
	10										
	11										
	12										
	13										

Depth to water while drilling
Depth to water after drilling

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP89
Coordinates: N 1778245.644 E 768677.605		Ground Elevation: 731.21	Page: 1 of 1
Total Depth (feet): 6	Hole Size (inches): 2.25	Driller: Alvin Martin	
Drilling Rig: Geoprobe 420M		Drilling Company: Raimonde Drilling Corp.	
Date: 7/10/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
731		FILL: silt, dark yellowish Brown (10YR 4/2), little cinders, nonplastic, very soft, moist							<0.25	0.0	MC = macro core
	1	SILT (ML), sandy, brownish Black (5YR 2/1), coarse to fine sand, nonplastic, very soft, saturated							<0.25	0.0	Free water observed at approximately 0.8'
730				2" MC	1	PUSH	NA	1.3/3	<0.25	0.0	
729	2										
728	3								0.50	0.0	
		CLAY (CL), silty, light olive Gray (5Y 5/2), some orange mottling, low plasticity, stiff, moist							1.0	0.0	
727	4			2" MC	2	PUSH	NA	3.0/3	1.0	0.0	
726	5								1.25	0.0	
									1.25	0.0	
	6	End of probe at 6 feet bgs.									Abandoned with cement-bentonite grout on 7/10/2012
	7										
	8										
	9										
	10										
	11										
	12										
	13										

Depth to water while drilling

Depth to water after drilling

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP90
Coordinates: N 1778246.832 E 768718.26		Ground Elevation: 731.40	Page: 1 of 1
Total Depth (feet): 6	Hole Size (inches): 2.25	Driller: Alvin Martin	
Drilling Rig: Geoprobe 420M		Drilling Company: Raimonde Drilling Corp.	
Date: 7/10/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
731		FILL: silt, dark yellowish Brown (10YR 4/2), nonplastic, loose, moist								0.0	MC = macro core; Free water observed at approximately 0.5'
	1	FILL: sand, brownish Black (5YR 2/1), medium to fine, little brick, little cinders, loose, saturated								0.0	
730		No Recovery	NR	2" MC	1	PUSH	NA	1.1/3	NA		
729	2										
728	3										
727	4			2" MC	2	PUSH	NA	0.0/3	NA	NA	
726	5										
	6	End of probe at 6 feet bgs.									Abandoned with cement-bentonite grout on 7/10/2012
	7										
	8										
	9										
	10										
	11										
	12										
	13										

Depth to water while drilling

Depth to water after drilling

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP90B
Coordinates: N 1778247 E 768720		Ground Elevation: 731.40	Page: 1 of 1
Total Depth (feet): 6	Hole Size (inches): 2.25	Driller: Alvin Martin	
Drilling Rig: Geoprobe 420M		Drilling Company: Raimonde Drilling Corp.	
Date: 7/10/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
731		FILL: silt, dark yellowish Brown (10YR 4/2), nonplastic, loose, moist								0.0	▽ MC = macro core
	1	FILL: sand, brownish Black (5YR 2/1), coarse to fine, little brick, little coarse to fine gravel, loose, saturated								0.0	Free water observed at approximately 0.4'
730				2" MC	1	PUSH	NA	1.2/3	NA		
	2	SAND (SM), silty, light olive Gray (5Y 5/2), coarse to fine, little coarse to fine gravel, dense, saturated, odor									
729											
	3										
728										0.5	
	4	some tar globules (4.0'-4.6')								20	Sampled 4.0'-4.6' (001) (1101)
727				2" MC	2	PUSH	NA	2.4/3	2.75	48	
	5	CLAY (CL), silty, light olive Gray (5Y 5/2), low plasticity, very stiff, moist								1.5	
726		No Recovery	NR								
	6	End of probe at 6 feet bgs.									Abandoned with cement-bentonite grout on 7/10/2012
	7										
	8										
	9										
	10										
	11										
	12										
	13										

Depth to water while drilling ▽
Depth to water after drilling ▼

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP91
Coordinates: N 1778242.182 E 768717.964		Ground Elevation: 732.10	Page: 1 of 1
Total Depth (feet): 6	Hole Size (inches): 2.25	Driller: Alvin Martin	
Drilling Rig: Geoprobe 420M		Drilling Company: Raimonde Drilling Corp.	
Date: 7/10/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
732		FILL: silt, dark yellowish Brown (10YR 4/2), trace concrete, trace coal, nonplastic, soft, dry								0.0	MC = macro core
		FILL: silt, dark yellowish Brown (10YR 4/2), trace coarse to fine sand, nonplastic, loose, moist							0.50	0.0	
731	1	FILL: sand, silty, moderate yellowish Brown (10YR 5/4), coarse to fine, dense, saturated		2" MC	1	PUSH	NA	2.0/3		0.0	Free water observed at approximately 1.5'
730	2									0.0	
		CLAY (CL), silty, greenish Gray (5GY 6/1), low plasticity, soft, moist									
729	3								0.25	1.4	
728	4	SAND (SM), silty, light olive Gray (5Y 5/2), coarse to fine, loose, saturated, odor tar coated (4.7'-5.1')		2" MC	2	PUSH	NA	3.0/3		0.4	
										21	Sampled 4.7'-5.1' (001) (1300)
727	5	CLAY (CL), silty, light olive Gray (5Y 5/2), low plasticity, very stiff, moist							2.75	26	
									4.0	0.0	
	6	End of probe at 6 feet bgs.									Abandoned with cement-bentonite grout on 7/10/2012
	7										
	8										
	9										
	10										
	11										
	12										
	13										

Depth to water while drilling ▽
Depth to water after drilling ▼

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP92
Coordinates: N 1778240.311 E 768742.477		Ground Elevation: 732.49	Page: 1 of 1
Total Depth (feet): 6	Hole Size (inches): 2.25	Driller: Alvin Martin	
Drilling Rig: Geoprobe 420M		Drilling Company: Raimonde Drilling Corp.	
Date: 7/10/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
732		FILL: silt, dark yellowish Brown (10YR 4/2), trace coal, nonplastic, medium stiff, moist							0.75	0.0	MC = macro core
	1	SILT (ML), sandy, dark yellowish Brown (10YR 4/2), nonplastic, dense, saturated		2" MC	1	PUSH	NA	1.9/3	0.75	0.0	Free water observed at approximately 1.0'
731										0.0	
	2	No Recovery	NR								
730											
	3										
729											
	4										
728				2" MC	2	PUSH	NA	0.0/3	NA	NA	
	5										
727											
	6	End of probe at 6 feet bgs.									Abandoned with cement-bentonite grout on 7/10/2012
	7										
	8										
	9										
	10										
	11										
	12										
	13										

Depth to water while drilling

Depth to water after drilling

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP92B
Coordinates: N 1778240 E 768741		Ground Elevation: 732.50	Page: 1 of 1
Total Depth (feet): 6	Hole Size (inches): 2.25	Driller: Alvin Martin	
Drilling Rig: Geoprobe 420M		Drilling Company: Raimonde Drilling Corp.	
Date: 7/10/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
732		FILL: silt, dark yellowish Brown (10YR 4/2), trace brick, trace coal, nonplastic, medium stiff, moist								0.0	MC = macro core
	1									0.0	Free water observed at approximately 1.0'
731		SILT (ML), sandy, dark yellowish Brown (10YR 4/2), coarse to fine, nonplastic, dense, saturated		2" MC	1	PUSH	NA	1.5/3	NA	0.0	
	2										
730		CLAY (CL), silty, light olive Gray (5Y 5/2), low plasticity, very stiff, moist									
	3										
729									2.0	0.0	
	4								2.25	0.0	
728				2" MC	2	PUSH	NA	3.0/3	2.0	0.0	
	5								2.0	0.0	
727									2.0	0.0	
	6	End of probe at 6 feet bgs.									Abandoned with cement-bentonite grout on 7/10/2012
	7										
	8										
	9										
	10										
	11										
	12										
	13										

Depth to water while drilling

Depth to water after drilling

MENDOTA SI 2012.GPJ 4/20/15

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP95
Coordinates: N 1778237.756 E 768717.268		Ground Elevation: 734.27	Page: 1 of 2
Total Depth (feet): 16	Hole Size (inches): 3.25	Driller: Alvin Martin	
Drilling Rig: Geoprobe 7822DT		Drilling Company: Raimonde Drilling Corp.	
Date: 7/11/2012	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Gene McLinn

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
734		FILL: silt, dark yellowish Brown (10YR 4/2), some brick, little cinders, trace coal, nonplastic, very soft, dry								0.0	DT = dual tube
733	1									0.0	
732	2			3" DT	1	PUSH	NA	1.3/4	NA		
731	3										
730	4									0.0	▽ Free water observed at approximately 4.5'
729	5	CLAY (CL), silty, light olive Gray (5Y 5/2), little orange mottling, low plasticity, medium stiff, moist							0.5	0.0	
728	6	SAND (SM), silty, light olive Gray (5Y 5/2), coarse to fine, little coarse to fine gravel, dense, wet		3" DT	2	PUSH	NA	1.9/4	1.0	0.0	
727	7										
726	8	odor, staining, trace tar globules (8.3'-8.5')							1.0	0.7 0.1	
725	9	CLAY (CL), silty, light olive Gray (5Y 5/2), little coarse to fine sand, low plasticity, stiff, moist							1.5	0.0	
724	10			3" DT	3	PUSH	NA	2.7/4	1.5 1.25	0.0 0.0	
723	11										
722	12	little coarse to fine gravel							1.25	0.0	
721	13	some coarse to fine sand (13.3'-13.6')		3" DT	4	PUSH	NA	3.1/4	2.0	0.0	

▽ Depth to water while drilling
▼ Depth to water after drilling

Drilling Log, continued

Burns & McDonnell
SINCE 1898

Project Name	Mendota MGP Site	Boring/Monitoring Well Number	SP95
Project Number	57618	Page	2 of 2
		Date	7/11/2012

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
720		CLAY (CL), silty, light olive Gray (5Y 5/2), little coarse to fine gravel, little coarse to fine sand, low plasticity, hard, moist							4.25	0.0	
									4.0	0.0	
719	15	light olive Gray (5Y 5/2) to olive Gray (5Y 4/1)	NR	3" DT	4	PUSH	NA	3.1/4			
		No Recovery									
	16	End of probe at 16 feet bgs.									Abandoned with cement-bentonite grout on 7/11/2012
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										
	27										
	28										

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP117
Coordinates: N 1778145.611 E 768533.192		Ground Elevation: 736.89	Page: 1 of 2
Total Depth (feet): 16	Hole Size (inches): 3.25	Driller: Sam Redmond	
Drilling Rig: Geoprobe 66DTR		Drilling Company: GeoServe Inc.	
Date: 3/20/2013	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Jeff Binder

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks (▽ Depth to water while drilling; ▼ Depth to water after drilling)
		Drilled without sampling to 4.8 feet bgs	NR	NA	NA	NA	NA	NA	NA	NA	DT = Dual Tube
736	1										
735	2										
734	3										
733	4										
732	5	CLAY (CL), silty, olive Gray (5Y 4/1), low plasticity, medium stiff, moist 1" seam of medium to fine gray sand (5.2') some gravel (5.6')							0.5 1.25	0.0 0.0	
731	6			3" DT	1	PUSH	NA	1.0/3.2			
730	7										No free water observed
729	8	medium stiff to very stiff							1.25	0.0	
728	9								2.25	0.0	
		No recovery due to cobble in tip of sampler	NR								
727	10			3" DT	2	PUSH	NA	1.2/4			
726	11										
725	12										
724	13			3" DT	3	PUSH	NA	0.0/4	NA	NA	
723											

Drilling Log, continued

Burns & McDonnell
SINCE 1898

Project Name	Mendota MGP Site	Boring/Monitoring Well Number	SP117
Project Number	57618	Page	2 of 2
		Date	3/20/2013

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		No recovery due to cobble in tip of sampler	NR								
722	15			3" DT	3	PUSH	NA	0.0/4	NA	NA	
721	16	End of probe at 16 feet bgs.									Abandoned with cement-bentonite grout on 3/20/2013
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										
	27										
	28										

Drilling Log

Burns & McDonnell SINCE 1898	Project Name: Mendota MGP Site	Project No.: 57618	Boring/Monitoring Well Number: SP118
	Coordinates: N 1778157.687 E 768532.786	Ground Elevation: 736.89	Page: 1 of 2
	Total Depth (feet): 24 / Hole Size (inches): 3.25	Driller: Sam Redmond	
Drilling Rig: Geoprobe 66DTR		Drilling Company: GeoServe Inc.	
Date: 3/20/2013	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Jeff Binder

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		ASPHALT								0.0	DT = Dual Tube
736	1	FILL: gravel, silty, dark yellowish Brown (10YR 4/2), some coarse to fine sand, loose, dry							3.25	0.0	
		FILL: silt, olive Black (5Y 2/1), trace cinders, trace brick, nonplastic, very stiff, moist								0.0	
735	2	trace cinders to no cinders, trace brick to no brick (1.6')		3" DT	1	PUSH	NA	3.2/4	1.75	0.0	
734	3	clayey, very stiff to stiff							1.0	0.0	
733	4	stiff to very soft							<0.25	0.0	
732	5	CLAY (CL), silty, light olive Gray (5Y 5/2), orange mottling, low plasticity, medium stiff, moist							<0.25	0.0	
									0.75	0.0	
731	6	SAND (SM), silty, light olive Gray (5Y 5/2), some orange-red iron discoloration, some coarse to fine gravel, dense, wet		3" DT	2	PUSH	NA	2.0/4	0.75	0.0	Free water observed at approximately 5.8'
730	7										
729	8										
728	9	CLAY (CL), silty, light olive Gray (5Y 4/1), some orange mottling, trace coarse to fine sand, moist, low plasticity, stiff							1.75	0.0	
									2.25	0.0	
727	10			3" DT	3	PUSH	NA	4.0/4	2.0	0.0	
									1.25	0.0	
726	11								1.25	0.0	
									1.25	0.0	
725	12	stiff to very stiff, no orange mottling							3.25	0.0	
724	13			3" DT	4	PUSH	NA	4.0/4	2.25	0.0	
723									3.75	0.0	

Depth to water while drilling

Depth to water after drilling

Drilling Log, continued

Burns & McDonnell
SINCE 1898

Project Name	Mendota MGP Site	Boring/Monitoring Well Number	SP118
Project Number	57618	Page	2 of 2
		Date	3/20/2013

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		CLAY (CL), silty, olive Gray (5Y 4/1), trace coarse to fine sand, low plasticity, hard, moist									
722	15			3" DT	4	PUSH	NA	4.0/4	4.5+	0.0	
									4.25	0.0	
									4.5+	0.0	
721	16										
720	17	trace coarse to fine gravel							4.0	0.0	
									4.5+	0.0	
719	18			3" DT	5	PUSH	NA	4.0/4			
									3.75	0.0	
718	19								4.5	0.0	
717	20										
										0.0	
716	21								4.5+		
										0.0	
715	22			3" DT	6	PUSH	NA	4.0/4	4.5+		
										0.0	
714	23								4.5+	0.0	
713	24	Refusal - End of probe at 24 feet bgs.									Abandoned with cement-bentonite grout on 3/20/2013
	25										
	26										
	27										
	28										

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP118B
Coordinates: N 1778161.028 E 768532.731		Ground Elevation: 736.98	Page: 1 of 1
Total Depth (feet): 10	Hole Size (inches): 3.25	Driller: Sam Redmond	
Drilling Rig: Geoprobe 66DTR		Drilling Company: GeoServe Inc.	
Date: 3/20/2013	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Jeff Binder

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks (▽ Depth to water while drilling; ▼ Depth to water after drilling)
		ASPHALT								0.0	DT = Dual Tube
736	1	FILL: gravel, silty, dark yellowish Brown (10YR 4/2), some coarse to fine sand, dense, moist		3" DT	1	PUSH	NA	2.0/2	3.5	0.0	
		FILL: silt, olive Black (5Y 2/1), nonplastic, very stiff, moist							2.5	0.0	
735	2									0.0	
										0.0	
734	3									0.0	
733	4	CLAY (CL), silty, light olive Gray (5Y 5/2), low plasticity, medium stiff, moist		3" DT	2	PUSH	NA	2.1/4	0.75	0.0	
732	5	SAND (SM), silty, light olive Gray (5Y 5/2), some coarse to fine gravel, dense, wet									
731	6										▽ Free water observed at approximately 6.0'
										0.0	
730	7	gray stained, slight odor (7.2')								0.0	
										0.2	Sampled 7.2'-8.0' (001) (1004)
729	8	CLAY (CL), silty, light olive Gray (5Y 6/1), moist, low plasticity, very stiff		3" DT	3	PUSH	NA	3.5/4	2.75	0.0	
										0.0	
728	9								2.0	0.0	
727	10	End of probe at 10 feet bgs.									Abandoned with cement-bentonite grout on 3/20/2013
	11										
	12										
	13										

Drilling Log

Burns & McDonnell — SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP119
Coordinates: N 1778168.741 E 768532.826		Ground Elevation: 736.96	Page: 1 of 2
Total Depth (feet): 24	Hole Size (inches): 3.25	Driller: Sam Redmond	
Drilling Rig: Geoprobe 66DTR		Drilling Company: GeoServe Inc.	
Date: 3/20/2013	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Jeff Binder

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		Drilled without sampling to 6.0 feet bgs	NR	NA	NA	NA	NA	NA	NA	NA	DT = Dual Tube
736	1										
735	2										
734	3										
733	4										
732	5										
731	6	CLAY (CL), silty, light olive Gray (5Y 5/2), medium stiff, gray stained							0.5	1.7	▽ Free water observed at approximately 6.3'
730	7	SAND (SM), silty, light olive Gray (5Y 5/2), coarse to fine, well graded, some coarse to fine gravel, dense, wet, gray stained, odor								39.4 9.7 4.6	Sampled 6.3'-7.0' (001) (1048)
729	8	coated with stringy, viscous tar		3" DT	1	PUSH	NA	3.6/4		3.6 6.1	Sampled 8.0'-8.5' (002) (1059)
728	9	CLAY (CL), silty, light olive Gray (5Y 6/1), trace of sand, low plasticity, stiff, wet stiff to very stiff							1.25 2.25	1.7	
727	10								2.0	1.2	
726	11			3" DT	2	PUSH	NA	2.0/2	2.0 2.75	0.8 0.0 0.0	
725	12	very stiff to hard, wet to moist									
724	13			3" DT	3	PUSH	NA	4.0/4	4.5+ 4.5+	0.0 0.0	

▽ Depth to water while drilling

▼ Depth to water after drilling

Drilling Log, continued

Burns & McDonnell
SINCE 1898

Project Name	Mendota MGP Site
Project Number	57618
Boring/Monitoring Well Number	SP119
Page	2 of 2
Date	3/20/2013

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		CLAY (CL), silty, light olive Gray (5Y 6/1), trace fine sand, low plasticity, very stiff, moist							2.25	0.0	
722	15			3" DT	3	PUSH	NA	4.0/4	3.5	0.0	
721	16	very stiff to hard, light olive Gray (5Y 6/1) to olive Gray (5Y 4/1)							4.5+	0.0	
720	17								4.5+	0.0	
719	18			3" DT	4	PUSH	NA	4.0/4	4.5+	0.0	
718	19								4.5+	0.0	
717	20								4.5+	0.0	
716	21								4.5+	0.0	
715	22			3" DT	5	PUSH	NA	4.0/4	4.5+	0.0	
714	23								4.5+	0.0	
713	24	End of probe at 24 feet bgs.									Abandoned with cement-bentonite grout on 3/20/2013
	25										
	26										
	27										
	28										

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP120
Coordinates: N 1778181.475 E 768532.358		Ground Elevation: 736.95	Page: 1 of 2
Total Depth (feet): 24	Hole Size (inches): 3.25	Driller: Sam Redmond	
Drilling Rig: Geoprobe 66DTR		Drilling Company: GeoServe Inc.	
Date: 3/20/2013	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Jeff Binder

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		Drilled without sampling to 6.0 feet bgs	NR	NA	NA	NA	NA	NA	NA	NA	DT = Dual Tube
736	1										
735	2										
734	3										
733	4										
732	5										
731	6										▽ Depth to water while drilling
		SAND (SM), silty, light olive Gray (5Y 5/2), coarse to fine, well graded, some coarse to fine gravel, dense, saturated, gray stained, odor								0.0	Free water observed at approximately 6.0' Sampled 6.0'-7.0' (001) (1242)
730	7									0.0	
729	8			3" DT	1	PUSH	NA	1.0/4	NA		
728	9										
727	10									0.0	
		CLAY (CL), silty, olive Gray (5Y 4/1), trace fine sand, low plasticity, very stiff, moist		3" DT	2	PUSH	NA	1.7/2	3.0	0.0	
726	11								3.25	0.0	
725	12								4.0	0.0	
724	13	very stiff to hard		3" DT	3	PUSH	NA	4.0/4	4.5+	0.0	

▼ Depth to water after drilling

Drilling Log, continued

Burns & McDonnell
SINCE 1898

Project Name	Mendota MGP Site	Boring/Monitoring Well Number	SP120
Project Number	57618	Page	2 of 2
		Date	3/20/2013

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		CLAY (CL), silty, olive Gray (5Y 4/1), trace fine sand, low plasticity, hard, moist									
722	15			3" DT	3	PUSH	NA	4.0/4	4.5+	0.0	
									4.5+	0.0	
721	16										
									4.5+	0.0	
720	17										
									4.5+	0.0	
719	18			3" DT	4	PUSH	NA	4.0/4			
									4.5+	0.0	
718	19										
									4.5+	0.0	
717	20										
									4.5+	0.0	
716	21										
									4.5+	0.0	
715	22			3" DT	5	PUSH	NA	4.0/4			
									4.5+	0.0	
714	23										
									4.5+	0.0	
713	24	End of probe at 24 feet bgs.									Abandoned with cement-bentonite grout on 3/20/2013
	25										
	26										
	27										
	28										

Drilling Log

Burns & McDonnell SINCE 1898	Project Name: Mendota MGP Site	Project No.: 57618	Boring/Monitoring Well Number: SP121
	Coordinates: N 1778168.642 E 768516.615	Ground Elevation: 736.79	Page: 1 of 2
	Total Depth (feet): 24 / Hole Size (inches): 3.25	Driller: Sam Redmond	
Drilling Rig: Geoprobe 66DTR		Drilling Company: GeoServe Inc.	
Date: 3/20/2013	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Jeff Binder

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks (▽ Depth to water while drilling; ▼ Depth to water after drilling)
		Drilled without sampling to 6.0 feet bgs	NR	NA	NA	NA	NA	NA	NA	NA	DT = Dual Tube
736	1										
735	2										
734	3										
733	4										
732	5										
731	6	CLAY (CL), silty, light olive Gray (5Y 5/2), medium stiff, moist							0.75	0.1	▽ Free water observed at approximately 6.2' Sampled 6.2'-7.0' (001) (1330)
730	7	SAND (SM), silty, some coarse to fine gravel, dense, saturated, gray stained, odor								6.0	
		CLAY (CL), silty, olive Gray (5Y 4/1), low plasticity, medium stiff, moist							0.75	6.4	
729	8			3" DT	1	PUSH	NA	1.5/4		0.4	
728	9										
727	10	medium stiff to stiff							1.5	0.0	
726	11	stiff to very stiff		3" DT	2	PUSH	NA	2.0/2	2.25	0.0	
725									2.5	0.0	
724	12								3.0	0.0	
	13			3" DT	3	PUSH	NA	3.7/4	3.75	0.0	
723		very stiff to hard							4.5+		

Drilling Log, continued

Burns & McDonnell
SINCE 1898

Project Name	Mendota MGP Site
Project Number	57618
Boring/Monitoring Well Number	SP121
Page	2 of 2
Date	3/20/2013

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		CLAY (CL), silty, olive Gray (5Y 4/1), low plasticity, hard, moist							4.5+	0.0	
722	15			3" DT	3	PUSH	NA	3.7/4	4.5+	0.0	
721	16	little coarse to fine gravel							4.25	0.0	
720	17								4.5	0.0	
719	18			3" DT	4	PUSH	NA	4.0/4	4.5+	0.0	
718	19	very stiff (18.5' - 20')							3.5	0.0	
717	20										
716	21								4.5+	0.0	
715	22			3" DT	5	PUSH	NA	4.0/4	4.5+	0.0	
714	23								4.5+	0.0	
713	24								4.5+	0.0	
		End of probe at 24 feet bgs.									Abandoned with cement-bentonite grout on 3/20/2013
	25										
	26										
	27										
	28										

Drilling Log

Burns & McDonnell SINCE 1898	Project Name: Mendota MGP Site	Project No.: 57618	Boring/Monitoring Well Number: SP122
	Coordinates: N 1778180.932 E 768516.306	Ground Elevation: 736.87	Page: 1 of 2
	Total Depth (feet): 16 / Hole Size (inches): 3.25	Driller: Sam Redmond	
Drilling Rig: Geoprobe 66DTR		Drilling Company: GeoServe Inc.	
Date: 3/21/2013	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Jeff Binder

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		ASPHALT									DT = Dual Tube
736	1	FILL: gravel, silty, brownish Gray (5YR 4/1), some sand, dense, dry								0.0	
		FILL: silt, olive Black (5Y 2/1), nonplastic, stiff, moist							1.5	0.0	
735	2			3" DT	1	PUSH	NA	2.9/4	2.0	0.0	
734	3								2.0	0.0	
733	4								1.0	0.0	
732	5			3" DT	2	PUSH	NA	1.6/2	1.25	0.0	
731	6	CLAY (CL), silty, light olive Gray (5Y 5/2), low plasticity, stiff, moist								0.0	
730	7									0.0	
729	8	SAND (SM), silty, light olive Gray (5Y 5/2), coarse to fine, well graded, little coarse to fine gravel, dense, wet		3" DT	3	PUSH	NA	3.0/4		0.0 0.3	Free water observed at approximately 7.4' Sampled 7.7'-8.5' (001) (0758)
		gray stained, slight odor (7.7')							1.0		
728	9	CLAY (CL), silty, light olive Gray (5Y 6/1), low plasticity, stiff, moist									
727	10	trace medium to fine sand							1.75	0.0	
726	11	stiff to very stiff		3" DT	4	PUSH	NA	2.0/2	2.0	0.0	
725	12								2.75	0.0	
724	13	very stiff to hard		3" DT	5	PUSH	NA	4.0/4	3.75 4.5	0.0 0.0	
723									4.0	0.0	

Depth to water while drilling

Depth to water after drilling

MENDOTA SI 2013.GPJ 4/20/15

Drilling Log, continued

Burns & McDonnell
SINCE 1898

Project Name	Mendota MGP Site	Boring/Monitoring Well Number	SP122
Project Number	57618	Page	2 of 2
		Date	3/21/2013

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		CLAY (CL), silty, light olive Gray (5Y 6/1), trace medium to fine sand, low plasticity, hard, moist							4.5+	0.0	
722	15			3" DT	5	PUSH	NA	4.0/4	4.5+	0.0	
									4.5+	0.0	
721	16	End of probe at 16 feet bgs.									Abandoned with cement-bentonite grout on 3/21/2013
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										
	27										
	28										

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP123
Coordinates: N 1778157.597 E 768516.889		Ground Elevation: 736.85	Page: 1 of 2
Total Depth (feet): 16	Hole Size (inches): 3.25	Driller: Sam Redmond	
Drilling Rig: Geoprobe 66DTR		Drilling Company: GeoServe Inc.	
Date: 3/21/2013	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Jeff Binder

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		ASPHALT									DT = Dual Tube
736	1	FILL: gravel, silty, moderate yellowish Brown (10YR 5/4), some coarse to fine sand, dense, moist								0.0	
		FILL: silt, olive Black (5Y 2/1), nonplastic, stiff, moist							1.75	0.0	
735	2			3" DT	1	PUSH	NA	3.1/4	1.75	0.0	
734	3								2.0	0.0	
733	4								2.0	0.0	
732	5	CLAY (CL), silty, light olive Gray (5Y 5/2), low plasticity, stiff, moist		3" DT	2	PUSH	NA	1.1/2	1.75	0.0	
731	6								1.0	0.0	
730	7	some coarse to fine sand, little fine gravel							1.25		
									1.0	0.0	No free water observed
729	8			3" DT	3	PUSH	NA	3.5/4	1.5	0.0	
									1.25	0.0	
728	9	CLAY (CL), silty, light olive Gray (5Y 6/1), trace fine gravel, trace fine sand, low plasticity, very stiff, moist							3.25	0.0	
727	10								3.25		
726	11			3" DT	4	PUSH	NA	2.0/2	2.25	0.0	
									2.0	0.0	
725	12								2.25	0.0	
724	13			3" DT	5	PUSH	NA	4.0/4	3.75	0.0	
723									2.5	0.0	

Depth to water while drilling
Depth to water after drilling

MENDOTA SI 2013.GPJ 4/20/15

Drilling Log, continued

Burns & McDonnell
SINCE 1898

Project Name	Mendota MGP Site	Boring/Monitoring Well Number	SP123
Project Number	57618	Page	2 of 2
		Date	3/21/2013

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
722	15	CLAY (CL), silty, olive Gray (5Y 4/1), trace fine gravel, trace fine sand, low plasticity, very stiff, moist		3" DT	5	PUSH	NA	4.0/4	2.5 2.75	0.0 0.0	
721	16	End of probe at 16 feet bgs.									Abandoned with cement-bentonite grout on 3/21/2013
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										
	27										
	28										

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP124
Coordinates: N 1778193.799 E 768516.16		Ground Elevation: 736.94	Page: 1 of 2
Total Depth (feet): 16	Hole Size (inches): 3.25	Driller: Sam Redmond	
Drilling Rig: Geoprobe 66DTR		Drilling Company: GeoServe Inc.	
Date: 3/21/2013	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Jeff Binder

Depth to water while drilling ▽
Depth to water after drilling ▼

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		ASPHALT									DT = Dual Tube
736	1	FILL: gravel, silty, moderate yellowish Brown (10YR 5/4), some coarse to fine sand, dense, moist								0.0	
		FILL: silt, olive Black (5Y 2/1), nonplastic, stiff, moist							1.5	0.0	
735	2			3" DT	1	PUSH	NA	2.3/4	1.25	0.0	
734	3										
733	4								1.25	0.0	
732	5			3" DT	2	PUSH	NA	1.1/2	1.25	0.0	
731	6	CLAY (CL), silty, light olive Gray (5Y 5/2), some orange mottling, low plasticity, stiff, moist							2.0	0.0	
730	7	SAND (SM), silty, light olive Gray (5Y 5/2), some coarse to fine gravel, dense, moist							2.75	0.0 / 0.0	No free water observed
		CLAY (CL), silty, light olive Gray (5Y 6/1), trace coarse to fine sand, low plasticity, very stiff, moist									
729	8			3" DT	3	PUSH	NA	3.1/4	3.25	0.0	
728	9								4.0	0.0	
727	10								2.5	0.0	
726	11			3" DT	4	PUSH	NA	2.0/2	3.25	0.0	
									3.75	0.0	
725	12	very stiff to hard							4.25	0.0	
724	13	light olive Gray (5Y 6/1) to olive Gray (5Y 4/1)		3" DT	5	PUSH	NA	4.0/4	4.5+	0.0	

MENDOTA SI 2013.GPJ 4/20/15

Drilling Log, continued

Burns & McDonnell
SINCE 1898

Project Name	Mendota MGP Site	Boring/Monitoring Well Number	SP124
Project Number	57618	Page	2 of 2
		Date	3/21/2013

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		CLAY (CL), silty, olive Gray (5Y 4/1), trace coarse to fine sand, low plasticity, hard, moist							4.5+	0.0	
722	15	hard to very stiff		3" DT	5	PUSH	NA	4.0/4			
									3.5	0.0	
721	16	End of probe at 16 feet bgs.									Abandoned with cement-bentonite grout on 3/21/2013
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										
	27										
	28										

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP125
Coordinates: N 1778193.431 E 768533.226		Ground Elevation: 737.02	Page: 1 of 2
Total Depth (feet): 16	Hole Size (inches): 3.25	Driller: Sam Redmond	
Drilling Rig: Geoprobe 66DTR		Drilling Company: GeoServe Inc.	
Date: 3/20/2013 to 3/21/2013	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Jeff Binder

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		ASPHALT								0.0	HA = Hand Auger
736	1	FILL: gravel, silty, moderate yellowish Brown (10YR 5/4), coarse to fine, some coarse to fine sand, loose, moist FILL: silt, olive Black (5Y 2/1), trace fine sand, nonplastic, loose, moist		HA	1	NA	NA	2.0/2	NA	0.0 0.0	Temporarily backfilled with gravel 3/20/13
735	2										Begin Geoprobing 3/21/13
734	3									0.0	
733	4			3" DT	2	PUSH	NA	0.6/4	NA		DT = Dual Tube
732	5										
731	6										
730	7	CLAY (CL), silty, dark greenish Gray (5GY 4/1), low plasticity, medium stiff, moist little fine sand (7' - 8')							0.75 0.75	0.0 0.0	No free water observed
729	8	dark greenish Gray (5GY 4/1) to light olive Gray (5Y 6/1), medium stiff to stiff		3" DT	3	PUSH	NA	2.5/4	0.75 1.25	0.0 0.0	
728	9										
727	10								1.0	0.0	
726	11			3" DT	4	PUSH	NA	2.0/2	2.25	0.0	
725	12								2.25	0.0	
724	13	light olive Gray (5Y 6/1) to olive Gray (5Y 4/1)		3" DT	5	PUSH	NA	4.0/4	2.25 4.5+	0.0 0.0	

Depth to water while drilling
Depth to water after drilling

Drilling Log, continued

Burns & McDonnell
SINCE 1898

Project Name	Mendota MGP Site	Boring/Monitoring Well Number	SP125
Project Number	57618	Page	2 of 2
		Date	3/20/2013 to 3/21/2013

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		CLAY (CL) silty, olive Gray (5Y 4/1), low plasticity, hard, moist							4.5+	0.0	
722	15			3" DT	5	PUSH	NA	4.0/4			
									4.5+	0.0	
	16	End of probe at 16 feet bgs.									Abandoned with cement-bentonite grout on 3/21/2013
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										
	27										
	28										

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP146
Coordinates: N 1778250.452 E 768641.979		Ground Elevation: 729.68	Page: 1 of 1
Total Depth (feet): 8	Hole Size (inches): 3.25	Driller: Sam Redmond	
Drilling Rig: Geoprobe 540NT		Drilling Company: GeoServe Inc.	
Date: 3/27/2013	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Jeff Binder

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks (▽ Depth to water while drilling; ▼ Depth to water after drilling)
		GRAVEL (GW), dark Gray (N3), coarse to fine, well graded, little coarse to fine sand, little wood, loose, saturated								0.0	DT = Dual Tube
729	1	CLAY (CL), silty, olive Gray (5Y 4/1), trace fine gravel, trace coarse to fine sand, low plasticity, very stiff, wet							2.25	0.0	
728	2			2" DT	1	PUSH	NA	2.7/4	3.25	0.0	Free water observed above ground surface (creek)
727	3	wet to moist							3.0	0.0	
726	4										
725	5								3.75	0.0	
724	6			2" DT	2	PUSH	NA	4.0/4	3.75	0.0	
723	7								3.0	0.0	
722	8								3.5	0.0	
		End of probe at 8 feet bgs.									Abandoned with hydrated bentonite chips on 3/27/2013
	9										
	10										
	11										
	12										
	13										

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP147
Coordinates: N 1778249.562 E 768678.611		Ground Elevation: 729.60	Page: 1 of 1
Total Depth (feet): 8	Hole Size (inches): 3.25	Driller: Sam Redmond	
Drilling Rig: Geoprobe 540NT		Drilling Company: GeoServe Inc.	
Date: 3/27/2013	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Jeff Binder

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks (▽ Depth to water while drilling; ▼ Depth to water after drilling)
		GRAVEL (GP), dark Gray (N3), fine, poorly graded, some coarse to fine sand, loose, saturated								0.0	DT = Dual Tube
729	1	CLAY (CL), silty, light olive Gray (5Y 6/1), trace coarse to fine sand, low plasticity, very stiff, wet							2.25	0.0	
728									2.5	0.0	
	2			2" DT	1	PUSH	NA	2.2/4	3.0	0.0	Free water observed above ground surface (creek)
727	3										
726	4	trace fine gravel							3.0	0.0	
725	5								3.5	0.0	
724	6			2" DT	2	PUSH	NA	3.6/4	4.0	0.0	
723	7								3.5	0.0	
722	8	End of probe at 8 feet bgs.									Abandoned with hydrated bentonite chips on 3/27/2013
	9										
	10										
	11										
	12										
	13										

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP148
Coordinates: N 1778245.068 E 768598.335		Ground Elevation: 729.79	Page: 1 of 1
Total Depth (feet): 8	Hole Size (inches): 2.25	Driller: Sam Redmond	
Drilling Rig: Geoprobe 540NT		Drilling Company: GeoServe Inc.	
Date: 3/28/2013	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Jeff Binder

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		No Recovery	NR								DT = Dual Table
729	1										
728	2			2" DT	1	PUSH	NA	0.0/4	NA	NA	Free water observed above ground surface (creek)
727	3										
726	4										
725	5										
724	6			2" DT	2	PUSH	NA	0.0/4	NA	NA	
723	7										
722	8	End of probe at 8 feet bgs.									Abandoned with hydrated bentonite chips on 3/28/2013
	9										
	10										
	11										
	12										
	13										

▽ Depth to water while drilling
▼ Depth to water after drilling

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP148B
Coordinates: N 1778243.786 E 768598.027		Ground Elevation: 729.86	Page: 1 of 1
Total Depth (feet): 8	Hole Size (inches): 3.25	Driller: Sam Redmond	
Drilling Rig: Geoprobe 66DTR		Drilling Company: GeoServe Inc.	
Date: 3/28/2013	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Jeff Binder

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		SAND (SM), silty, dark Gray (N3), coarse to fine, well graded, some coarse to fine gravel, saturated tar coated, odor (0.4' - 0.6')								47.3 145.1	Sampled 0.0'-0.6' (001) (0842)
729	1	CLAY (CL), silty, olive Gray (5Y 4/1), trace coarse to fine sand, low plasticity, very stiff, moist							2.0	21.4	DT = Dual Tube
728	2			2" DT	1	PUSH	NA	1.7/4	2.25	2.4	Free water observed above ground surface (creek)
727	3										
726	4										
725	5								2.5	1.5	
724	6			2" DT	2	PUSH	NA	3.9/4	2.25	2.0	
									2.75	0.0	
723	7								2.5	0.0	
722	8	End of probe at 8 feet bgs.									Abandoned with hydrated bentonite chips on 3/28/2013
	9										
	10										
	11										
	12										
	13										

Depth to water while drilling

Depth to water after drilling

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP149
Coordinates: N 1778251 E 768720		Ground Elevation: 730.00	Page: 1 of 1
Total Depth (feet): 8	Hole Size (inches): 2.25	Driller: Sam Redmond	
Drilling Rig: Geoprobe 540NT		Drilling Company: GeoServe Inc.	
Date: 4/1/2013	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Jeff Binder

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		SAND (SW), olive Gray (5Y 4/1), coarse to fine, well graded, little silt, loose, saturated								0.0	Location not surveyed; coordinates based on field measurements.
729	1	CLAY (CL), silty, light olive Gray (5Y 6/1), low plasticity, stiff, wet							1.0	0.0	
728	2			2" DT	1	PUSH	NA	1.1/4			Free water observed above ground surface (creek)
727	3										
726	4	stiff to very stiff									
									2.25	0.0	
725	5	wet to moist									DT = Dual Tube
									2.0	0.0	
724	6			2" DT	2	PUSH	NA	2.5/4			
									2.75	0.0	
		No Recovery	NR								
723	7										
722	8	End of probe at 8 feet bgs.									Abandoned with hydrated bentonite chips on 4/1/2013
	9										
	10										
	11										
	12										
	13										

Depth to water while drilling

Depth to water after drilling

MENDOTA SI 2013.GPJ 4/20/15

Drilling Log

Burns & McDonnell SINCE 1898	Project Name: Mendota MGP Site	Project No.: 57618	Boring/Monitoring Well Number: SP150
	Coordinates: N 1778248.242 E 768744.849	Ground Elevation: 730.10	Page: 1 of 1
	Total Depth (feet): 8 / Hole Size (inches): 2.25	Driller: Sam Redmond	
Drilling Rig: Geoprobe 540NT		Drilling Company: GeoServe Inc.	
Date: 4/1/2013	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Jeff Binder

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
730		SAND (SP), olive Gray (5Y 4/1), medium to fine, poorly graded, little fine gravel, loose, saturated								0.0	DT = Dual Tube
729	1	CLAY (CL), silty, light olive Gray (5Y 6/1), low plasticity, very stiff, moist							2.25	0.0	
									2.0	0.0	
728	2	No Recovery	NR	2" DT	1	PUSH	NA	1.7/4			Free water observed above ground surface (creek)
727	3										
726	4										
725	5										
724	6			2" DT	2	PUSH	NA	0.0/4	NA	NA	
723	7										
	8	End of probe at 8 feet bgs.									Abandoned with hydrated bentonite chips on 4/1/2013
	9										
	10										
	11										
	12										
	13										

Depth to water while drilling

Depth to water after drilling

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP151
Coordinates: N 1778245.784 E 768570.075		Ground Elevation: 729.92	Page: 1 of 1
Total Depth (feet): 8	Hole Size (inches): 2.25	Driller: Sam Redmond	
Drilling Rig: Geoprobe 540NT		Drilling Company: GeoServe Inc.	
Date: 4/1/2013	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Jeff Binder

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
		SAND (SW), olive Gray (5Y 4/1), coarse to fine, well graded, trace fine gravel, loose, saturated								0.0 2.8	DT = Dual Tube
729	1	CLAY (CL), silty, light olive Gray (5Y 6/1), some orange mottling, low plasticity, stiff, moist, odor							1.0 1.0	1.1 0.0	
728	2			2" DT	1	PUSH	NA	1.3/4			Free water observed above ground surface (creek)
727	3										
726	4	some orange mottling to no orange mottling, odor to no odor, stiff to very stiff							2.25	0.0	
725	5								2.0	0.0	
724	6	very stiff to stiff		2" DT	2	PUSH	NA	4.0/4	1.75	0.0	
723	7										
722	8								1.5	0.0	
		End of probe at 8 feet bgs.									Abandoned with hydrated bentonite chips on 4/1/2013
	9										
	10										
	11										
	12										
	13										

Depth to water while drilling
Depth to water after drilling

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP152
Coordinates: N 1778244.866 E 768560.454		Ground Elevation: 729.63	Page: 1 of 1
Total Depth (feet): 8	Hole Size (inches): 2.25	Driller: Sam Redmond	
Drilling Rig: Geoprobe 540NT		Drilling Company: GeoServe Inc.	
Date: 4/1/2013	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Jeff Binder

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
729	1	SAND (SW), olive Gray (5Y 4/1), coarse to fine, well graded, little fine gravel, loose, saturated CLAY (CL), silty, light olive Gray (5Y 6/1), low plasticity, stiff, moist							1.0	0.0 0.6 0.0	DT = Dual Tube
728	2			2" DT	1	PUSH	NA	0.7/4			Free water observed above ground surface (creek)
727	3										
726	4	stiff to very stiff									
725	5								2.25 3.0	0.0 0.0	
724	6			2" DT	2	PUSH	NA	2.8/4	2.75	0.0	
723	7										
722	8	End of probe at 8 feet bgs.									Abandoned with hydrated bentonite chips on 4/1/2013
	9										
	10										
	11										
	12										
	13										

Depth to water while drilling
Depth to water after drilling

Drilling Log

Burns & McDonnell
SINCE 1898

Project Name: Mendota MGP Site		Project No.: 57618	Boring/Monitoring Well Number: SP153
Coordinates: N 1778252.086 E 768596.912		Ground Elevation: 729.59	Page: 1 of 1
Total Depth (feet): 8	Hole Size (inches): 2.25	Driller: Sam Redmond	
Drilling Rig: Geoprobe 540NT		Drilling Company: GeoServe Inc.	
Date: 4/1/2013	Logged By: Aaron Christensen	Reviewed by: Eric Hanis	Approved by: Jeff Binder

Elevation (MSL)	Depth (feet bgs)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (tsf)	PID Reading (ppm)	Remarks
729	1	SAND (SM), silty, light olive Gray (5Y 5/2), coarse to fine, well graded, trace fine gravel, loose, saturated, little tar coating								4.7 12.0	Sampled 0.0'-0.7' (001) (1111)
728	2	CLAY (CL), silty, light olive Gray (5Y 6/1), low plasticity, stiff, moist		2" DT	1	PUSH	NA	1.5/4	1.75	8.1	DT = Dual Tube Free water observed above ground surface (creek)
727	3										
726	4										
725	5								1.75 1.75	0.7 0.0	
724	6			2" DT	2	PUSH	NA	3.7/4	1.75	0.0	
723	7								2.0 2.0	0.0 0.0	
722	8	End of probe at 8 feet bgs.									Abandoned with hydrated bentonite chips on 4/1/2013
	9										
	10										
	11										
	12										
	13										

Depth to water while drilling

Depth to water after drilling

MENDOTA SI 2013.GPJ 4/20/15