

**REPORT OF  
REMOVAL ACTIVITIES  
AND SOIL SAMPLING**

**FORMER VERMONT AMERICAN FACILITY  
500 EAST MAIN STREET, LOUISVILLE, KENTUCKY  
AGENCY INTEREST # 51784**

**Submitted to:**

**KENTUCKY DIVISION OF WASTE MANAGEMENT**

**Prepared for:**

**ROBERT BOSCH TOOL CORPORATION  
1800 W. Central Road  
Mt. Prospect, IL 60056**

**Prepared by:**

**MACTEC Engineering & Consulting, Inc.  
2456 Fortune Drive, Suite 100  
Lexington, Kentucky 40509**

**December 20, 2010**

**MACTEC Project No. 6680-08-9635**





engineering and constructing a better tomorrow

December 20, 2010

Mr. Jeff Grow, P.G.  
State Superfund Section  
Superfund Branch  
Division of Waste Management  
Department for Environmental Protection  
200 Fair Oaks Lane  
Frankfort, Kentucky 40601

**Subject: Report of Initial Removal Activities and Soil Sampling  
Former Vermont American Facility  
500 East Main Street, Louisville, Jefferson County, Kentucky  
AI# 51784  
MACTEC Project No. 6680-08-9635**

Dear Mr. Grow:

MACTEC Engineering and Consulting, Inc. (MACTEC) has prepared this report to document removal activities and soil sampling performed in September- October 2010, on behalf of Robert Bosch Tool Corporation (RBTC) at the former Vermont American facility located at 500 East Main Street in Louisville, Kentucky.

If you have any questions concerning this document, please do not hesitate to contact Alison Dunn at 859-566-3729.

Sincerely,

**MACTEC ENGINEERING AND CONSULTING, INC.**

A handwritten signature in blue ink, appearing to read "Alison L. Dunn".

Alison L. Dunn, P.G.  
Principal Hydrogeologist  
[aldunn@mactec.com](mailto:aldunn@mactec.com)

A handwritten signature in blue ink, appearing to read "T. Scott Kelly".

T. Scott Kelly, P.E.  
Senior Engineer  
[tskelly@mactec.com](mailto:tskelly@mactec.com)

cc: John Young, Robert Bosch LLC  
David Luepke, Robert Bosch Tool Corporation  
Paul S. Johnson, Principal/Project Manager, MACTEC

/ald  
Attachments

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## EXECUTIVE SUMMARY

The Former Vermont American facility, located at 500 East Main Street in Louisville, Jefferson County, Kentucky, was sold by Vermont American Corporation (VAC) to 500 Associates, Inc. (the current Owner) in 1987. A portion of the property (referred to as the Jackson Street parcel) was granted managed closure status by the KDWM in early 2004, and managed closure of the balance of the property was subsequently approved in concept by the KDWM. In May 2010, MACTEC, on behalf of Robert Bosch Tool Corporation (RBTC, successor to VAC), submitted a document titled *Management Plan, Former Vermont American Facility, 500 East Main Street, Louisville, Kentucky, Agency Interest #51784 (Management Plan, May 20, 2010)*. Additional clarifications were provided in subsequent letters submitted by MACTEC on July 1, 2010 and September 14, 2010. The proposed plan with clarifications was accepted by the KDWM Superfund Branch on September 23, 2010, pending coordination of waste characterization with the Hazardous Waste Branch of the KDWM.

Between September 27 and December 17, 2010, MACTEC accomplished the removal of waste materials outlined in the *Management Plan*. As part of these removal activities, all surface and near-surface debris potentially requiring handling as hazardous waste was removed and/or staged for removal, including approximately 40 cubic yards of stained concrete (removed on October 14-15, 2010), and five drums of soil, debris and sludges (removed December 17, 2010). Wastewater generated in the process of cleaning and sampling was discharged to the sewer after approval by MSD, and is no longer present onsite.

A total of 119 subsurface samples of soil and fill materials were collected in the three previously identified soil management areas, and analyzed for the soil constituents of concern (COCs) at the site: chromium, hexavalent chromium, and lead. Based on the results, three soil areas have been identified as being impacted by plating wastes and containing chromium above the United States Environmental Protection Agency (USEPA) Region 9 2002 Preliminary Remediation Goal (PRG) for residential soil. It is recommended that, for future excavation purposes, the soil in these areas be handled as listed hazardous waste (F007), in accordance with previous KDWM directives.

Of the 119 soil samples collected, the 39 samples with the highest concentrations were also extracted using the Toxicity Characteristic Leaching Procedure (TCLP) and analyzed for, and the extract analyzed for chromium and lead. Only two of the soil samples analyzed (both from boring SB-8) exceeded the TCLP limits, and only for chromium. Soil Boring SB-8 is located within one of the designated areas where soil excavated in the future will be handled as a listed hazardous waste. The other soil and materials tested during the removal activities were below the TCLP limits for metals. Therefore, no soil or materials outside the stippled areas shown on Figure 9 would be expected to be handled as characteristically hazardous waste, pending concurrence of the KDWM Hazardous Waste Branch.

A significant amount of pre-existing concrete debris in the courtyard area (approximately 100 tons) had to be moved in order to allow soil sampling in the former plating areas. In addition, more concrete debris (approximately 60 tons) was generated during floor removal inside the Main Street building. Consistent with the *Management Plan*, concrete debris that did not have visible staining typical of plating waste was stockpiled and left onsite. Two composite samples were collected from the two stockpiles of concrete debris, and analyzed for TCLP metals. The results were well below TCLP limits for both samples. Therefore, it is recommended that this debris be handled and removed, if necessary, with other demolition debris generated at the site.

In the process of clearing, cleaning, floor removal and soil sampling, several subsurface structures and fill areas were uncovered at various locations on the site. An initial assessment was made of the material in these areas, and specific recommendations for handling the materials in these areas are provided in Section 7.0.

## **1.0 INTRODUCTION**

### **1.1 BACKGROUND**

The Former Vermont American facility, located at 500 East Main Street in Louisville, Jefferson County, Kentucky, was sold by Vermont American Corporation (VAC) to 500 Associates, Inc. (the current Owner) in 1987. Investigations performed after the property transfer revealed evidence of potential contamination, and the site has been the object of litigation between the parties as well as administrative action by the Energy and Environment Cabinet (Cabinet, formerly the Environmental and Public Protection Cabinet and the Natural Resources and Environmental Protection Cabinet) since that time. The property is currently undergoing appraisal, prior to the anticipated acquisition of all or part of the property by the Kentucky Transportation Cabinet (KYTC).

The investigations performed since 1987 have been summarized in multiple reports and documents submitted to the Superfund Branch of the Kentucky Division of Waste Management (KDWM, a Division within the Cabinet) by consultants for the Owner, as well as documents prepared by the KDWM. A portion of the property (referred to as the Jackson Street parcel) was granted managed closure status by the KDWM in early 2004, and managed closure of the balance of the property was subsequently approved in concept by the KDWM. Under managed closure, contaminant concentrations exceeding residential screening levels may be managed in place to minimize the risk of exposure to human and/or ecological receptors.

On March 11, 2008, a Secretary's Final Order was issued requiring VAC to characterize the extent of the releases on the site, and remedy the releases by complying with a remedial proposal submitted to and approved by the KDWM. At that time, Robert Bosch Tool Corporation (RBTC, successor to VAC) retained MACTEC Engineering and Consulting, Inc. (MACTEC) to develop a plan for complying with the order.

After submittal of several draft Management Plans at the request of the KDWM, MACTEC most recently submitted a *Management Plan* (full title: *Management Plan, Former Vermont American Facility, 500 East Main Street, Louisville, Kentucky, Agency Interest #51784*) dated May 20, 2010.

In subsequent correspondence between Jeff Grow of the KDWM and Alison Dunn of MACTEC, the KDWM indicated that the May 2010 *Management Plan* was generally acceptable as an interim plan. Additional clarifications and an updated schedule were provided in the following letters prepared by MACTEC: *Implementation Schedule and Soil Sampling Plan* (July 1, 2010) and *Work Plan for Initial Removal Activities* (September 14, 2010). The latter was accepted by the KDWM in a letter from Jeff Grow to Alison Dunn dated September 23, 2010, pending coordination of waste characterization with the Hazardous Waste Branch of the KDWM.

MACTEC reviewed the overall waste characterization approach for the project with personnel from the Hazardous Waste Branch (Cliff Hall and Bart Shaffer) in conversations immediately prior to and during execution of the field work, including telephone communications and an in-person meeting in Frankfort on September 29, 2010. Some waste characterization decisions were left pending the additional information to be provided in this report.

## 1.2 OBJECTIVES

The layout of the former Vermont American property located at 500 East Main Street is shown on the map in **Figure 1**. It is anticipated that the KYTC will acquire all or part of the property within the next year, and that the East Shop and all or part of the Main Street Building will eventually be demolished to make room for expansion of Interstate 65.

In prior correspondence between the KDWM and the consultant for the current owner (500 Associates, Inc.), it was established that soil underlying the former plating areas on the property, if excavated, would require handling as listed hazardous waste. Therefore, the former plater areas were established in the *Management Plan* as “soil management areas.” The approximate locations of these areas are shown on **Figure 1**. The East Shop, a building running along the eastern boundary of the property, was initially proposed to be a management area. At the request of the KDWM (based on lack of evidence of contamination beneath this portion of the property, the East Shop area was removed in the May 2010 *Management Plan*.

The objectives of the work performed on behalf of RBTC at the site in September-November 2010 were the following:

- To remove surface or near-surface debris that could require handling as hazardous waste, so that later demolition of the East Shop and/or Main Street Building could proceed without special handling of this material.
- To generate sufficient information to support waste characterization for the subsurface materials left in place, and specifically the soil in the management areas, should they require excavation at a later date.

### **1.3 SCOPE AND REPORT ORGANIZATION**

This report has been prepared to document the initial removal activities and soil sampling performed in accordance with the *Work Plan for Initial Removal Activities* dated September 14, 2010, including the revised Soil Sampling Plan attached to that Work Plan. The organization of the report is intended to provide an account of the field activities and results of the sampling.

Section 2.0 describes property clearing and cleaning, involving removal of over-grown vegetation and concrete debris from the investigation areas in the open courtyard, and floor/trench cleaning within the Main Street and East Shop Buildings. The purpose of these activities was to support the soil sampling program and the eventual demolition of the East Shop and Main Street Buildings.

Section 3.0 describes removal of a section of concrete floor from the area of the former East Main Plater within the Main Street Building, removal of contaminated debris for disposal off-site and backfilling of the removal area.

Section 4.0 describes the field survey of former plater and soil boring locations and installation of soil borings in the open courtyard and within the Main Street Building in the locations of the former plating lines, followed by soil sample collection for analysis.

Section 5.0 of this report focuses on the analytical results from the Soil Sampling Program conducted in the three soil management areas. The primary purpose of the Soil Sampling Program was to map the occurrence and concentrations of the constituents of concern (COCs) in the areas of the former platers, both horizontally and vertically, to provide the basis for a No Longer Contained-In Determination for review by the KDWM Hazardous Waste Branch.

Section 6.0 of the report summarizes the waste staging, characterization and disposal activities performed during and following completion of the field activities.

Section 7.0 summarizes the removal activities completed to date, and recommendations for waste materials handling in the event of future removals.

## **2.0 GENERAL PROPERTY CONDITION AND CLEARING/CLEANING ACTIVITIES**

MACTEC was first provided access to the property by the Owner, at the request of the KYTC, in August 2008, and inspected the site on August 23 and 25, prior to initiating field work. Except for a brief period in the late 1980s or early 1990s when the Main Street Building was used as a bonded warehouse, the property had been vacant since it was purchased by 500 Associates, Inc. in 1987. Buildings in the center of the property were demolished by the Owner in 1990. Photographs of the property condition and the clearing/cleaning, as well as the other field activities conducted by MACTEC, are included in **Appendix A**.

### **2.1 GENERAL PROPERTY CONDITION**

The open courtyard area was found to be over-grown with vegetation and littered with demolition debris and miscellaneous trash. A short section of chain-link fencing in the southwest corner of the courtyard was found broken-down or removed, allowing uncontrolled access to the site. The East Shop and Main Street Buildings were also in poor condition on the outside as both buildings had broken and deteriorating exterior doors, broken windows and deteriorating brick walls. Upon entering the East Shop, a large hole in the roof was discovered resulting from collapse of water damaged/rotten roof joists which had allowed precipitation, decaying roof debris and animals to enter the building. The floor of the East Shop was found to be littered with roof debris, trash and metal debris including piping and light fixtures, and the former process trenches located within the East Shop were filled varying amounts of building debris and trash, and with water and sludge in some of the deeper sections. Signs of transient human habitation were found both in the East Shop and in the Jackson Street building.

Eight drums labeled "Non-Hazardous Waste" were present in the courtyard, and were presumed to contain investigation derived waste generated during previous investigations by the Owner's consultants. The drums were found to be in poor condition, rusted and bulging. In addition, one drum was found inside the Main Street Building. Although labeled "purge water," the drum was found to be empty. These drums were left undisturbed during the field activities conducted by MACTEC.

## **2.2 OUTDOOR CLEARING AND STAGING OF DEBRIS**

On September 27 through 30, 2010, AST Environmental, Inc. (AST), under subcontract to MACTEC, cleared over-grown vegetation from the courtyard using chainsaws and a skid-steer equipped with a bucket. Vegetation was cut and placed on the south side of the courtyard parallel to the fence-line and the damaged section of fencing was mended with new chain-link fence (although the section was subsequently cut again by trespassers). The wide hanging door to the East Shop from the courtyard was removed and replaced with a wooden double-door that locked from the inside, in order to provide additional site security. Photographs of the courtyard clearing activities are included in **Appendix A**.

The purpose of clearing the courtyard was two-fold: to provide access for heavy equipment into work areas inside the Main Street Building and the East Shop, and to facilitate access for the surveyors and drilling equipment to implement the planned soil sampling program in the soil management areas in the courtyard. In the process of clearing the north-northeast portion of the courtyard, in the general vicinity of the two outdoor soil management areas, the surface and shallow subsurface was found to be littered with slabs of concrete of varying sizes, some of them very large. The debris was presumably generated during demolition of the buildings in the center of the property in 1990. Due to the abundance of the debris, it would not have been possible to advance soil borings in the planned locations within the soil management areas. Therefore, the near-surface concrete debris was removed from the soil sampling areas, and staged on plastic sheeting in the southern portion of the courtyard. Photographs of the concrete debris removal and staging activities in the courtyard area are included in **Appendix A**.

Also during performance of the clearing activities, a subsurface concrete structure was found in the general vicinity of the former Circular Saw Plater (**Figure 2**). The structure was found to be a concrete tank approximately nine feet deep (below current grade) and segmented into nine chambers separated by concrete walls. Review of an historic floor plan for the facility made available by Jeff Grow of the KDWM (**Appendix B**) suggested that this tank was a remnant of a wastewater pre-treatment system that had been retrofitted in the 1980s into a former plating area. The tank was uncovered sufficiently to evaluate its dimensions and contents. The contents were found to consist of demolition debris, primarily a matrix of fine crushed brick, stone and concrete, with some larger concrete debris mixed into the matrix, especially near the surface. This material



was carefully backfilled into the area of the tank, taking care to keep the surrounding soil from being commingled into the tank contents. Photographs of the tank are included in **Appendix A**.

On September 29, 2010, MACTEC (Alison Dunn and Kathleen Regan) and Robert Bosch, LLC, parent company of RBTC (John Young, by telephone) met with representatives of the KDWM Superfund Branch (Jeff Grow) and Hazardous Waste Branch (Bart Schaffer) to review these findings and the handling of the debris encountered. Following additional discussions by telephone the next day, the decision was made to focus the short-term removal activities on surface and near-surface materials, and to gather additional information concerning subsurface materials, as needed, to guide decision-making in the event that these materials are removed at a later date.

### **2.3 INDOOR CLEARING AND CLEANING ACTIVITIES**

Clearing and cleaning activities inside the East Shop were conducted from September 27 to September 30, 2010. Inside the East Shop, AST cleared debris from the main traffic areas, and large debris that had fallen into the trenches, and set this debris to the side. AST then removed smaller debris and (where present) liquid and sludge from the former process trenches and sumps, using hand scrapers, shovels and drum (shop) vacuums, as appropriate. After removal of all contents, the interior of the trenches and sumps were pressure washed as needed, and the wash water removed by vacuum.

A sump located at the north end of the East Shop, approximately 10 feet south of the overhead door leading into the Main Street Building, is identified as East Shop Sump on **Figure 2**. The sump is approximately 2 feet square and 4 feet deep. This sump was found to contain approximately three feet of standing water. After removal of the water, black sludge and wood debris was found in the bottom of the sump. Upon removal of the sludge material, a plywood false bottom was uncovered in the bottom of the sump and appeared to be underlain by rough concrete. The sludge material removed from the sump had a petroleum odor. After cleaning, a sample of woody debris and rough concrete-like material remaining in the East Shop Sump was collected for characterization analysis. The analytical results for the sample are discussed in detail in Section 6.3. Photographs of cleaning the sump are included in **Appendix A**.

Sludge and debris removed from the former process trenches and sumps was containerized in two open-top, 55-gallon steel drums and labeled. Liquids removed from the former process trenches and sumps, along with wash waters generated from cleaning the trenches and sumps, were containerized in a 210-gallon polyethylene tank. The characterization and handling of the drummed wastes and wastewater are described in Section 6.0.

Upon completion of the trench cleaning activities, all the trenches and sumps in the East Shop were dry. On the evening of October 13, 2010, a significant rain event occurred and the following morning water was found in the floor trenches and sumps in the East Shop, presumably from rainfall entering through the holes in the roof of the building. Water was observed in the East Shop Sump, the 5- foot by 4-foot sump in the center of the East Shop, and in the floor trench in the center of the East Shop south of the center sump. Since the sumps and trenches had already been cleaned, the newly accumulated rainwater was left in place.

In the Main Street Building, concrete debris was already present in localized areas of the former East Main Plater area. That debris was apparently generated during the 1997 KDWM site investigation in which holes were broken in the concrete floor and former process piping areas and stained concrete were exposed. As part of the clearing activities, AST cleared the concrete debris from this area, and staged the debris temporarily on plastic sheeting at the east end of the Main Street Building, taking care to segregate the visibly stained concrete from unstained concrete. Upon clearing of the concrete, AST used a floor sweeper to clean the concrete floor in the East Main Plater area in preparation for the inside soil boring activities.

### 3.0 FLOOR REMOVAL (EAST MAIN PLATER AREA)

The soil sampling program, described in Section 4.0 of this report, was conducted prior to removal of the floor in the East Main Plater area. In addition, AST (under subcontract to MACTEC) abandoned two existing monitoring wells (W-2 and W-3) located inside the building on October 5-6, 2010. Additional details concerning the well abandonment are provided under separate cover in a *Groundwater Monitoring Report* for the site.

From October 11 through October 14, 2010, MACTEC personnel observed and documented removal of a section of concrete floor, inside the Main Street Building in the area of the former East Main Plater, by AST. Photographs documenting the floor removal activities, including concrete debris segregation and backfilling activities are included in **Appendix A**.

During previous concrete coring activities performed on October 6-7, in preparation for installation of soil borings SB-28, SB-34 and SB-35, a north-south trending strip of concrete measuring three feet in width and 30 feet in length was discovered, and this section was found to be greater than 18 inches in thickness. This strip, which ran between brick support columns on both the north and south walls of the Main Street Building, was thought to be a structural element such as a grade beam, and therefore was not removed. **Figure 2** illustrates the location of the potential grade beam, which bisects the soil management area associated with the East Main Plater into two (east and west) floor sections.

A walk-behind water-cooled concrete saw, equipped with a 28-inch diameter diamond blade, was first used to cut the floor along the edge of the section to be removed. Two sections of concrete floor measuring 22.5 feet in length (east-west) and 30 feet in width (north-south) were cut out on either side of the grade beam. The floor in these sections was found to have an average thickness of about 10 inches, composed of two separate layers.

Following completion of saw-cutting activities, AST utilized a mini-excavator equipped with a hydraulic jackhammer to break the concrete into manageable pieces for removal from the building. Concrete was removed from the area proceeding west to east, beginning with the first of two layers

(approximately 6 inches) making up the total 10-inch thickness. Concrete debris was transported out of the building for staging in the courtyard by a skid steer with a front-loading bucket.

During removal of the concrete in the northwest section of the soil management area, bright yellow, green and purple staining was observed along existing fractures in the upper layer of concrete. Stained concrete was segregated and placed in 20-cubic yard roll-off boxes staged in the courtyard outside the building for removal and disposal as listed hazardous waste material. Concrete that was not visibly stained was staged on plastic sheeting in the courtyard adjacent to the pile of staged concrete from the outdoor soil management areas. Also, the concrete from the 1997 investigation which was temporarily staged on plastic sheeting at the east end of the East Shop was moved to the staging area in the courtyard. The visibly-stained concrete was placed in a roll-off box while the unstained concrete was staged in the pile with the other concrete floor debris removed from the East Main Plater area.

Upon removal of the lower layer of concrete, two former process piping corridors were uncovered, one immediately west of the grade beam approximately 20 feet east of the west boundary of the removal area, and one approximately 10 feet east of the grade beam. The former process piping encountered to the west of the grade beam was partially visible through holes in the concrete floor created during the 1997 site investigation. During concrete coring activities in preparation for advancement of soil boring SB-28, one of the former process pipes was cut and bright purple liquid (plating waste) was observed issuing from the severed pipe in the sidewall of the concrete corehole, and the planned soil boring was therefore relocated.

After removal of the concrete in the west process piping area, the remaining purple liquid was drained from the former process piping, and solidified in a bucket with absorbent material, for disposal with the concrete debris as hazardous waste. The former process piping was cut into three foot long sections and also placed in the roll-off box for offsite disposal. Bright yellow, green and purple staining was also observed on the bottom of the concrete exposed at the north end of the piping corridor approximately two feet from the north wall of the Main Street Building. The stained concrete in this location could not be removed due to the close proximity to the north wall. No evidence could be found at this location that the former process piping continued beneath the concrete to the north of the removal area. At the south boundary however, former process piping was observed to continue beyond the removal area beneath the southern concrete cut. A section of

severed piping (assumed to be former process piping based on alignment and location) approximately 5 feet in length was visible through a hole in the concrete floor immediately north of the south wall of the Main Street Building created during the 1997 site investigation. Visual investigation of this area uncovered a former sanitary sewer pipe (3.5-inch diameter cast iron) and a former water line (1.5-inch copper) in addition to the former process piping. It was determined that the former process pipe and the former sanitary sewer pipe extended to a 90 degree elbow at the south wall and day-lighted through the floor on the north side of the south wall ending in a stub. No further evidence of the water line could be found south of the removal area. No staining on the soil or piping was observed in the location where the former process piping exited the removal area. Any visibly- stained soil immediately underlying the process piping area was also removed and placed in the roll-off box for offsite disposal with the concrete debris as hazardous waste.

The section of piping encountered beneath the lower layer of concrete to the east of the grade beam was discovered to be filled with concrete and no staining was observed on the soil, piping or lower concrete in this area. Also in the section of the floor removal area east of the grade beam, approximately 10, 15 and 20 feet north of the south concrete cut, three linear bodies of concrete and steel in excess of 18 inches thick, approximately one to three feet in width and 14.5 to 22.5 feet in length oriented east-west were encountered beneath the upper layer of concrete floor. These features were determined to be historical structural elements possibly related to the building's former usage. Due to the thickness of these structures and their steel reinforcement, removal was not possible or practical at this time and they were therefore left in place. There was no evidence of staining from plating wastes on the concrete left in place.

During concrete coring activities in preparation for advancement of soil boring SB-27 in the northeast corner of the removal area, pea gravel saturated with water was encountered immediately beneath the concrete floor. Advancement of SB-27 confirmed that the saturated pea gravel extended to a depth of 6 feet bgs and ended at what was interpreted to be a concrete slab (based on drilling refusal and small concrete fragments observed in the sampler). Further investigation of this area during floor removal revealed a rectangular outline approximately 8 feet wide and 13 feet long, framed with steel I-beams. This information, in conjunction with subsurface observations and the historical drawing, indicated that a concrete sump or similar structure is present at this location, shown as the East Main Sump on **Figure 2**. Based on the characteristics of this feature, it was determined that removal would not be practical at this time, and therefore the concrete floor in

the area of SB-27 was left in place. However, there was no evidence of stained concrete in this area.

Upon final completion of concrete and stained soil removal, AST graded the surface of the exposed soil and installed a permeable woven geo-textile fabric over the soil to distinguish the area visually in case of later removal. AST then placed approximately 50 tons of dense grade aggregate (DGA) into the floor removal areas, in a layer approximately 6 inches thick and ramped up at the edges to the level of the existing concrete floor to facilitate ease of travel for equipment during future demolition activities. A copy of the DGA order/delivery weight ticket is provided in **Appendix F4**.

## **4.0 SOIL SAMPLING PROGRAM**

### **4.1 PLATER LOCATION AND SURVEYING**

The locations of the soil management areas and historic sampling points, as presented in the *Management Plan* (MACTEC, May 20, 2010) and the *Work Plan* (MACTEC, September 14, 2010) were based on maps presented in previous consultants' reports, and on a sketch map associated with a KDWM memo documenting investigations performed in early 1997. During clearing of vegetation and concrete debris in the outdoor courtyard, AST uncovered a below-grade brick wall that was visible in photographs taken by the KDWM during the 1997 investigations. Due to an apparent discrepancy in the location of this wall, MACTEC requested and KDWM provided (on September 29, 2010) the historic site plan used to guide the 1997 investigations. The plan was of poor quality, and the title and date were not legible (a copy is reproduced in **Appendix B**). However, it was possible to match this historic plan to the outlines of the buildings on the most current KYTC plan, and to make out the locations of the former platers (as well as the retrofitted wastewater treatment plant, hand-drawn onto the plan by an unknown party).

Based on this plan and the subsurface features encountered during site clearing, MACTEC adjusted the soil boring locations to better match up with the likely pre-demolition locations of the platers. MACTEC submitted a revised map of the proposed soil boring locations to the KDWM by email on September 30, 2010. The revised drawing was approved by Jeff Grow of the KDWM by email the same day. The final soil boring locations, shown on **Figure 2**, were in the same locations as the map approved on September 30, except where they had to be adjusted due to the presence of field obstructions.

On September 29 and October 1, 2010, Endris Engineering, PSC (Endris), under subcontract to MACTEC, was on-site to perform surveying services. On September 29, 2010, Endris surveyed the top-of-casing and ground surface elevations for the four existing groundwater monitoring wells, as well as the below-grade brick wall uncovered in the vicinity of Plater #3. In addition, Endris marked the approximate edge of the future right-of-way (ROW) for the expansion of Interstate 65, based on KYTC plans and control point data provided by QK4 (design consultant to KYTC) at the

request of John Sacksteder of Community Transportation Solutions (General Engineering Consultant, Louisville - Southern Indiana Ohio River Bridges Project) on September 14, 2010.

Endris returned to the site on October 1, 2010, after approval of the revised boring map by the KDWM, to mark the approximate locations of the former platers in the soil management areas, as well as the 35 planned soil boring locations. Twenty-five soil boring locations were marked in the open courtyard area, and ten soil boring locations were marked inside the Main Street Building. Photographs of the surveyed plater and soil boring locations are included in **Appendix A**.

## 4.2 FIELD SAMPLING METHODS

Soil sampling activities were conducted from October 4 through October 7, 2010. The Soil Sampling Program focused on three areas of the property formerly occupied by plating lines and designated as soil management areas in the *Management Plan*. These areas and the approximate locations of the former platers (the Circular Saw Plater, Plater #2, Plater #3 and the East Main Plater) are shown on **Figure 2**. A total of 36 soil borings were installed at the site during this investigation, including 23 borings to a total depth of 10 feet below ground surface (bgs), 12 borings to a total depth of 20 feet bgs, and one boring that encountered a subsurface sump and refusal at 6 feet bgs. A total of 25 borings (SB-1 to SB-25) were advanced in the two outdoor soil management areas, including eight 20-foot borings and seventeen 10-foot borings. A total of 11 borings (SB-26 to SB-36) were advanced inside, in the East Main Plater area, including four 20-foot borings, six 10-foot borings, and one 6-foot boring.

Three soil samples were collected for laboratory analysis from the 10-foot deep borings, and four from the 20-foot deep borings. The intervals to be sampled in each boring (0-2 feet, 2-5 feet, 5-10 feet, and 10-20 feet in the deeper borings) were pre-selected for consistency with sampling intervals used by the consultant for the KYTC on other properties in the future Interstate ROW. Due to the presence of the concrete floor in the Main Street Building that was approximately 10 inches (0.8 feet) thick in the area of the former East Main Plater, the uppermost interval sampled in this area (reported as 0-2 feet) was actually from 0.8 to 2 feet bgs.

At the locations designated for soil borings inside the Main Street Building, a coring machine was used to first advance a six-inch corehole through the concrete floor. To prevent cross-



contamination between the shallow soils immediately below the floor and deeper soils, the shallow soils were first excavated down to 2 feet using a post-hole digger, decontaminated between borings. The hand-dug materials were placed on plastic, and representative aliquots from these materials were composited into a sample representing the uppermost interval for each boring location. A clean 4-inch polyvinyl chloride (PVC) sleeve was then placed into the hand-dug hole, and deeper soil samples (below 2 feet bgs) were collected through the sleeve using direct push technology (DPT) methods.

The soil borings were advanced using a Geoprobe 7720DT track-mounted, direct push drilling rig equipped with 4-foot long dual-tube sampler and acetate liners, operated by AST. Upon recovery of each sample, a MACTEC geologist described the soil on a boring log form, recording physical characteristics of the soil including color, grain-size, consistency and moisture. Soil boring logs are provided in **Appendix C**.

In each of the pre-designated sampling intervals, several representative aliquots were removed from the acetate sample liner and placed into a clean stainless steel mixing bowl by the field geologist wearing disposable nitrile sampling gloves and using a clean plastic trowel. The soil was then thoroughly mixed and transferred to clean, laboratory provided, 9-ounce soil jars with Teflon-lined lids, and stored in a cooler with ice pending shipment to the analytical laboratory.

All sampling equipment was thoroughly decontaminated using an Alconox and potable water solution and a distilled water rinse between each sample collected. As specified in the soil sampling plan, one equipment blank sample per day, consisting of distilled water poured over cleaned sampling equipment, was collected in addition to five duplicate soil samples and 4 matrix spike/matrix spike duplicate (MS/MSD) soil samples. The locations and intervals from which the duplicate and MS/MSD soil samples were to be collected were not pre-determined. These locations and intervals were chosen by the field geologist at the time of sampling based on visual characteristics observed in the soil samples as well as with the intent to generally provide equal field quality control (QC) coverage to each area sampled with respect to location and depth interval. Photographs of the soil boring advancement and soil sampling activities are included in **Appendix A**.

### **4.3 GENERAL DESCRIPTION OF SUBSURFACE MATERIALS**

A total of 36 soil borings (SB-1 through SB-36), including 25 outside and 11 inside, were advanced at the site, at locations shown on the map in **Figure 2**.

Subsurface soils observed during advancement of soil borings SB-1 through SB-25, located in the courtyard surrounding the former Circular Saw Plater, Plater #2 and Plater #3, generally consisted of loose, silty sand and sandy silt with concrete and brick fragments (demo debris/fill material) overlying apparently native soils consisting of silty/sandy clay above fine to medium-grained sand. An average of one to two feet of fill material was observed in soil borings SB-1 through SB-25. However, fill materials were observed all the way to the boring termination depth of 10 feet in soil borings SB-22 and SB-23, on the western edge of the sampled areas.

The physical characteristics and general stratigraphic sequence of subsurface soils observed during advancement of soil borings SB-26 through SB-36 (located inside the Main Street Building in the area of the East Main Plater) correlated closely with soil borings SB-1 through SB-25 to the maximum observed depth of 20 feet bgs. However, the soil in the 0.8-2.0 feet bgs interval in the Main Street Building (immediately below the base of the concrete floor) was a very dark brown to black silty sand fill material, with some sparse brick and steel fragments.

Native soils below the fill, both outside and inside the building, were found to consist of yellowish-brown silty/sandy clay extending to a depth of seven to eight feet bgs, ending at a sharp contact with yellowish-brown, fine to medium-grained sand. The silty/sandy clay above the contact with the underlying sand unit is overall medium stiff, dry and brittle nearest ground surface, and appeared to exhibit an increase in moisture content with depth. In some borings, a gradual transition from silty to more sandy clay and/or silt was observed in the shallow silty clay interval, with very moist, conditions commonly noted immediately above the contact with the underlying sand unit. The underlying sand unit consisted of yellowish-brown to brown, fine to medium-grained sand with trace fine gravels, consistently moist, extending to the maximum observed depth of 20 feet bgs. Sporadic, thin, interbedded silt and/or silty clay lenses were observed in the interval from 16 to 20 feet bgs and were frequently noted to be very moist to wet. Saturated soil conditions or groundwater were not observed in any of the borings installed in the courtyard area.

## **5.0 SOIL ANALYTICAL RESULTS**

Between October 4 and October 7, 2010, a total of 119 soil samples (plus field quality control samples) were collected at the site. The soil samples were shipped under chain of custody to ESC Lab Sciences (ESC) in Mt. Juliet, Tennessee for analysis. All of the samples were analyzed for the COCs in soil at the site (chromium, hexavalent chromium and lead), as total metals. In addition, after review of the total metals results, selected samples were extracted following the Resource Conservation and Recovery Act (RCRA) Toxicity Characteristic Leachate Procedure (TCLP), and the extracts were analyzed for chromium and lead. A copy of the laboratory analytical report and chain of custody form for the soil samples soil is provided in **Appendix D**. The analytical results for the total metals and the TCLP metals analyses are summarized in **Tables 1 and 2**, respectively, and are illustrated graphically on the maps in **Figures 3 through 8**. Additional details and results of the analyses are discussed below.

### **5.1 QUALITY CONTROL SAMPLES**

Quality control samples consisting of field duplicate and equipment rinsate blanks were collected and submitted for laboratory analysis as part of the soil sampling program. In addition, MACTEC requested that the laboratory perform matrix spike and matrix spike duplicate analyses on four of the soil samples collected and submitted for analysis.

A total of five field duplicate samples, identified as DUP-1 through DUP-5 (as shown on **Table 1**), were collected and submitted for chromium, hexavalent chromium, and lead analysis. The field duplicate sample is intended to be a split of the same material as the original sample, and comparison of the results from field duplicate samples yields information on the precision of the analysis relative to homogeneity of the material sampled as well as sample handling, shipping, storage, preparation, and analysis. Duplicate sampling is also used to identify possible field variations. DUP-1 through DUP-5 were duplicates of samples SB-10 10-20 FT, SB-15 2-5 FT, SB-22 5-10 FT, SB-26 2-5 FT, and SB-33 0-2 FT, respectively. Relative percent difference (%RPD) between the two sample results is often used as a quantitative indicator of quality control for repeated measurements where the outcome is expected to be the same. The %RPD of two values can be calculated by dividing the absolute difference of the two values by the average value

of the same two values and multiplying by 100. A zero %RPD is optimal, and the higher the percent value, the lower the precision of the analysis. The %RPD for chromium in the five duplicate samples ranged from 33.3% in DUP-2 to 106.7% in DUP-1. The %RPD for hexavalent chromium in duplicate samples DUP-3 and DUP-4 was 0%. The %RPD for hexavalent chromium in the other duplicate samples ranged from 10.2% in DUP-5 to 57.4% in DUP-1. The %RPD for lead in the five duplicate samples ranged from 9.52% in DUP-4 to 70% in DUP-3. In this case, the differences between duplicate sample results are thought to represent primarily the heterogeneity in the material sampled at each location.

A total of four equipment rinsate blanks (one per each day of soil sampling), identified as EB-1 through EB-4, were collected and submitted for chromium and lead analysis. Hexavalent chromium analysis was not performed on the equipment blanks due to the short holding time for this analysis in water. The equipment rinsate blank samples were collected by pouring laboratory-supplied deionized water over cleaned sampling equipment including stainless steel mixing bowls and a plastic trowel. The rinsate blanks are analyzed to show that field decontamination procedures are sufficient, and that no cross-contamination occurred. Neither chromium nor lead was detected above laboratory reporting limits in any of the four equipment rinsate blank samples.

Matrix spike/matrix spike duplicate (MS/MSD) samples are two aliquots of an environmental sample that are spiked with known concentrations of target analytes, in this case chromium, hexavalent chromium, and lead. The percent recovery of the target analytes has statistical control limits indicating whether the analytical process is "in control." If any recoveries are outside the method control limits, the sample that was selected for MS/MSD analysis is qualified in the laboratory report. MACTEC indicated on the laboratory chain of custody forms four soil samples, SB-16 2-5 FT, SB-23 5-10 FT, SB-30 2-5 FT, and SB-35 10-20 FT, for MS/MSD analysis. Sample SB-16 2-5 FT was flagged with "J3" and "V" for chromium and lead, meaning these analytes in the MS/MSD sample were outside of established criteria. The "J3" flag indicates the associated quality control batch was outside of the established quality control range for precision and the "V" flag indicates the sample concentration was too high to evaluate accurate spike recoveries. Sample SB-23 5-10 FT was flagged with "J3" and "J6" for chromium and "V" for lead. The "J6" flag indicates the sample matrix interfered with the ability to make an accurate determination and that the spike value is low. No qualifiers were reported by the laboratory for MS/MSD samples SB-30 2-5 FT and SB-35 10-20 FT. The relative low precision denoted by

results for some of the MS/MSD samples again is considered to be related to the heterogeneity of the material sampled (consisting of both native soils and demo/fill materials), as well as the wide range in concentrations for the COC metals analyzed.

## **5.2 TOTAL METALS RESULTS**

Soil samples were analyzed for total chromium by United States Environmental Protection Agency (USEPA) Method 6010B, hexavalent chromium by USEPA Method 3060/7196A, and total lead by USEPA Method 6010B. Analytical results are summarized in **Table 1**, where they are compared to the USEPA Region 9 Industrial and Residential Preliminary Remediation Goals of 2002 (PRGs) for each of the COCs.

### **5.2.1. Chromium**

Chromium was detected at concentrations above the laboratory report detection limit (RDL) of 0.50 milligrams per kilogram (mg/kg) in all of the soil samples submitted for analysis. The concentration of chromium in soil samples SB-1 5-10 (360 mg/kg), SB-13 2-5 (330 mg/kg), SB-15 0-2 (240 mg/kg), SB-20 2-5 (390 mg/kg) and SB-29 0.8-2 (310 mg/kg) exceeded the residential PRG of 210 mg/kg.

The concentration of chromium in soil samples SB-8 0-2 (4000 mg/kg), SB-8 2-5 (1100 mg/kg), SB-8 5-10 (830 mg/kg), SB-16 0-2 (990 mg/kg), SB-16 2-5 (480 mg/kg), SB-17 0-2 (470 mg/kg), SB-20 0-2 (580 mg/kg), SB-28 0.8-2 (570 mg/kg) and SB-32 0.8-2 (540 mg/kg) exceeded the industrial PRG of 450 mg/kg. **Figure 3** illustrates the chromium soil analytical results for the inside borings associated with the East Main Plater. **Figure 6** illustrates the chromium soil analytical results for the outside borings associated with Platers #2 and #3 and the Circular Saw Plater in the courtyard area.

### **5.2.2. Hexavalent Chromium**

Hexavalent chromium was not detected at concentrations above the laboratory report detection limit (RDL) of 2.0 mg/kg in 43 of the 132 total samples submitted for analysis. The concentration of hexavalent chromium in soil samples SB-1 2-5 (72 mg/kg), SB-1 5-10 (< 50 mg/kg), SB-2 5-10

(38 mg/kg), SB-13 2-5 (61 mg/kg), SB-19 2-5 (31 mg/kg), SB-25 2-5 (31 mg/kg), SB-28 0.8-2 (52 mg/kg), and SB-28 2-5 (61 mg/kg) exceeded the residential PRG of 30 mg/kg.

The concentration of hexavalent chromium in soil samples SB-8 0-2 (540 mg/kg), SB-8 2-5 (270 mg/kg), SB-8 5-10 (180 mg/kg), SB-14 2-5 (87 mg/kg), SB-28 5-10 (120 mg/kg), SB-29 0.8-2 (140 mg/kg) and SB-29 2-5 (150 mg/kg) exceeded the industrial PRG of 64 mg/kg. **Figure 4** illustrates the hexavalent chromium soil analytical results for the inside borings associated with the East Main Plater. **Figure 7** illustrates the chromium soil analytical results for the outside borings associated with Platers #2 and #3 and the Circular Saw Plater in the courtyard area.

### **5.2.3. Lead**

Lead was detected at concentrations above the laboratory report detection limit (RDL) of 0.25 mg/kg in all of the soil samples submitted for analysis. The concentration of lead in soil samples SB-3 2-5 (500 mg/kg), SB-22 2-5 (450 mg/kg), SB-22 5-10 (540 mg/kg), and SB-23 2-5 (420 mg/kg) exceeded the residential PRG of 400 mg/kg.

The concentration of lead in soil sample SB-32 0.8-2 (2900 mg/kg) exceeded the industrial PRG of 750 mg/kg. **Figure 5** illustrates the lead soil analytical results for the inside borings associated with the East Main Plater. **Figure 8** illustrates the lead soil analytical results for the outside borings associated with Platers #2 and #3 and the Circular Saw Plater in the courtyard area.

## **5.3 TCLP METALS**

In accordance with the *Work Plan for Initial Removal Activities* dated September 14, 2010, soil samples with concentrations of total lead, total chromium, or both exceeding values that are equal to or greater than 20 times the Land Disposal Restriction limits (20xLDR) were intended to be extracted by TCLP and analyzed for lead and chromium. A total of 39 soil samples exceeded the 20xLDR for either lead or chromium, or both. One sample (SB-21 0-2 FT) with a total lead concentration above the 20xLDR was inadvertently omitted from the list of soil samples for TCLP analysis. However, based on the total lead concentration of this sample and the TCLP lead concentration of other samples analyzed with similar or greater total lead concentrations than detected in sample SB-21 0-2 FT, the TCLP lead concentration of SB-21 0-2 FT is likely to fall

within the range of the samples analyzed for TCLP lead. Additionally, the laboratory mistakenly ran TCLP analysis on one sample which did not exceed the 20xLDR for lead or chromium (SB-16 5-10 FT). Therefore, a total of 39 samples were analyzed for TCLP lead and chromium. A copy of the laboratory analytical report and chain of custody form for TCLP soil samples is provided in **Appendix D**. The analytical results are summarized in **Table 2** and compared against the regulatory limit for the TCLP toxicity characteristic, as well as the LDR limits.

TCLP lead was detected above the laboratory reporting limit of 0.05 milligrams per liter (mg/l) in only one sample out of 39 analyzed: SB-23 2-5 FT. The reported TCLP lead concentration of 0.11 mg/l in this sample is more than an order of magnitude below the TCLP lead regulatory limit of 5.0 mg/l.

TCLP chromium was detected above the laboratory reporting limit of 0.05 mg/l in 26 of the 39 soil samples analyzed. The detected concentrations of TCLP chromium ranged from 0.052 mg/l in sample SB-17 0-2 FT to 8.8 mg/l in sample SB-8 0-2 FT. The concentration of TCLP chromium exceeded the TCLP limit of 5.0 mg/l in only two samples: SB-8 0-2 FT (8.8 mg/l) and SB-8 2-5 FT (8.0 mg/l). The results in these two samples also exceeded the LDR limits of 7.5 mg/l for lead and 6.0 mg/l for chromium. These two samples, collected from a single soil boring (SB-8) in the former circular saw plating area, directly east of the in-ground concrete tank, were the two samples with the highest concentrations of (total) chromium and hexavalent chromium.

It can be concluded that most of the soil beneath the former plating areas would not be hazardous by the toxicity characteristic, nor would it require special treatment prior to landfilling if it were excavated. However, one “hot spot” was identified in the area of SB-8 where chromium results exceeded the LDR limits.

## **5.4 SUMMARY**

The soil analytical results are illustrated graphically in **Figures 3 through 8**. The first three (**Figures 3 through 5**) show the results for chromium, hexavalent chromium and lead, respectively, in the area of the East Main Plater inside the building. On each map, the results for all samples from the boring are listed next to the boring, and each boring is color-coded according to the highest concentration reported for the samples from that boring. In the East Main Plater

area, only three borings (SB-28, SB-29, and SB-30), all located in the northwest portion of the area, had metals concentrations exceeding the residential PRGs. The lead exceedance was limited to one sample (SB-32 0-2 FT), and may be related to fill/debris in the shallow sample. Chromium and/or hexavalent chromium exceedances of the residential PRGs were detected in several samples from the three borings, and concentrations were highest in the northernmost borings (SB-28 and SB-29). Based on visual observations, plating waste impacts in this area may extend under the north wall of the building. In SB-28, the hexavalent chromium result in the bottom sample, from 10-20 feet bgs, exceeded the residential PRG, but in the other two borings, residential PRG exceedances were limited to the top 5 feet.

**Figures 6 through 8** illustrate the results for chromium, hexavalent chromium and lead, respectively, in the outdoor courtyard, in the areas of the former Platers # 2 and #3 and the Circular Saw Plater. Exceedances of the residential PRGs for chromium and hexavalent chromium appear to cluster in two areas, along the subgrade brick wall or footer that runs approximately between former Platers # 2 and #3 (SB-13 to SB-17, SB-19, SB-20 and SB-25), and east-northeast of the in-ground concrete former wastewater treatment tank (SB-1, SB-2 and SB-8). In the first area, the occurrence of concentrations above the residential PRGs appears to be limited to 5 feet bgs and above. In the second area, exceedances of the residential PRGs may extend below 10 feet bgs in SB-1 and SB-2 (both shallow borings terminating at 10 feet), and appear to stop at 10 feet in boring SB-8.

The distribution of lead exceedances in the courtyard areas (**Figure 8**) is significantly different than the distribution of chromium exceedances (**Figures 6 and 7**). Exceedances of the residential PRG for lead occurred in three borings, SB-22 and SB-23 on the west side, and SB-3 on the east. Examination of the soil boring logs (**Appendix C**) indicates that all of the samples with lead exceedances are associated with fill material consisting of sand and silt with crushed demolition debris (concrete and brick fragments) and furnace slag fragments. It can be concluded that the chromium exceedances are most likely associated with plating waste impacts, but that the lead exceedances are associated with the presence of fill rather than plating waste impacts.

An overview of the soil analytical results for all three of the Management Areas is provided in **Figure 9**. The stippled areas in the three boxes indicate the areas of soil apparently impacted by plating wastes at levels that exceed the residential PRGs, down to about 5 feet bgs, or deeper in



some cases. The soil outside these areas does not exceed residential PRGs for chromium or hexavalent chromium.

Three borings outside the stippled areas (marked in blue on **Figure 9**) yielded samples exceeding the residential PRG for lead. These exceedances are not believed to be associated with plating waste impacts. Of the 39 samples analyzed for TCLP lead, only one had a detectable level of lead in the extract, at a concentration (0.11 mg/l) more than an order of magnitude below the TCLP limit for lead (5.0 mg/l).

## **6.0 WASTE CHARACTERIZATION AND DISPOSAL**

This section describes the activities associated with each of the waste streams generated in the investigation and removals that were conducted at the site in September-November 2010, including staging, characterization and disposal.

### **6.1 CONCRETE DEBRIS**

The following types of concrete debris were moved and/or removed as part of MACTEC's activities in September-November 2010:

1. Concrete debris removed from the floor of the Main Street building in the vicinity of the East Main Plater, with visible evidence of staining from plating wastes. This debris was loaded directly into two lined roll-off boxes (20 cubic yards each) and removed from the site by Heritage Environmental Services (Heritage) as hazardous waste (F007), on October 14 and 15, 2010, for stabilization at the Heritage plant in Indianapolis, Indiana, and ultimate disposal at the Heritage Subtitle C landfill in Roachdale, Indiana. Disposal documentation for this waste is provided in **Appendix F1**.
2. Concrete debris, unstained, removed from the floor of the Main Street building in the vicinity of the East Main Plater, and stockpiled in the southern portion of the open courtyard. This is the debris generated in the floor removal that showed no visual evidence of staining from plating wastes. (Estimated quantity: 100 tons).
3. Concrete debris, unstained, removed from the exterior soil management areas (Circular Saw Plater, Plater #2 and Plater #3), and stockpiled in the southern portion of the open courtyard. None of this debris showed any visual evidence of staining from plating wastes. (Estimated quantity: 60 tons).

The concrete demolition debris staged in two piles in the open courtyard showed no visual evidence of staining from plating wastes. Composite samples were collected separately from each of the two piles by MACTEC personnel on October 15, 2010. One sample was composited from the pile of debris from the interior East Main Plater area, and identified as Inside Floor Pile. The other sample was composited from the pile of debris from the exterior plater areas, and identified as Outside Concrete Pile. A hammer drill was used to bore eight holes in each pile, approximately two inches deep, into different concrete slabs within the pile. The sampled slabs were distributed across the entire pile, and across a representative range of the different colors/shades and degrees of weathering within the piled concrete. The pulverized concrete material obtained from the eight

boreholes, in approximately equal amounts, was combined into one composite sample per pile. Photographs of the concrete debris pile characterization sampling are included in **Appendix A**.

The two composite concrete samples were shipped to ESC for extraction following TCLP, and analysis of the eight RCRA metals in the TCLP extract, by United States Environmental Protection Agency (USEPA) Method 1311/6010B/7470A. A copy of the laboratory analytical report and chain of custody form for the samples is provided in **Appendix E**, and **Table 3** summarizes the results. TCLP barium and TCLP chromium were detected above laboratory reporting limits in both the composite samples. In addition, TCLP selenium was detected above the laboratory reporting limit in the Inside Floor Pile sample. No TCLP metals were detected in either sample above the TCLP regulatory limits, indicating this material is non-hazardous on the basis of the toxicity characteristic.

## **6.2 DRUMMED SOIL**

Two drums of soil waste were generated in the Soil Sampling Program performed in the former plating areas from October 4 through 7, 2010. Drummed materials included drill cuttings and excess soil samples not used for analytical testing. A third drum of waste was generated in abandoning monitoring wells W-2 and W-3, located inside near the former East Main Plater, and contained soil as well as bentonite and PVC. In addition, one 5-gallon bucket of soil that had been retained as a composite for possible additional testing was disposed at the same time. These drummed wastes were be manifested as hazardous waste (F007), and removed from the site by Heritage on December 17, 2010 for stabilization at the Heritage plant in Indianapolis, Indiana, and ultimate disposal at the Heritage Subtitle C landfill in Roachdale, Indiana. Disposal documentation for this waste is included in **Appendix F2**.

## **6.3 SLUDGES AND SUMP BOTTOM MATERIALS**

Two drums of solid and wet material were generated in cleaning the East Shop trenches and sumps, between September 27 and 30, 2010. These materials included wet sludges, iron scaling and fine woody roof debris that had accumulated in the trenches.

On September 30, 2010 MACTEC personnel collected a sample of sludge material from one of the drums, labeled Drum 1. A sample of material was collected from the bottom of the East Shop Sump the same day (see Section 2.3 above). The two samples were shipped under chain of custody to ESC in Mt. Juliet, Tennessee for laboratory analysis. The sample from the drum (identified as Drum 1) was analyzed for TCLP volatile organic compounds (VOCs) by USEPA Method 1311/8260B, TCLP semivolatile organic compounds (SVOCs) by USEPA Method 1311/8270C and the eight RCRA metals (TCLP) by USEPA Method 1311/6010B/7470A. The sample from the sump (identified as East Shop Sump), was analyzed for VOCs by USEPA Method 8260B, SVOCs by USEPA Method 8270C, and 8 RCRA Metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver) as totals by USEPA Method 6010B/7471. The East Shop Sump was also subsequently also analyzed for the eight RCRA metals (TCLP) by USEPA Method 1311/6010B/7470A.

A copy of the laboratory analytical report and chain of custody form for the sludge samples is provided in **Appendix E**, and the analytical results are summarized in **Table 4**. For comparison, **Table 4** includes the TCLP limits and the Industrial and Residential PRGs and for each constituent of concern.

No TCLP VOCs or SVOCs were detected above laboratory reporting limits in sample Drum 1. TCLP barium and TCLP selenium were detected at concentrations above the laboratory reporting limits but below the TCLP regulatory levels and none of the other TCLP metals were detected. Therefore, the waste in Drum 1 was non-hazardous based on the toxicity characteristic. However, the drummed wastes were disposed as listed hazardous wastes for consistency with the approach proposed in the Work Plan (September 14, 2010).

In the East Shop Sump sample, all eight RCRA metals (as totals) were detected above laboratory reporting limits. Lead was reported at a concentration of 700 mg/kg, exceeding the residential soil PRG of 400 mg/kg but below the industrial soil PRG of 750 mg/kg. Arsenic (13 mg/kg) and chromium (860 mg/kg) were reported at concentrations above the industrial soil PRGs of 1.6 mg/kg and 450 mg/kg, respectively. Most of the RCRA metals were not detected in the TCLP leachate, however. TCLP barium and TCLP lead were detected at concentrations above the laboratory reporting limits but below the TCLP regulatory levels. None of the TCLP metals exceeded TCLP limits in the East Shop Sump sample. It can be concluded that the material left in

the bottom of the East Shop Sump, although it exceeds PRGs for selected metals (arsenic, chromium and lead), is non-hazardous by toxicity characteristic for metals.

In the East Shop Sump sample, the VOCs n-Butylbenzene, sec-Butylbenzene, 1,2-Dichlorobenzene, p-Isopropyltoluene, naphthalene, n-Propylbenzene, 1,2,4-Trimethylbenzene, 1,2,3-Trimethylbenzene, 1,3,5-Trimethylbenzene, and total xylenes were detected above laboratory reporting limits but below residential soil PRGs. In addition, the laboratory reported estimated values below the reporting limit for ethylbenzene, isopropylbenzene, methylene chloride, and toluene. No SVOCs were detected above laboratory reporting limits in sample East Shop Sump (however, due to matrix interference, detection limits were elevated following dilution of the sample).

The two drums of sludges and sump bottom materials were manifested as hazardous waste (F007), and removed from the site by Heritage on December 17, 2010 for stabilization at the Heritage plant in Indianapolis, Indiana, and ultimate disposal at the Heritage Subtitle C landfill in Roachdale, Indiana. Disposal documentation for this waste is included in **Appendix F2**.

## **6.4 WASTEWATER**

The following wastewaters generated in the cleaning and investigation activities between September 27 and October 8 were containerized and staged onsite prior to disposal:

1. Wastewater generated in cleaning the floor trenches and sumps in the East Shop, combined with decontamination water and purge water from sampling monitoring wells W-1 and W-4. (Estimated quantity: 150 gallons, in a polyethylene tank).
2. Purge water sampling monitoring wells W-2 and W-3. At the request of the Metropolitan Sewer District (MSD), this purge water was containerized and sampled separately from the other wastewater (Estimated quantity: 10 gallons, in a drum).

In addition, the water and gravel contained in the subsurface sump located east of the former East Main Plater (referred to variously as the East Main Sump and the Bonded Warehouse sump) were evaluated to determine if disposal would be required.

On October 18, 2010, MACTEC personnel collected samples of wastewaters generated during the field activities for waste characterization and disposal purposes. Samples were collected from the

polyethylene tank and the drum described above, and labeled as Poly Tank and Drum 2, respectively. A water sample, identified as BW Sump, was also collected from the sump located east of the former East Main Plater. The water samples were shipped under chain of custody to ESC for laboratory analysis of the parameters required by MSD: pH by USEPA Method 9040C, cyanide by USEPA Method 9012B, Oil & Grease by USEPA Method 1664A, metals (cadmium, chromium, copper, lead, nickel, silver and zinc) by USEPA Method 6010B, Total Toxic Organics (TTO) VOCs by USEPA Method 624, TTO SVOCs by USEPA Method 625, and Organochlorine Pesticides/PCBs by USEPA Method 608.

A copy of the laboratory analytical report and chain of custody form for the wastewater samples is provided in **Appendix E**. The analytical results are summarized in **Table 5**, where they are compared against the USEPA Region 9 tap PRGs and the USEPA National Primary Drinking Water Standards Maximum Contaminant Levels (MCLs).

pH was reported at 10 standard units (S.U.) in sample BW Sump, which is outside the USEPA National Secondary Drinking Water Standard range of 6.5-8.5 S.U.. Cyanide was not detected above laboratory reporting limits in any of the three water samples. Oil and Grease was reported at a concentration of 1.2 mg/l in sample BW Sump and at a concentration of 2.6 mg/l in the water sample from the polyethylene tank, identified as Poly Tank. Both of these results were qualified as estimated values below the laboratory reporting limit. Oil and Grease was not detected above the laboratory reporting limit in the water sample from the drum of purge water, identified as Drum 2.

Trichloroethene (TCE) was detected at concentrations above the laboratory reporting limit in the Poly Tank and Drum 2 samples, and was the only VOC detected in any of the wastewater samples. The reported concentration of TCE in Drum 2 (0.0013 mg/l) exceeds the Region 9 USEPA PRG for tap water of 0.000028 mg/l and the reported concentration of TCE in Poly Tank (0.0068 mg/l) exceeds the both the Region 9 USEPA PRG for tap water and the USEPA MCL of 0.005 mg/l. The TCE is thought to have originated from the monitoring well purge water. Groundwater from all four monitoring wells contains TCE, and purge water was commingled in both wastewater containers. No SVOCs or Pesticide/PCBs were detected above laboratory reporting limits in any of the three water samples.

The contents of the Main Street Sump, adjacent to the former East Main Plater, were evaluated based on the analytical results for the water sample (BW Sump, **Table 5**) and the sample of gravel collected during the soil sampling program (SB-27, **Table 2**). The water sample was found to meet drinking water standards, except for the elevated value of pH, which most likely derives from the contact between this water and the limestone gravel and concrete walls of the sump. The gravel sample was found to contain metal levels below the residential PRGs. Therefore, the contents of the sump should not require special handling, and were left in place.

An Unusual Discharge Request (UDR), accompanied by the laboratory reports for the wastewater, was made to the MSD, to allow discharge of the staged wastewater to the public sewer through an onsite drop box. The UDR was approved by MSD, and the wastewater was discharged on November 22, 2010. A copy of the letter from MSD approving the UDR is provided in **Appendix F3**.

## 7.0 CONCLUSIONS AND RECOMMENDATIONS

Between September 27 and December 17, 2010, MACTEC on behalf of RBTC accomplished the removal of waste materials from the former Vermont American facility located at 500 East Main Street in Louisville, as outlined in the *Management Plan* (MACTEC, May 20, 2010) and approved in subsequent correspondence with the KDWM. As part of these removal activities, all surface and near-surface debris potentially requiring handling as hazardous waste was removed, including approximately 40 cubic yards of stained concrete, and five drums of soil, debris and sludges. Wastewater generated in the process of cleaning and sampling was discharged to the sewer after approval by MSD, and is no longer present onsite.

As part of the cleaning effort, removal and characterization activities were performed in the East Shop. No plating lines were located in the East Shop. However, the former use of this area of the property is poorly documented. Based on the historic drawing in **Appendix B**, observations made by MACTEC during the cleaning activities, and samples collected from both the East Shop Sump and drummed cleaning wastes, the East Shop appears to have been used primarily for metalworking activities, including metal cutting, grinding and possibly other machining. Although VOCs were detected in the East Shop Sump sample (solid material from the sump bottom after cleaning), they were primarily petroleum-related VOCs, and none exceeded the residential PRGs for soil (**Table 4**). No evidence of historic activities generating listed hazardous waste was observed in the East Shop, and therefore it is recommended that this area continue to be excluded from the identified soil management areas.

A total of 119 subsurface samples of soil and fill materials were collected in the three previously identified soil management areas (**Figure 2**), and analyzed for the soil COCs at the site: chromium, hexavalent chromium, and lead. Based on the results, three soil areas (shown as the stippled areas in **Figure 9**) have been identified as being impacted by plating wastes and still containing chromium above the residential PRG. It is recommended that, for future excavation purposes, the soil in these areas be handled as listed hazardous waste (F007), in accordance with previous KDWM directives.



Of the 119 soil samples collected, the 39 samples with the highest concentrations were also analyzed for TCLP chromium and lead. Only two of the soil samples analyzed (both from boring SB-8) exceeded the TCLP limits, and only for chromium. Soil Boring SB-8 is located within one of the stippled areas in **Figure 9**, where soil excavated in the future is will be handled as a listed hazardous waste. The other soil and materials tested during the removal activities were below the TCLP limits for metals. Therefore no soil or materials outside the stippled areas would be expected to be handled as characteristically hazardous waste, pending concurrence of the KDWM Hazardous Waste Branch.

A significant amount of pre-existing concrete debris in the courtyard area (approximately 100 tons) had to be moved in order to allow soil sampling in the former plating areas. In addition, more concrete debris (approximately 60 tons) was generated during floor removal inside the Main Street building. Consistent with the *Management Plan*, concrete debris that did not have visible staining typical of plating waste was stockpiled and left onsite. Two composite samples were collected from the two stockpiles of concrete debris, and analyzed for TCLP metals. The results were well below TCLP limits for both samples (**Table 3**), indicating the concrete is non-hazardous based on the toxicity characteristic. Therefore, it is recommended that this debris be handled and removed, if necessary, with other demolition debris generated at the time of building demolition, as non-hazardous solid waste.

In the process of clearing, cleaning, floor removal and soil sampling, several subsurface structures and fill areas were uncovered at locations shown on the map in **Figure 2**, and an initial assessment was made of the material in these areas:

- The Main Street Sump (a subgrade concrete tank in the Main Street building immediately east of the former East Main Plater) was found to contain clean water and gravel. No special handling is recommended in case of future removal.
- The East Shop Sump contained sludge-like material which was removed and the sump was found to have a hard bottom, most likely consisting of weathered concrete. The material sampled from the bottom of this sump contained metals (arsenic, chromium and lead) at levels exceeding residential PRGs. However, TCLP metals were below TCLP limits and there is no information indicating the sump contained listed waste. Therefore, it is recommended that this material, if removed, be handled as a non-hazardous solid waste and subject to characterization for appropriate handling and disposal. Confirmation sampling is recommended following removal.

- The large subgrade concrete tank located outside appears to have been installed in the former Circular Saw Plater area as part of a wastewater treatment facility. It is filled with demolition debris, most likely generated from demolition of the buildings formerly located in the courtyard by the current owner in 1990. It is recommended that the material in this tank, if removed, be characterized as a solid waste.
- It is recommended that debris from other subgrade concrete structures (such as grade beams), if they have to be removed from the former plater areas in the future, be handled in the same manner as the concrete debris was handled in the surface removals: if obviously stained with plating wastes, the debris should be handled as listed hazardous waste. If not, it should be handled consistently with other demolition debris on the property.
- Based on soil boring observations, some areas of the site are backfilled with soil containing demolition debris and furnace slag materials, similar to the materials found as backfill in the wastewater treatment tank. This is the case in the area of SB-22 and SB-23, on the western edge of the soil investigation area, where fill extends to at least 10 feet bgs, and locally near the surface (usually in the top two feet) in other areas of the site. Lead is detected at concentrations exceeding the PRGs in some of the samples from this fill material. However, lead is almost never detected in the TCLP extracts from these samples, and detections do not exceed the TCLP limit. Therefore, this material would not be characterized as a hazardous waste. This type of fill material is widespread in downtown Louisville and it is recommended that it be handled in a manner that is consistent with the other properties being acquired for construction of the Interstate expansion.

## TABLES

**Table 1**  
**Soil Analytical Results (Total Metals)**  
**500 East Main Street, Louisville, Kentucky**  
**MACTEC Project No. 6680-08-9635**

					Parameter	Lead	Chromium	Chromium Hexavalent
					Method	6010B	6010B	3060A/7196A
					Units	mg/kg	mg/kg	mg/kg
					Industrial PRG	750	450	64
					Residential PRG	400	210	30
					20 x LDR	150	120	---
					KY Generic Ambient Background	84.6	40	---
Client Sample ID	Soil Boring	Depth BGS	Lab Sample ID	Collect Date				
Outside Platers								
SB-1 0-2 FT	SB-1	0-2 FT	L482930-01	10/4/2010	260	53	<2.0	
SB-1 2-5 FT	SB-1	2-5 FT	L482930-02	10/4/2010	13	110	72	
SB-1 5-10 FT	SB-1	5-10 FT	L482930-03	10/4/2010	7.3	360	<50 O	
SB-2 0-2 FT	SB-2	0-2 FT	L482930-04	10/4/2010	20	18	<2.0	
SB-2 2-5 FT	SB-2	2-5 FT	L482930-05	10/4/2010	13	20	<2.0	
SB-2 5-10 FT	SB-2	5-10 FT	L482930-06	10/4/2010	7.1	110	38	
SB-3 0-2 FT	SB-3	0-2 FT	L482930-07	10/4/2010	23	140	15	
SB-3 2-5 FT	SB-3	2-5 FT	L482930-08	10/4/2010	500	160	3.0	
SB-3 5-10 FT	SB-3	5-10 FT	L482930-09	10/4/2010	7.4	55	18	
SB-4 0-2 FT	SB-4	0-2 FT	L482930-10	10/4/2010	22	19	2.6	
SB-4 2-5 FT	SB-4	2-5 FT	L482930-11	10/4/2010	13	20	<2.0	
SB-4 5-10 FT	SB-4	5-10 FT	L482930-12	10/4/2010	7.6	8.3	7.4	
SB-5 0-2 FT	SB-5	0-2 FT	L482930-13	10/4/2010	11	19	<2.0	
SB-5 2-5 FT	SB-5	2-5 FT	L482930-14	10/4/2010	13	20	<2.0	
SB-5 5-10 FT	SB-5	5-10 FT	L482930-15	10/4/2010	7.3	9.2	<2.0	
SB-6 0-2 FT	SB-6	0-2 FT	L482930-16	10/4/2010	19	16	<2.0	
SB-6 2-5 FT	SB-6	2-5 FT	L482930-17	10/4/2010	28	20	<2.0	
SB-6 5-10 FT	SB-6	5-10 FT	L482930-18	10/4/2010	10	12	<2.0	
SB-7 0-2 FT	SB-7	0-2 FT	L482930-19	10/4/2010	56	51	<2.0	
SB-7 2-5 FT	SB-7	2-5 FT	L482930-20	10/4/2010	12	27	<2.0	
SB-7 5-10 FT	SB-7	5-10 FT	L482930-21	10/4/2010	6.8	190	28	
SB-8 0-2 FT	SB-8	0-2 FT	L482930-22	10/4/2010	15	4000	540 V	
SB-8 2-5 FT	SB-8	2-5 FT	L482930-23	10/4/2010	11	1100	270	
SB-8 5-10 FT	SB-8	5-10 FT	L482930-24	10/4/2010	24	830	180	
SB-8 10-20 FT	SB-8	10-20 FT	L482930-25	10/4/2010	3.8	28	3.4	
SB-9 0-2 FT	SB-9	0-2 FT	L482930-26	10/4/2010	11	52	8.4	
SB-9 2-5 FT	SB-9	2-5 FT	L482930-27	10/4/2010	11	77	17	
SB-9 5-10 FT	SB-9	5-10 FT	L482930-28	10/4/2010	7.6	25	2.2	
SB-9 10-20 FT	SB-9	10-20 FT	L482930-29	10/4/2010	4.0	18	5.2	
SB-10 0-2 FT	SB-10	0-2 FT	L482930-30	10/4/2010	15	79	5.9	
SB-10 2-5 FT	SB-10	2-5 FT	L482930-31	10/4/2010	13	64	<2.0	
SB-10 5-10 FT	SB-10	5-10 FT	L482930-32	10/4/2010	49	130	4.5	
SB-10 10-20 FT	SB-10	10-20 FT	L482930-33	10/4/2010	4.4	28	4.1	
DUP-1	SB-10	10-20 FT	L482930-123	10/4/2010	5.4	92	7.4	
SB-11 0-2 FT	SB-11	0-2 FT	L482930-34	10/4/2010	14	120	5.9	
SB-11 2-5 FT	SB-11	2-5 FT	L482930-35	10/4/2010	24	200	17	
SB-11 5-10 FT	SB-11	5-10 FT	L482930-36	10/4/2010	8.2	160	16	
SB-12 0-2 FT	SB-12	0-2 FT	L482930-37	10/4/2010	12	58	3.8	
SB-12 2-5 FT	SB-12	2-5 FT	L482930-38	10/4/2010	15	89	17	
SB-12 5-10 FT	SB-12	5-10 FT	L482930-39	10/4/2010	8.6	37	2.6	
SB-13 0-2 FT	SB-13	0-2 FT	L482930-40	10/4/2010	14	76 J3, J6	2.3	
SB-13 2-5 FT	SB-13	2-5 FT	L482930-41	10/4/2010	19	330	61	
SB-13 5-10 FT	SB-13	5-10 FT	L482930-42	10/4/2010	11	140	28	
SB-14 0-2 FT	SB-14	0-2 FT	L482930-43	10/4/2010	25	87	8.5	
SB-14 2-5 FT	SB-14	2-5 FT	L482930-44	10/4/2010	13	140	87	
SB-14 5-10 FT	SB-14	5-10 FT	L482930-45	10/4/2010	10	130	15	

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**500 East Main Street, Louisville, Kentucky**  
**MACTEC Project No. 6680-08-9635**

					Parameter		Lead	Chromium	Chromium Hexavalent
					Method		6010B	6010B	3060A/7196A
					Units		mg/kg	mg/kg	mg/kg
					Industrial PRG		750	450	64
					Residential PRG		400	210	30
					20 x LDR		150	120	---
					KY Generic Ambient Background		84.6	40	---
Client Sample ID	Soil Boring	Depth BGS	Lab Sample ID	Collect Date					
SB-15 0-2 FT	SB-15	0-2 FT	L482930-46	10/5/2010	31		240		4.6
SB-15 2-5 FT	SB-15	2-5 FT	L482930-47	10/5/2010	13		100		26
DUP-2	SB-15	2-5 FT	L482930-124	10/5/2010	19		140		16
SB-15 5-10 FT	SB-15	5-10 FT	L482930-48	10/5/2010	13		74		20
SB-15 10-20 FT	SB-15	10-20 FT	L482930-49	10/5/2010	6.5		65		8.8
SB-16 0-2 FT	SB-16	0-2 FT	L482930-50	10/5/2010	76		990		6.3
SB-16 2-5 FT	SB-16	2-5 FT	L482930-51	10/5/2010	51	J3, V	480	J3, V	11
SB-16 5-10 FT	SB-16	5-10 FT	L482930-52	10/5/2010	12		97		14
SB-16 10-20 FT	SB-16	10-20 FT	L482930-53	10/5/2010	4.9		43		13
SB-17 0-2 FT	SB-17	0-2 FT	L482930-54	10/5/2010	130		470		12
SB-17 2-5 FT	SB-17	2-5 FT	L482930-55	10/5/2010	22		39		11
SB-17 5-10 FT	SB-17	5-10 FT	L482930-56	10/5/2010	9.2		36		7.9
SB-17 10-20 FT	SB-17	10-20 FT	L482930-57	10/5/2010	5.6		26		6.5
SB-18 0-2 FT	SB-18	0-2 FT	L482930-58	10/5/2010	14		23		<2.0
SB-18 2-5 FT	SB-18	2-5 FT	L482930-59	10/5/2010	16		11		<2.0
SB-18 5-10 FT	SB-18	5-10 FT	L482930-60	10/5/2010	7.9		48		8.2
SB-18 10-20 FT	SB-18	10-20 FT	L482930-61	10/5/2010	6.1		70		7.0
SB-19 0-2 FT	SB-19	0-2 FT	L482930-62	10/5/2010	36		70		13
SB-19 2-5 FT	SB-19	2-5 FT	L482930-63	10/5/2010	10		100		31
SB-19 5-10 FT	SB-19	5-10 FT	L482930-64	10/5/2010	7.3		69		18
SB-19 10-20 FT	SB-19	10-20 FT	L482930-65	10/5/2010	6.1		42		11
SB-20 0-2 FT	SB-20	0-2 FT	L482930-66	10/5/2010	130		580		14
SB-20 2-5 FT	SB-20	2-5 FT	L482930-67	10/5/2010	29		390		12
SB-20 5-10 FT	SB-20	5-10 FT	L482930-68	10/5/2010	13		150		10
SB-21 0-2 FT	SB-21	0-2 FT	L482930-69	10/5/2010	210		70		<2.0
SB-21 2-5 FT	SB-21	2-5 FT	L482930-70	10/5/2010	48		140		4.4
SB-21 5-10 FT	SB-21	5-10 FT	L482930-71	10/5/2010	28		83		8.4
SB-22 0-2 FT	SB-22	0-2 FT	L482930-72	10/5/2010	110		14		<2.0
SB-22 2-5 FT	SB-22	2-5 FT	L482930-73	10/5/2010	450		42		<2.0
SB-22 5-10 FT	SB-22	5-10 FT	L482930-74	10/5/2010	540		72		<2.0
DUP-3	SB-22	5-10 FT	L482930-125	10/5/2010	260		32		<2.0
SB-23 0-2 FT	SB-23	0-2 FT	L482930-75	10/5/2010	130		22		<2.0
SB-23 2-5 FT	SB-23	2-5 FT	L482930-76	10/5/2010	420		20		<2.0
SB-23 5-10 FT	SB-23	5-10 FT	L482930-77	10/5/2010	280	V	190	J3, J6	20
SB-24 0-2 FT	SB-24	0-2 FT	L482930-78	10/5/2010	21		29		<2.0
SB-24 2-5 FT	SB-24	2-5 FT	L482930-79	10/5/2010	19		28		<2.0
SB-24 5-10 FT	SB-24	5-10 FT	L482930-80	10/5/2010	7.9		14		3.4
SB-25 0-2 FT	SB-25	0-2 FT	L482930-81	10/5/2010	12		77		8.7
SB-25 2-5 FT	SB-25	2-5 FT	L482930-82	10/5/2010	12		64		31
SB-25 5-10 FT	SB-25	5-10 FT	L482930-83	10/5/2010	9.2		41		18
<b>Inside Plater</b>									
SB-26 0-2 FT	SB-26	0-2 FT	L482930-84	10/6/2010	17		11		<2.0
SB-26 2-5 FT	SB-26	2-5 FT	L482930-85	10/6/2010	10		17		<2.0
DUP-4	SB-26	2-5 FT	L482930-126	10/6/2010	11		10		<2.0
SB-26 5-10 FT	SB-26	5-10 FT	L482930-86	10/6/2010	7.9		8.7		<2.0
SB-27 0-2 FT	SB-27	0-2 FT	L482930-128	10/6/2010	5.4		12		<2.0
SB-27 4-6 FT	SB-27	4-6 FT	L482930-87	10/6/2010	9.7		41		2.6

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**Soil Analytical Results (Total Metals)**  
**500 East Main Street, Louisville, Kentucky**  
**MACTEC Project No. 6680-08-9635**

					Parameter	Lead	Chromium	Chromium Hexavalent
					Method	6010B	6010B	3060A/7196A
					Units	mg/kg	mg/kg	mg/kg
					Industrial PRG	750	450	64
					Residential PRG	400	210	30
					20 x LDR	150	120	---
					KY Generic Ambient Background	84.6	40	---
Client Sample ID	Soil Boring	Depth BGS	Lab Sample ID	Collect Date				
SB-28 0-2 FT	SB-28	0-2 FT	L482930-88	10/7/2010	19		570	52
SB-28 2-5 FT	SB-28	2-5 FT	L482930-89	10/7/2010	12		200	61
SB-28 5-10 FT	SB-28	5-10 FT	L482930-90	10/7/2010	11		160	120
SB-29 0-2 FT	SB-29	0-2 FT	L482930-91	10/6/2010	30		310	140
SB-29 2-5 FT	SB-29	2-5 FT	L482930-92	10/6/2010	15		200	150
SB-29 5-10 FT	SB-29	5-10 FT	L482930-93	10/6/2010	9.8		45	24
SB-30 0-2 FT	SB-30	0-2 FT	L482930-94	10/6/2010	250		14	<2.0
SB-30 2-5 FT	SB-30	2-5 FT	L482930-95	10/6/2010	13		17	<2.0
SB-30 5-10 FT	SB-30	5-10 FT	L482930-96	10/6/2010	8.9		9.5	<2.0
SB-31 0-2 FT	SB-31	0-2 FT	L482930-97	10/6/2010	100		12	<2.0
SB-31 2-5 FT	SB-31	2-5 FT	L482930-98	10/6/2010	14		19	<2.0
SB-31 5-10 FT	SB-31	5-10 FT	L482930-99	10/6/2010	10		12	<2.0
SB-32 0-2 FT	SB-32	0-2 FT	L482930-100	10/6/2010	2900		540	3.1
SB-32 2-5 FT	SB-32	2-5 FT	L482930-101	10/6/2010	13		74	24
SB-32 5-10 FT	SB-32	5-10 FT	L482930-102	10/6/2010	11		50	12
SB-32 10-20 FT	SB-32	10-20 FT	L482930-103	10/6/2010	8.9		27	7.2
SB-33 0-2 FT	SB-33	0-2 FT	L482930-104	10/7/2010	13		21	2.8
DUP-5	SB-33	0.8-2 FT	L482930-127	10/7/2010	16		52	3.1
SB-33 2-5 FT	SB-33	2-5 FT	L482930-105	10/7/2010	17		55	5.2
SB-33 5-10 FT	SB-33	5-10 FT	L482930-106	10/7/2010	11		42	15
SB-33 10-20 FT	SB-33	10-20 FT	L482930-107	10/7/2010	9.3		22	3.0
SB-34 0-2 FT	SB-34	0-2 FT	L482930-108	10/7/2010	24		19	<2.0
SB-34 2-5 FT	SB-34	2-5 FT	L482930-109	10/7/2010	16		30	3.8
SB-34 5-10 FT	SB-34	5-10 FT	L482930-110	10/7/2010	9.9		37	9.0
SB-34 10-20 FT	SB-34	10-20 FT	L482930-111	10/7/2010	8.4		100	15
SB-35 0-2 FT	SB-35	0-2 FT	L482930-112	10/7/2010	53		13	<2.0
SB-35 2-5 FT	SB-35	2-5 FT	L482930-113	10/7/2010	16		17	<2.0
SB-35 5-10 FT	SB-35	5-10 FT	L482930-114	10/7/2010	14		14	<2.0
SB-35 10-20 FT	SB-35	10-20 FT	L482930-115	10/7/2010	4.7		5.0	<2.0
SB-36 0-2 FT	SB-36	0-2 FT	L482930-116	10/7/2010	350		8.1	<2.0
SB-36 2-5 FT	SB-36	2-5 FT	L482930-117	10/7/2010	16		16	<2.0
SB-36 5-10 FT	SB-36	5-10 FT	L482930-118	10/7/2010	8.7		31	<2.0

Prepared by: ALD 10/29/2010

Checked by: TSK 11/01/2010

**Notes:**

All values in mg/kg. Detected values shown in **bold**.

Samples shaded in blue were also extracted by TCLP. Analytical results for the TCLP extracts are provided in the following table.

Value above the Industrial Preliminary Remediation Goal, USEPA Region 9 2002 (PRG).

Value above the Residential PRG and below the Industrial PRG.

Value above the KY Generic Ambient Background (95th Percentile) and below the Residential PRG.

DUP-X Designates a field duplicate sample of the previously listed sample.

**Lab Qualifiers:**

- J6 The sample matrix interfered with the ability to make any accurate determination; spike value is low
- O (ESC) Sample diluted due to matrix interferences that impaired the ability to make an accurate analytical determination.  
The detection limit is elevated in order to reflect the necessary dilution.
- V (ESC) - Additional QC Info: The sample concentration is too high to evaluate accurate spike recoveries.
- J3 The associated batch QC was outside the established quality control range for precision.

**Table 2**  
**Soil Analytical Results (TCLP Metals)**  
**500 East Main Street, Louisville, Kentucky**  
**MACTEC Project No. 6680-08-9635**

					Parameter	TCLP Lead	TCLP Chromium
					Method	6010B	6010B
					Units	mg/l	mg/l
					TCLP Limit	5.0	5.0
					LDR Limit	7.5	6.0
Client Sample ID	Soil Boring	Depth BGS	Lab Sample ID	Collect Date			
<b>Outside Platers</b>							
SB-1 0-2 FT	SB-1	0-2 FT	L485755-01	10/4/2010	<0.05		<0.05
SB-1 5-10 FT	SB-1	5-10 FT	L485755-02	10/4/2010	<0.05		<b>0.59</b>
SB-3 0-2 FT	SB-3	0-2 FT	L485755-03	10/4/2010	<0.05		<0.05
SB-3 2-5 FT	SB-3	2-5 FT	L485755-04	10/4/2010	<0.25		<b>0.11</b>
SB-7 5-10 FT	SB-7	5-10 FT	L485755-05	10/4/2010	<0.05		<b>0.12</b>
SB-8 0-2 FT	SB-8	0-2 FT	L485755-06	10/4/2010	<0.05		<b>8.8</b>
SB-8 2-5 FT	SB-8	2-5 FT	L485755-07	10/4/2010	<0.05		<b>8.0</b>
SB-8 5-10 FT	SB-8	5-10 FT	L485755-08	10/4/2010	<0.05		<b>4.4</b>
SB-10 5-10 FT	SB-10	5-10 FT	L485755-09	10/4/2010	<0.05		<0.05
SB-11 0-2 FT	SB-11	0-2 FT	L485755-10	10/4/2010	<0.05		<0.05
SB-11 2-5 FT	SB-11	2-5 FT	L485755-11	10/4/2010	<0.05		<0.05
SB-11 5-10 FT	SB-11	5-10 FT	L485755-12	10/4/2010	<0.05		<b>0.25</b>
SB-13 2-5 FT	SB-13	2-5 FT	L485755-13	10/4/2010	<0.05		<b>0.47</b>
SB-13 5-10 FT	SB-13	5-10 FT	L485755-14	10/4/2010	<0.05		<b>0.48</b>
SB-14 2-5 FT	SB-14	2-5 FT	L485755-15	10/4/2010	<0.05		<b>1.1</b>
SB-14 5-10 FT	SB-14	5-10 FT	L485755-16	10/4/2010	<0.05		<b>0.44</b>
SB-15 0-2 FT	SB-15	0-2 FT	L485755-17	10/5/2010	<0.05		<b>0.080</b>
DUP-2	SB-15	2-5 FT	L485755-38	10/5/2010	<0.05		<b>0.52</b>
SB-16 0-2 FT	SB-16	0-2 FT	L485755-18	10/5/2010	<0.05		<b>0.31</b>
SB-16 2-5 FT	SB-16	2-5 FT	L485755-19	10/5/2010	<0.05		<b>0.18</b>
SB-16 5-10 FT	SB-16	5-10 FT	L485755-20	10/5/2010	<0.05		<b>0.23</b>
SB-17 0-2 FT	SB-17	0-2 FT	L485755-21	10/5/2010	<0.05		<b>0.052</b>
SB-20 0-2 FT	SB-20	0-2 FT	L485755-22	10/5/2010	<0.05		<0.05
SB-20 2-5 FT	SB-20	2-5 FT	L485755-23	10/5/2010	<0.05		<b>0.056</b>
SB-20 5-10 FT	SB-20	5-10 FT	L485755-24	10/5/2010	<0.05		<b>0.070</b>
SB-21 2-5 FT	SB-21	2-5 FT	L485755-25	10/5/2010	<0.05		<0.05
SB-22 2-5 FT	SB-22	2-5 FT	L485755-26	10/5/2010	<0.05		<0.05
SB-22 5-10 FT	SB-22	5-10 FT	L485755-27	10/5/2010	<0.05		<b>0.062</b>
DUP-3	SB-22	5-10 FT	L485755-39	10/5/2010	<0.05		<0.05
SB-23 2-5 FT	SB-23	2-5 FT	L485755-28	10/5/2010	<b>0.11</b>		<0.05
SB-23 5-10 FT	SB-23	5-10 FT	L485755-29	10/5/2010	<0.05		<0.05

**Table 2**  
**Soil Analytical Results (TCLP Metals)**  
**500 East Main Street, Louisville, Kentucky**  
**MACTEC Project No. 6680-08-9635**

					Parameter		TCLP Lead		TCLP Chromium	
					Method		6010B		6010B	
					Units		mg/l		mg/l	
					TCLP Limit		5.0		5.0	
					LDR Limit		7.5		6.0	
Client Sample ID	Soil Boring	Depth BGS	Lab Sample ID	Collect Date						
Inside Plater										
SB-28 0-2 FT	SB-28	0-2 FT	L485755-30	10/7/2010	<0.05			1.4		
SB-28 2-5 FT	SB-28	2-5 FT	L485755-31	10/7/2010	<0.05			1.5		
SB-28 5-10 FT	SB-28	5-10 FT	L485755-32	10/7/2010	<0.05			3.9		
SB-29 0-2 FT	SB-29	0-2 FT	L485755-33	10/6/2010	<0.05			0.77		
SB-29 2-5 FT	SB-29	2-5 FT	L485755-34	10/6/2010	<0.05			2.8		
SB-30 0-2 FT	SB-30	0-2 FT	L485755-35	10/6/2010	<0.05			<0.05		
SB-32 0-2 FT	SB-32	0-2 FT	L485755-36	10/6/2010	<0.05			0.084		
SB-36 0-2 FT	SB-36	0-2 FT	L485755-37	10/7/2010	<0.05			<0.05		

Prepared by: TSK 11/04/2010

Checked by: MJC 11/05/2010

**Notes:**

All values in milligrams per liter (mg/l).

Detected values shown in **bold**.

 Value above the TCLP limit (also exceeds LDR limit).



**Table 3**  
**Concrete Analytical Results (TCLP Metals)**  
**500 East Main Street, Louisville, Kentucky**  
**MACTEC Project No. 6680-08-9635**

			Laboratory ID	L484359-01	L484359-02
			Field ID	Inside Floor Pile	Outside Concrete Pile
			Sample Collection Date	10/15/2010	10/15/2010
TCLP Metals	Units	TCLP Limit			
Arsenic	mg/l	5.0		<0.05	<0.25
Barium	mg/l	100		<b>0.22</b>	<b>0.55</b>
Cadmium	mg/l	1.0		<0.05	<0.05
Chromium	mg/l	5.0		<b>0.084</b>	<b>0.65</b>
Lead	mg/l	5.0		<0.05	<0.25
Mercury	mg/l	0.2		<0.001	<0.001
Selenium	mg/l	1.0		<b>0.074</b>	<0.05
Silver	mg/l	5.0		<0.05	<0.05

Prepared by: TSK 11/04/2010

Checked by: MJC 11/05/2010

**Notes:**

mg/l Milligrams per liter

Detected values are indicated in **bold**

**Table 4**  
**Sludge Analytical Results (Total and TCLP)**  
**500 East Main Street, Louisville, Kentucky**  
**MACTEC Project No. 6680-08-9635**

<i>Laboratory ID</i>	L481739-01	L481739-02	L482531-01
<i>Field ID</i>	<b>Drum 1</b>	<b>East Shop Sump</b>	<b>East Shop Sump</b>
<i>Sample Collection Date</i>	9/30/2010	9/30/2010	9/30/2010

<b>TCLP Metals</b>	<b>Units</b>	<b>TCLP Limit</b>				
Arsenic	mg/l	5.0	<0.05	---	<0.25	O
Barium	mg/l	100	<b>3.4</b>	---	<b>18</b>	
Cadmium	mg/l	1.0	<0.05	---	<0.25	O
Chromium	mg/l	5.0	<0.05	---	<0.25	
Lead	mg/l	5.0	<0.05	---	<b>0.32</b>	
Mercury	mg/l	0.2	<0.001	---	<0.002	O,J3,J6
Selenium	mg/l	1.0	<b>0.45</b>	---	<0.25	O
Silver	mg/l	5.0	<0.05	---	<0.25	

<b>TCLP Volatile Organic Compounds</b>	<b>Units</b>	<b>TCLP Limit</b>				
Benzene	mg/l	0.5	<0.05	---	---	
Carbon tetrachloride	mg/l	0.5	<0.05	---	---	
Chlorobenzene	mg/l	100	<0.05	---	---	
Chloroform	mg/l	6.0	<0.25	---	---	
1,2-Dichloroethane	mg/l	0.5	<0.05	---	---	
1,1-Dichloroethene	mg/l	0.7	<0.05	---	---	
2-Butanone (MEK)	mg/l	200	<0.5	---	---	
Tetrachloroethene	mg/l	0.7	<0.05	---	---	
Trichloroethene	mg/l	0.5	<0.05	---	---	
Vinyl chloride	mg/l	0.2	<0.05	---	---	

<b>TCLP Semivolatile Organic Compounds</b>	<b>Units</b>	<b>TCLP Limit</b>				
1,4-Dichlorobenzene	mg/l	7.5	<0.1	---	---	
2,4-Dinitrotoluene	mg/l	0.13	<0.1	---	---	
Hexachlorobenzene	mg/l	0.13	<0.1	---	---	
Hexachloro-1,3-butadiene	mg/l	0.5	<0.1	---	---	
Hexachloroethane	mg/l	3.0	<0.1	---	---	
Nitrobenzene	mg/l	2.0	<0.1	---	---	
Pyridine	mg/l	5.0	<0.1	---	---	
3&4-Methyl Phenol	mg/l	400	<0.1	---	---	
2-Methylphenol	mg/l	200	<0.1	---	---	
Pentachlorophenol	mg/l	100	<0.1	---	---	
2,4,5-Trichlorophenol	mg/l	400	<0.1	---	---	
2,4,6-Trichlorophenol	mg/l	2.0	<0.1	---	---	

<b>Total Metals</b>	<b>Units</b>	<b>Res. PRG</b>	<b>Ind. PRG</b>			
Arsenic	mg/kg	0.39	1.6	---	<b>13</b>	---
Barium	mg/kg	5,400	67,000	---	<b>1400</b>	---
Cadmium	mg/kg	37	450	---	<b>34</b>	---
Chromium	mg/kg	210	450	---	<b>860</b>	---
Lead	mg/kg	400	750	---	<b>700</b>	---
Mercury	mg/kg	23	310	---	<b>0.18</b>	---
Selenium	mg/kg	390	5,100	---	<b>140</b>	---
Silver	mg/kg	390	5,100	---	<b>98</b>	---

**Table 4**  
**Sludge Analytical Results (Total and TCLP)**  
**500 East Main Street, Louisville, Kentucky**  
**MACTEC Project No. 6680-08-9635**

	Laboratory ID			L481739-01	L481739-02	L482531-01
	Field ID			Drum 1	East Shop Sump	East Shop Sump
	Sample Collection Date			9/30/2010	9/30/2010	9/30/2010
Volatile Organic Compounds	Units	Res. PRG	Ind. PRG			
Acetone	mg/kg	1,600	6,000	---	<2.5	---
Acrylonitrile	mg/kg	0.21	0.49	---	<0.5	---
Benzene	mg/kg	0.60	1.3	---	<0.05	---
Bromobenzene	mg/kg	28	92	---	<0.05	---
Bromodichloromethane	mg/kg	0.82	1.8	---	<0.05	---
Bromoform	mg/kg	62	220	---	<0.05	---
Bromomethane	mg/kg	3.9	13	---	<0.25	---
n-Butylbenzene	mg/kg	240	240	---	0.11	---
sec-Butylbenzene	mg/kg	220	220	---	0.052	---
tert-Butylbenzene	mg/kg	390	390	---	<0.05	---
Carbon tetrachloride	mg/kg	0.25	0.55	---	<0.05	---
Chlorobenzene	mg/kg	150	530	---	<0.05	---
Chlorodibromomethane	mg/kg	1.1	2.6	---	<0.05	---
Chloroethane	mg/kg	3.0	6.5	---	<0.25	---
2-Chloroethyl vinyl ether	mg/kg	---	---	---	<2.5	---
Chloroform	mg/kg	3.6	12	---	<0.25	---
Chloromethane	mg/kg	1.2	2.6	---	<0.13	---
2-Chlorotoluene	mg/kg	160	560	---	<0.05	---
4-Chlorotoluene	mg/kg	---	---	---	<0.05	---
1,2-Dibromo-3-Chloropropane	mg/kg	0.45	2.0	---	<0.25	---
1,2-Dibromoethane	mg/kg	0.0069	0.028	---	<0.05	---
Dibromomethane	mg/kg	67	230	---	<0.05	---
1,2-Dichlorobenzene	mg/kg	370	370	---	0.079	---
1,3-Dichlorobenzene	mg/kg	16	63	---	<0.05	---
1,4-Dichlorobenzene	mg/kg	3.4	7.9	---	<0.05	---
Dichlorodifluoromethane	mg/kg	94	310	---	<0.25	---
1,1-Dichloroethane	mg/kg	510	1,700	---	<0.05	---
1,2-Dichloroethane	mg/kg	0.28	0.60	---	<0.05	---
1,1-Dichloroethene	mg/kg	120	410	---	<0.05	---
cis-1,2-Dichloroethene	mg/kg	43	150	---	<0.05	---
trans-1,2-Dichloroethene	mg/kg	69	230	---	<0.05	---
1,2-Dichloropropane	mg/kg	0.34	0.74	---	<0.05	---
1,1-Dichloropropene	mg/kg	---	---	---	<0.05	---
1,3-Dichloropropane	mg/kg	---	---	---	<0.05	---
cis-1,3-Dichloropropene	mg/kg	0.78	1.8	---	<0.05	---
trans-1,3-Dichloropropene	mg/kg	0.78	1.8	---	<0.05	---
2,2-Dichloropropane	mg/kg	---	---	---	<0.05	---
Di-isopropyl ether	mg/kg	---	---	---	<0.05	---
Ethylbenzene	mg/kg	8.9	20	---	0.036 J	---
Hexachlorobutadiene	mg/kg	6.2	22	---	<0.05	---
Isopropylbenzene	mg/kg	160	520	---	0.023 J	---
p-Isopropyltoluene	mg/kg	---	---	---	0.068	---
2-Butanone (MEK)	mg/kg	7,300	27,000	---	<0.5	---
Methylene Chloride	mg/kg	9.1	21	---	0.025 J	---
4-Methyl-2-pentanone (MIBK)	mg/kg	790	2,800	---	<0.5	---
Methyl tert-butyl ether	mg/kg	62	160	---	<0.05	---
Naphthalene	mg/kg	56	190	---	2.2	---
n-Propylbenzene	mg/kg	240	240	---	0.073	---
Styrene	mg/kg	1,700	1,700	---	<0.05	---

**Table 4**  
**Sludge Analytical Results (Total and TCLP)**  
**500 East Main Street, Louisville, Kentucky**  
**MACTEC Project No. 6680-08-9635**

	<i>Laboratory ID</i>			L481739-01	L481739-02	L482531-01
	<i>Field ID</i>			Drum 1	East Shop Sump	East Shop Sump
	<i>Sample Collection Date</i>			9/30/2010	9/30/2010	9/30/2010
1,1,1,2-Tetrachloroethane	mg/kg	3.2	7.3	---	<0.05	---
1,1,2,2-Tetrachloroethane	mg/kg	0.41	0.93	---	<0.05	---
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	5,600	5,600	---	<0.05	---
Tetrachloroethene	mg/kg	1.5	3.4	---	<0.05	---
Toluene	mg/kg	520	520	---	<b>0.092</b> J	---
1,2,3-Trichlorobenzene	mg/kg	---	---	---	<0.05	---
1,2,4-Trichlorobenzene	mg/kg	650	3,000	---	<0.05	---
1,1,1-Trichloroethane	mg/kg	1,200	1,200	---	<0.05	---
1,1,2-Trichloroethane	mg/kg	0.73	1.6	---	<0.05	---
Trichloroethene	mg/kg	0.053	0.11	---	<0.05	---
Trichlorofluoromethane	mg/kg	390	2,000	---	<0.25	---
1,2,3-Trichloropropane	mg/kg	0.005	0.011	---	<0.05	---
1,2,4-Trimethylbenzene	mg/kg	52	170	---	<b>0.52</b>	---
1,2,3-Trimethylbenzene	mg/kg	---	---	---	<b>0.29</b>	---
1,3,5-Trimethylbenzene	mg/kg	21	70	---	<b>0.18</b>	---
Vinyl chloride	mg/kg	0.079	0.75	---	<0.05	---
Xylenes, Total	mg/kg	270	420	---	<b>0.17</b>	---
<b>Semivolatile Organic Compounds</b>	<b>Units</b>	<b>Res. PRG</b>	<b>Ind. PRG</b>			
Acenaphthene	mg/kg	3,700	29,000	---	<33 O	---
Acenaphthylene	mg/kg	3,700*	29,000*	---	<33 O	---
Anthracene	mg/kg	22,000	100,000	---	<33 O	---
Benidine	mg/kg	0.0021	0.0075	---	<330 J3,O	---
Benzo (a) anthracene	mg/kg	0.62	2.1	---	<33 O	---
Benzo (b) fluoranthene	mg/kg	0.62	2.1	---	<33 O	---
Benzo (k) fluoranthene	mg/kg	6.2	21	---	<33 O	---
Benzo (g,h,i) perylene	mg/kg	2,300*	29,000*	---	<33 O	---
Benzo (a) pyrene	mg/kg	0.062	0.21	---	<33 O	---
Bis (2-chlorethoxy) methane	mg/kg	---	---	---	<330 O	---
Bis (2-chloroethyl) ether	mg/kg	0.21	0.55	---	<330 O	---
Bis (2-chloroisopropyl) ether	mg/kg	2.9	7.4	---	<330 O	---
4-Bromophenyl-phenylether	mg/kg	---	---	---	<330 O	---
2-Chloronaphthalene	mg/kg	---	---	---	<33 O	---
4-Chlorophenyl-phenylether	mg/kg	---	---	---	<330 O	---
Chrysene	mg/kg	62	210	---	<33 O	---
Dibenz (a,h) anthracene	mg/kg	0.062	0.21	---	<33 O	---
3,3-Dichlorobenzidine	mg/kg	1.1	3.8	---	<330 O	---
2,4-Dinitrotoluene	mg/kg	120	1,200	---	<330 O	---
2,6-Dinitrotoluene	mg/kg	61	620	---	<330 O	---
Fluoranthene	mg/kg	2,300	22,000	---	<33 O	---
Fluorene	mg/kg	2,700	26,000	---	<33 O	---
Hexachlorobenzene	mg/kg	0.3	1.1	---	<330 O	---
Hexachloro-1,3-butadiene	mg/kg	---	---	---	<330 O	---
Hexachlorocyclopentadiene	mg/kg	---	---	---	<330 O	---
Hexachloroethane	mg/kg	35	120	---	<330 J4,O	---
Indeno (1,2,3-cd) pyrene	mg/kg	0.62	2.1	---	<33 O	---
Isophorone	mg/kg	510	1,800	---	<330 O	---
Naphthalene	mg/kg	56	190	---	<33 O	---
Nitrobenzene	mg/kg	20	100	---	<330 O	---
n-Nitrosodimethylamine	mg/kg	0.0095	0.034	---	<330 O	---
n-Nitrosodiphenylamine	mg/kg	99	350	---	<330 O	---

**Table 4**  
**Sludge Analytical Results (Total and TCLP)**  
**500 East Main Street, Louisville, Kentucky**  
**MACTEC Project No. 6680-08-9635**

			Laboratory ID		L481739-01	L481739-02	L482531-01
			Field ID		Drum 1	East Shop Sump	East Shop Sump
	Sample Collection Date				9/30/2010	9/30/2010	9/30/2010
n-Nitrosodi-n-propylamine	mg/kg	0.069	0.25	---	<330	O	---
Phenanthrene	mg/kg	3,700*	29,000*	---	<33	O	---
Benzylbutyl phthalate	mg/kg	12,000	100,000	---	<330	O	---
Bis (2-ethylhexyl) phthalate	mg/kg	35	120	---	<330	O	---
Di-n-butyl phthalate	mg/kg	---	---	---	<330	O	---
Diethyl phthalate	mg/kg	---	---	---	<330	O	---
Dimethyl phthalate	mg/kg	100,000	100,000	---	<330	O	---
Di-n-octyl phthalate	mg/kg	---	---	---	<330	O	---
Pyrene	mg/kg	2,300	29,000	---	<33	O	---
1,2,4-Trichlorobenzene	mg/kg	650	3,000	---	<330	O	---
4-Chloro-3-methylphenol	mg/kg	---	---	---	<330	O	---
2-Chlorophenol	mg/kg	---	---	---	<330	J4,O	---
2,4-Dichlorophenol	mg/kg	180	1,800	---	<330	O	---
2,4-Dimethylphenol	mg/kg	1,200	12,000	---	<330	O	---
4,6-Dinitro-2-methylphenol	mg/kg	---	---	---	<330	O	---
2,4-Dinitrophenol	mg/kg	120	1,200	---	<330	O	---
2-Nitrophenol	mg/kg	---	---	---	<330	O	---
4-Nitrophenol	mg/kg	---	---	---	<330	O	---
Pentachlorophenol	mg/kg	---	---	---	<330	O	---
Phenol	mg/kg	37,000	100,000	---	<330	O	---
2,4,6-Trichlorophenol	mg/kg	6.1	62	---	<330	O	---

Prepared by: TSK 11/03/2010

Checked by: MJC 11/5/2010

**Notes:**

mg/l Milligrams per liter

mg/kg Milligrams per kilogram


Detected values are indicated in **bold**

--- Not analyzed, not established, or not available

PRG USEPA Region 9 2002 Preliminary Remediation Goal for Soil (Res. = residential, Ind. = industrial)

\* PRGs not established for these compounds, values shown are KY Action Levels in Form DEP 7097C (July 2010)

 Value above the Industrial PRG.

 Value above the Residential PRG and below the Industrial PRG.

**Laboratory Qualifiers:**

J (EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.

O (ESC) - Sample diluted due to matrix interferences that impaired the ability to make an accurate analytical determination. The detection limit is elevated in order to reflect the necessary dilution.

J3 The associated batch QC was outside the established quality control range for precision.

J4 The associated batch QC was outside the established quality control range for accuracy.

J6 The sample matrix interfered with the ability to make an accurate determination; spike value is low.

**Table 5**  
**Wastewater Analytical Results**  
**500 East Main Street, Louisville, Kentucky**  
**MACTEC Project No. 6680-08-9635**

<i>Laboratory ID</i>	L484588-01	L484588-02	L484588-03
<i>Field ID</i>	<b>BW Sump</b>	<b>Drum 2</b>	<b>Poly Tank</b>
<i>Sample Collection Date</i>	10/18/2010	10/18/2010	10/18/2010

Parameters	Units	PRG	MCL						
pH	S.U.	---	6.5-8.5**	10	T8	7.8	T8	7.7	T8
Cyanide	mg/l	0.73	0.2	<0.005		<0.005		<0.005	
Oil and Grease	mg/l	---	---	1.2	J	<5.9		2.6	J

Metals	Units	PRG	MCL						
Cadmium	mg/l	0.018	0.005	<0.005		<0.005		0.0024	J
Chromium	mg/l	---	0.1	0.099		0.036		0.093	
Copper	mg/l	1.5	1.3*	0.054		<0.02		0.060	
Lead	mg/l	---	0.015*	0.065		0.027		0.23	
Nickel	mg/l	0.73	---	0.18		<0.02		0.25	
Silver	mg/l	0.18	0.10**	<0.01		<0.01		<0.01	
Zinc	mg/l	11	5**	0.16		0.039		0.55	

Volatile Organic Compounds	Units	PRG	MCL						
Acrolein	mg/l	0.000042	---	<0.05		<0.05		<0.05	
Acrylonitrile	mg/l	0.000039	---	<0.01	J3	<0.01	J3	<0.01	J3
Benzene	mg/l	0.00034	0.005	<0.001		<0.001		<0.001	
Bromodichloromethane	mg/l	0.00018	0.080	<0.001		<0.001		<0.001	
Bromoform	mg/l	0.0085	0.080	<0.001		<0.001		<0.001	
Bromomethane	mg/l	0.0087	---	<0.005		<0.005		<0.005	
Carbon tetrachloride	mg/l	0.00017	0.005	<0.001		<0.001		<0.001	
Chlorobenzene	mg/l	0.11	0.1	<0.001		<0.001		<0.001	
Chlorodibromomethane	mg/l	0.00013	0.080	<0.001		<0.001		<0.001	
Chloroethane	mg/l	0.0046	---	<0.005		<0.005		<0.005	
2-Chloroethyl vinyl ether	mg/l	---	---	<0.05		<0.05		<0.05	
Chloroform	mg/l	0.0062	0.080	<0.005		<0.005		<0.005	
Chloromethane	mg/l	0.0015	---	<0.0025		<0.0025		<0.0025	
1,2-Dichlorobenzene	mg/l	0.37	0.6	<0.001		<0.001		<0.001	
1,3-Dichlorobenzene	mg/l	0.0055	---	<0.001		<0.001		<0.001	
1,4-Dichlorobenzene	mg/l	0.0005	0.075	<0.001		<0.001		<0.001	
Dichlorodifluoromethane	mg/l	0.39	---	<0.005		<0.005		<0.005	
1,1-Dichloroethane	mg/l	0.81	---	<0.001		<0.001		<0.001	
1,2-Dichloroethane	mg/l	0.00012	0.005	<0.001		<0.001		<0.001	
1,1-Dichloroethene	mg/l	0.34	---	<0.001		<0.001		<0.001	
trans-1,2-Dichloroethene	mg/l	0.12	0.1	<0.001		<0.001		<0.001	
1,2-Dichloropropane	mg/l	0.00016	0.005	<0.001		<0.001		<0.001	
cis-1,3-Dichloropropene	mg/l	---	---	<0.001		<0.001		<0.001	
trans-1,3-Dichloropropene	mg/l	---	---	<0.001		<0.001		<0.001	
Ethylbenzene	mg/l	0.0029	0.7	<0.001		<0.001		<0.001	
Methylene Chloride	mg/l	0.0043	---	<0.005		<0.005		<0.005	
1,1,1,2-Tetrachloroethane	mg/l	0.00043	---	<0.001		<0.001		<0.001	
Tetrachloroethene	mg/l	0.00066	0.005	<0.001		<0.001		<0.001	
Toluene	mg/l	0.72	1	<0.005		<0.005		<0.005	
1,1,1-Trichloroethane	mg/l	3.2	0.2	<0.001		<0.001		<0.001	
1,1,2-Trichloroethane	mg/l	0.0002	0.005	<0.001		<0.001		<0.001	
Trichloroethene	mg/l	0.000028	0.005	<0.001		0.0013		0.0068	
Trichlorofluoromethane	mg/l	1.3	---	<0.005		<0.005		<0.005	
Vinyl chloride	mg/l	0.00002	0.002	<0.001		<0.001		<0.001	

**Table 5**  
**Wastewater Analytical Results**  
**500 East Main Street, Louisville, Kentucky**  
**MACTEC Project No. 6680-08-9635**

<i>Laboratory ID</i>	L484588-01	L484588-02	L484588-03
<i>Field ID</i>	<b>BW Sump</b>	<b>Drum 2</b>	<b>Poly Tank</b>
<i>Sample Collection Date</i>	10/18/2010	10/18/2010	10/18/2010

<b>Semivolatile Organic Compounds</b>	<b>Units</b>	<b>PRG</b>	<b>MCL</b>				
Acenaphthene	mg/l	0.37	0.0002	<0.001		<0.001	<0.004 O
Acenaphthylene	mg/l	0.365***	---	<0.001		<0.001	<0.004 O
Anthracene	mg/l	1.8	0.0002	<0.001		<0.001	<0.004 O
Benzidine	mg/l	0.000000029	---	<0.01		<0.01	<0.04 O
Benzo (a) anthracene	mg/l	0.000092	0.0002	<0.001		<0.001	<0.004 O
Benzo (b) fluoranthene	mg/l	0.000092	0.0002	<0.001		<0.001	<0.004 O
Benzo (k) fluoranthene	mg/l	0.00092	0.0002	<0.001		<0.001	<0.004 O
Benzo (g,h,i) perylene	mg/l	0.182***	---	<0.001		<0.001	<0.004 O
Benzo (a) pyrene	mg/l	0.0000092	0.0002	<0.001		<0.001	<0.004 O
Bis (2-chlorethoxy) methane	mg/l	---	---	<0.01		<0.01	<0.04 O
Bis (2-chloroethyl) ether	mg/l	0.0000098	---	<0.01		<0.01	<0.04 O
Bis (2-chloroisopropyl) ether	mg/l	0.00027	---	<0.01		<0.01	<0.04 O
4-Bromophenyl-phenylether	mg/l	---	---	<0.01		<0.01	<0.04 O
2-Chloronaphthalene	mg/l	---	---	<0.001		<0.001	<0.004 O
4-Chlorophenyl-phenylether	mg/l	---	---	<0.01		<0.01	<0.04 O
Chrysene	mg/l	0.0092	0.0002	<0.001		<0.001	<0.004 O
Dibenz (a,h) anthracene	mg/l	0.0000092	0.0002	<0.001		<0.001	<0.004 O
3,3-Dichlorobenzidine	mg/l	0.00015	---	<0.01		<0.01	<0.04 O
2,4-Dinitrotoluene	mg/l	0.073	---	<0.01		<0.01	<0.04 O
2,6-Dinitrotoluene	mg/l	0.036	---	<0.01		<0.01	<0.04 O
1,2-Diphenylhydrazine	mg/l	0.000084	---	<0.01		<0.01	<0.04 O
Fluoranthene	mg/l	1.5	0.0002	<0.001		<0.001	<0.004 O
Fluorene	mg/l	0.24	0.0002	<0.001		<0.001	<0.004 O
Hexachlorobenzene	mg/l	0.000042	0.001	<0.001		<0.001	<0.004 O
Hexachloro-1,3-butadiene	mg/l	---	---	<0.01		<0.01	<0.04 O
Hexachlorocyclopentadiene	mg/l	0.22	0.05	<0.01		<0.01	<0.04 O
Hexachloroethane	mg/l	0.0048	---	<0.01		<0.01	<0.04 O
Indeno (1,2,3-cd) pyrene	mg/l	0.000092	0.0002	<0.001		<0.001	<0.004 O
Isophorone	mg/l	0.071	---	<0.01		<0.01	<0.04 O
Naphthalene	mg/l	0.0062	0.0002	<0.001		<0.001	<0.004 O
Nitrobenzene	mg/l	0.0034	---	<0.01		<0.01	<0.04 O
n-Nitrosodimethylamine	mg/l	0.0000013	---	<0.01		<0.01	<0.04 O
n-Nitrosodiphenylamine	mg/l	0.014	---	<0.01		<0.01	<0.04 O
n-Nitrosodi-n-propylamine	mg/l	0.0000096	---	<0.01		<0.01	<0.04 O
Phenanthrene	mg/l	0.365***	---	<0.001		<0.001	<0.004 O
Benzylbutyl phthalate	mg/l	7.3	---	<0.001		<0.001	<0.004 O
Bis (2-ethylhexyl) phthalate	mg/l	0.0048	---	<0.001		<0.001	<0.004 O
Di-n-butyl phthalate	mg/l	3.6	---	<0.001		<0.001	<0.004 O
Diethyl phthalate	mg/l	29	---	<0.001		<0.001	<0.004 O
Dimethyl phthalate	mg/l	360	---	<0.001		<0.001	<0.004 O
Di-n-octyl phthalate	mg/l	1.5	---	<0.001		<0.001	<0.004 O
Pyrene	mg/l	0.18	0.0002	<0.001		<0.001	<0.004 O
1,2,4-Trichlorobenzene	mg/l	0.19	0.07	<0.01		<0.01	<0.04 O
4-Chloro-3-methylphenol	mg/l	---	---	<0.01		<0.01	<0.04 O
2-Chlorophenol	mg/l	0.03	---	<0.01		<0.01	<0.04 O
2,4-Dichlorophenol	mg/l	0.11	---	<0.01		<0.01	<0.04 O
2,4-Dimethylphenol	mg/l	0.73	---	<0.01		<0.01	<0.04 O
4,6-Dinitro-2-methylphenol	mg/l	---	---	<0.01		<0.01	<0.04 O
2,4-Dinitrophenol	mg/l	0.073	---	<0.01		<0.01	<0.04 O
2-Nitrophenol	mg/l	---	---	<0.01		<0.01	<0.04 O
4-Nitrophenol	mg/l	---	---	<0.01		<0.01	<0.04 O
Pentachlorophenol	mg/l	0.00056	0.001	<0.01		<0.01	<0.04 O
Phenol	mg/l	22	---	<0.01		<0.01	<0.04 O
2,4,6-Trichlorophenol	mg/l	0.0036	---	<0.01		<0.01	<0.04 O

**Table 5**  
**Wastewater Analytical Results**  
**500 East Main Street, Louisville, Kentucky**  
**MACTEC Project No. 6680-08-9635**

<i>Laboratory ID</i>	L484588-01	L484588-02	L484588-03
<i>Field ID</i>	<b>BW Sump</b>	<b>Drum 2</b>	<b>Poly Tank</b>
<i>Sample Collection Date</i>	10/18/2010	10/18/2010	10/18/2010

<b>Pesticides/PCBs</b>	<b>Units</b>	<b>PRG</b>	<b>MCL</b>				
Aldrin	mg/l	0.000004	---	<0.00005		<0.00005	<0.00005
Alpha BHC	mg/l	---	---	<0.00005		<0.00005	<0.00005
Beta BHC	mg/l	---	---	<0.00005		<0.00005	<0.00005
Delta BHC	mg/l	---	---	<0.00005		<0.00005	<0.00005
Gamma BHC	mg/l	---	---	<0.00005		<0.00005	<0.00005
Chlordane	mg/l	0.00019	0.002	<0.0005		<0.0005	<0.0005
4,4-DDD	mg/l	0.00028	---	<0.00005		<0.00005	<0.00005
4,4-DDE	mg/l	0.0002	---	<0.00005		<0.00005	<0.00005
4,4-DDT	mg/l	0.0002	---	<0.00005		<0.00005	<0.00005
Dieldrin	mg/l	0.0000042	---	<0.00005		<0.00005	<0.00005
Endosulfan I	mg/l	0.22	---	<0.00005		<0.00005	<0.00005
Endosulfan II	mg/l	---	---	<0.00005		<0.00005	<0.00005
Endosulfan sulfate	mg/l	---	---	<0.00005		<0.00005	<0.00005
Endrin	mg/l	0.011	0.002	<0.00005		<0.00005	<0.00005
Endrin adelhyde	mg/l	---	---	<0.00005		<0.00005	<0.00005
Endrin ketone	mg/l	---	---	<0.00005		<0.00005	<0.00005
Heptachlor	mg/l	0.000015	0.0004	<0.00005		<0.00005	<0.00005
Heptachlor epoxide	mg/l	0.0000074	0.0002	<0.00005		<0.00005	<0.00005
Hexachlorobenzene	mg/l	0.000042	0.001	<0.00005		<0.00005	<0.00005
Methoxychlor	mg/l	0.18	0.04	<0.00005		<0.00005	<0.00005
Toxaphene	mg/l	0.000061	0.003	<0.0005		<0.0005	<0.0005
PCB 1016	mg/l	0.00096	0.0005	<0.005	O	<0.005	O
PCB 1221	mg/l	0.000034	0.0005	<0.005	O	<0.005	O
PCB 1232	mg/l	0.000034	0.0005	<0.005	O	<0.005	O
PCB 1242	mg/l	0.000034	0.0005	<0.005	O	<0.005	O
PCB 1248	mg/l	0.000034	0.0005	<0.005	O	<0.005	O
PCB 1254	mg/l	0.000034	0.0005	<0.005	O	<0.005	O
PCB 1260	mg/l	0.000034	0.0005	<0.005	O	<0.005	O

Prepared by: TSK 11/04/2010  
Checked by: MJC 11/05/2010

**Notes:**

mg/l Milligrams per liter

--- Not analyzed, not established, or not available

Detected values are indicated in **bold**

PRG USEPA Region 9 2002 Preliminary Remediation Goal for tap water


MCL USEPA Maximum Contaminant Level, or Action Level, for drinking water

\* Treatment technique value

\*\* National Secondary Drinking Water Standard

\*\*\* PRGs not established for these compounds, values shown are KY Action Levels in Form DEP 7097C (July 2010)

 Value above the USEPA MCL.

 Value above the USEPA Region 9 tap water PRG and below USEPA MCL.

**Laboratory Qualifiers:**

T8 (ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.

J (EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.

O (ESC) - Sample diluted due to matrix interferences that impaired the ability to make an accurate analytical determination. The detection limit is elevated in order to reflect the necessary dilution.

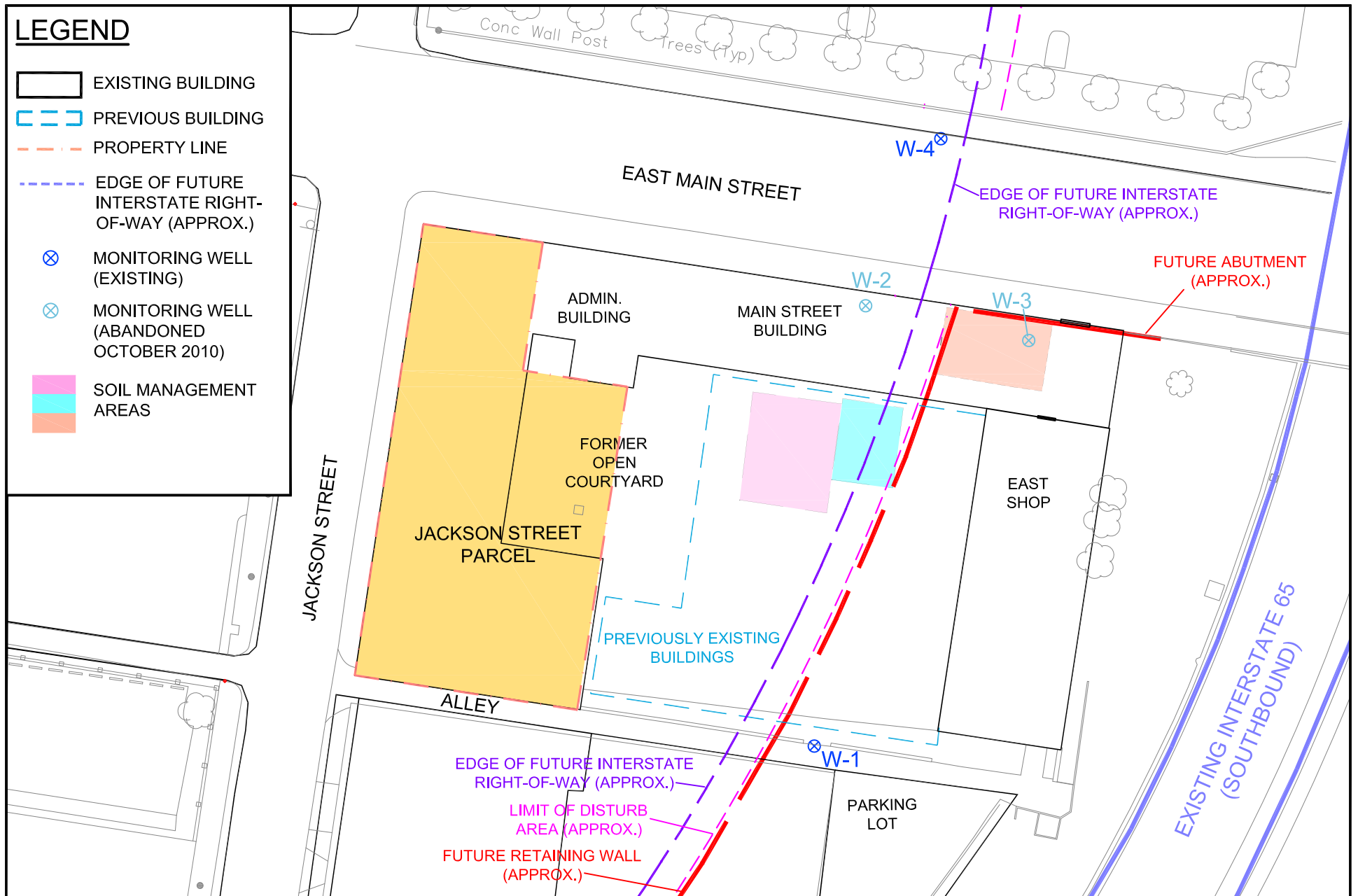
J3 The associated batch QC was outside the established quality control range for precision.



## FIGURES

# LEGEND

- EXISTING BUILDING
- PREVIOUS BUILDING
- PROPERTY LINE
- EDGE OF FUTURE INTERSTATE RIGHT-OF-WAY (APPROX.)
- ⊗ MONITORING WELL (EXISTING)
- ⊗ MONITORING WELL (ABANDONED OCTOBER 2010)
- SOIL MANAGEMENT AREAS



0 30 60  
APPROX. SCALE IN FEET



**MACTEC**  
2456 Fortune Drive, Suite 100  
Lexington, KY 40509  
(859) 255-3308

## SITE LAYOUT AND MONITORING WELL LOCATIONS











FORMER VERMONT AMERICAN FACILITY  
500 EAST MAIN STREET, LOUISVILLE, KENTUCKY

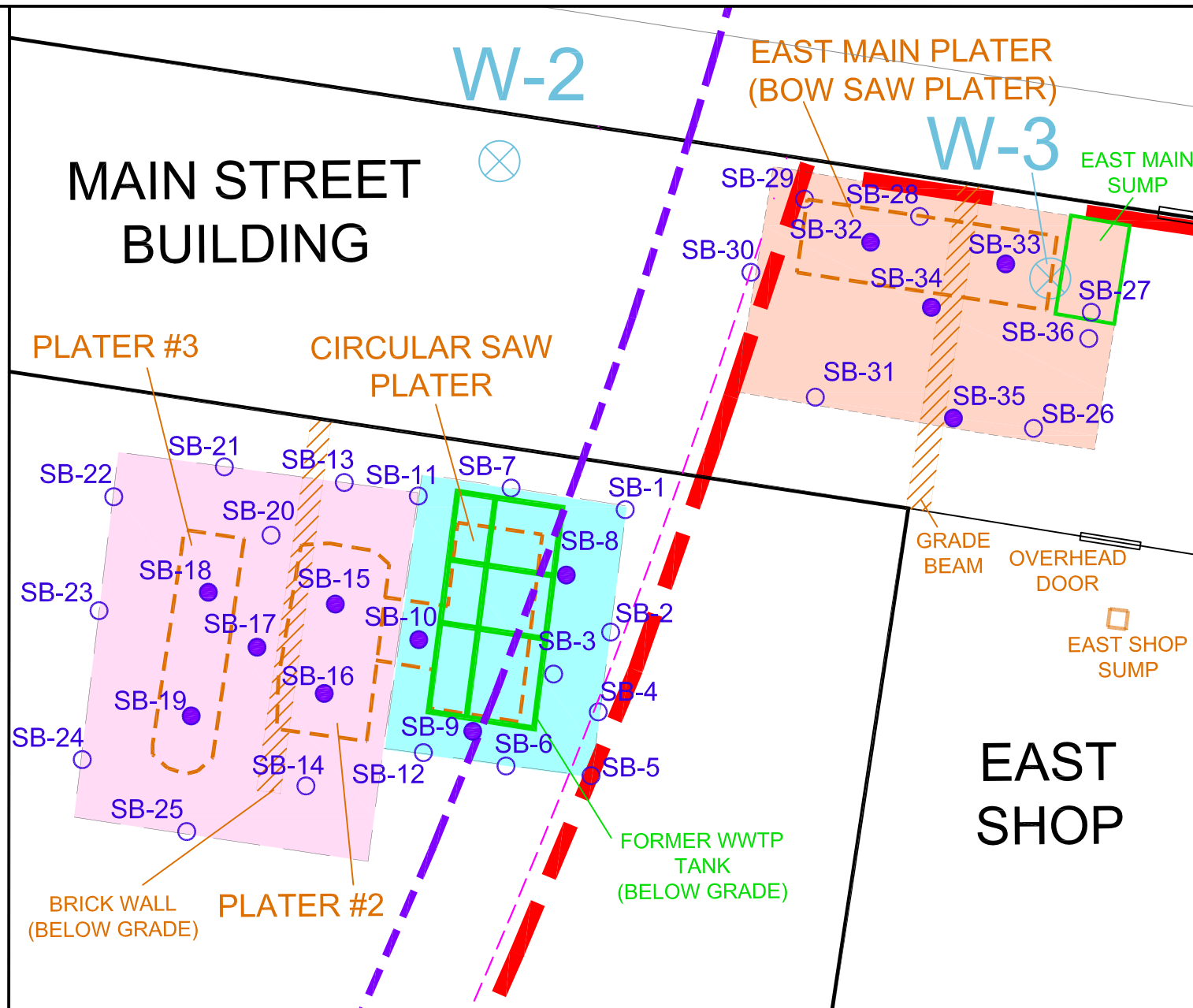
PROJECT NUMBER: 6680-08-9635

APPROX. SCALE	1" = 60'
DATE	10/25/2010
DRAWN BY	ALD
APPROVED BY	MJC

**FIG. 1**

# LEGEND

-  EXISTING BUILDING
-  PREVIOUS BUILDING
-  PROPERTY LINE
-  EDGE OF FUTURE INTERSTATE RIGHT-OF-WAY (APPROX.)
-  FUTURE RETAINING WALL OR ABUTMENT (APPROX.)
-  APPROXIMATE LIMIT OF DISTURB AREA
-  MONITORING WELL (ABANDONED)
-  SOIL MANAGEMENT AREAS
-  SOIL BORING (10 FT DEEP)
-  SOIL BORING (20 FT DEEP)



0 10 20  
APPROX. SCALE IN FEET



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2456 Fortune Drive, Suite 100  
Lexington, KY 40509  
(859) 255-3308

## SOIL BORING LOCATIONS







FORMER VERMONT AMERICAN FACILITY  
500 EAST MAIN STREET, LOUISVILLE, KENTUCKY

PROJECT NUMBER: 6680-08-9635

APPROX. SCALE	1" = 20'
DATE	10/25/2010
DRAWN BY	ALD
APPROVED BY	MJC

**FIG. 2**

## LEGEND





-  EXISTING BUILDING
-  EDGE OF FUTURE INTERSTATE RIGHT-OF-WAY (APPROX.)
-  FUTURE RETAINING WALL OR ABUTMENT (APPROX.)
-  APPROXIMATE LIMIT OF DISTURB AREA
-  MONITORING WELL (ABANDONED)
-  SOIL BORING

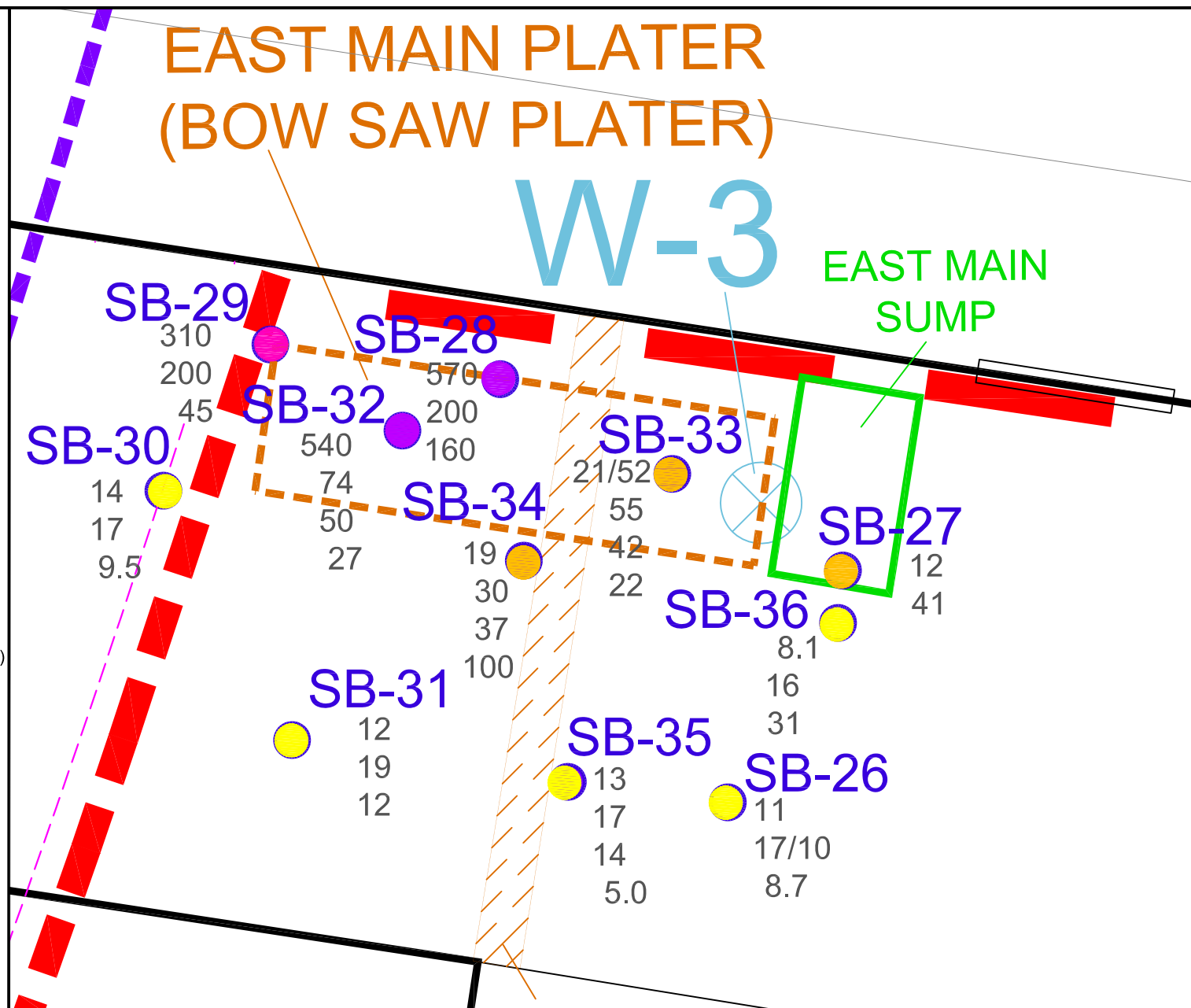
### SOIL ANALYTICAL RESULTS (BY DEPTH, IN MG/KG)

VALUE	DEPTH
5.5	0-2 FT
15	2-5 FT
22	5-10 FT
13	10-20 FT (ABSENT IN 10 FT BORINGS)

VALUES SEPARATED BY A SLASH (/)  
ARE FOR FIELD DUPLICATES

### SOIL ANALYTICAL RESULTS (BY CONCENTRATION, ACCORDING TO SAMPLE WITH HIGHEST CONCENTRATION PER SOIL BORING)

-  >450 MG/KG (IND. PRG)
-  210 (RES. PRG) - 450 MG/KG
-  40 - 200 MG/KG
-  <40 MG/KG (BACKGROUND)



0 5 10  
APPROX. SCALE IN FEET



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Lexington, KY 40509  
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### SOIL ANALYTICAL RESULTS - CHROMIUM INSIDE (EAST MAIN PLATER)

FORMER VERMONT AMERICAN FACILITY  
500 EAST MAIN STREET, LOUISVILLE, KENTUCKY  
PROJECT NUMBER: 6680-08-9635

APPROX. SCALE	1" = 10'
DATE	11/01/2010
DRAWN BY	ALD
APPROVED BY	TSK

**FIG.  
3**

# LEGEND





-  EXISTING BUILDING
-  EDGE OF FUTURE INTERSTATE RIGHT-OF-WAY (APPROX.)
-  FUTURE RETAINING WALL OR ABUTMENT (APPROX.)
-  APPROXIMATE LIMIT OF DISTURB AREA
-  MONITORING WELL (ABANDONED)
-  SOIL BORING

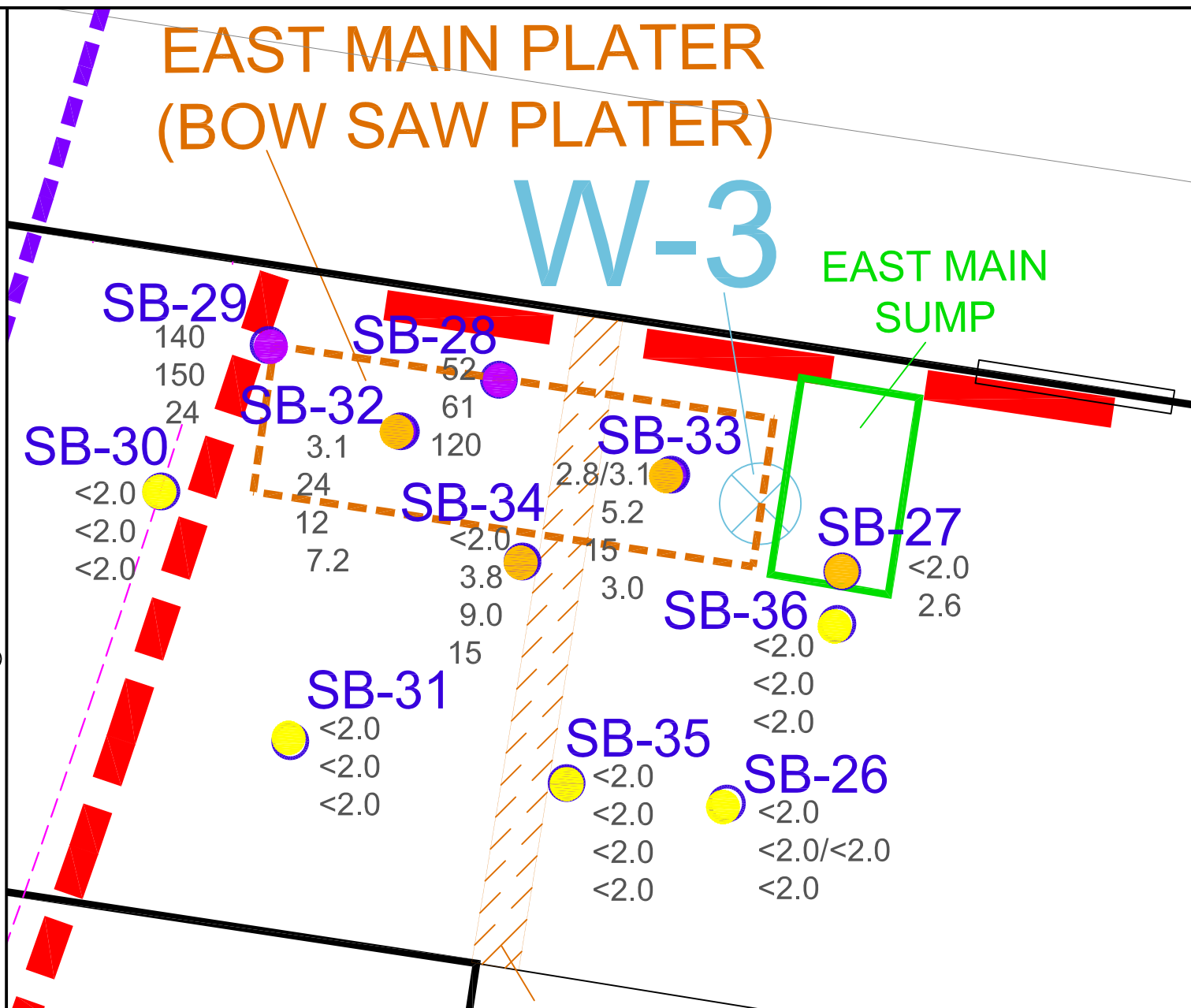
## SOIL ANALYTICAL RESULTS (BY DEPTH, IN MG/KG)

VALUE	DEPTH
5.5	0-2 FT
15	2-5 FT
22	5-10 FT
13	10-20 FT (ABSENT IN 10 FT BORINGS)

VALUES SEPARATED BY A SLASH (/) ARE FOR FIELD DUPLICATES

## SOIL ANALYTICAL RESULTS (BY CONCENTRATION, ACCORDING TO SAMPLE WITH HIGHEST CONCENTRATION PER SOIL BORING)

-  >64 MG/KG (IND. PRG)
-  30 (RES. PRG) - 64 MG/KG
-  2.0 - 29 MG/KG
-  <2.0 MG/KG (DETECT. LIMIT)



0 5 10  
APPROX. SCALE IN FEET



**MACTEC**  
2456 Fortune Drive, Suite 100  
Lexington, KY 40509  
(859) 255-3308







## SOIL ANALYTICAL RESULTS - HEX. CHROMIUM INSIDE (EAST MAIN PLATER)

FORMER VERMONT AMERICAN FACILITY  
500 EAST MAIN STREET, LOUISVILLE, KENTUCKY  
PROJECT NUMBER: 6680-08-9635

APPROX. SCALE	1" = 10'
DATE	11/01/2010
DRAWN BY	ALD
APPROVED BY	TSK

**FIG. 4**

## LEGEND





-  EXISTING BUILDING
-  EDGE OF FUTURE INTERSTATE RIGHT-OF-WAY (APPROX.)
-  FUTURE RETAINING WALL OR ABUTMENT (APPROX.)
-  APPROXIMATE LIMIT OF DISTURB AREA
-  MONITORING WELL (ABANDONED)
-  SOIL BORING

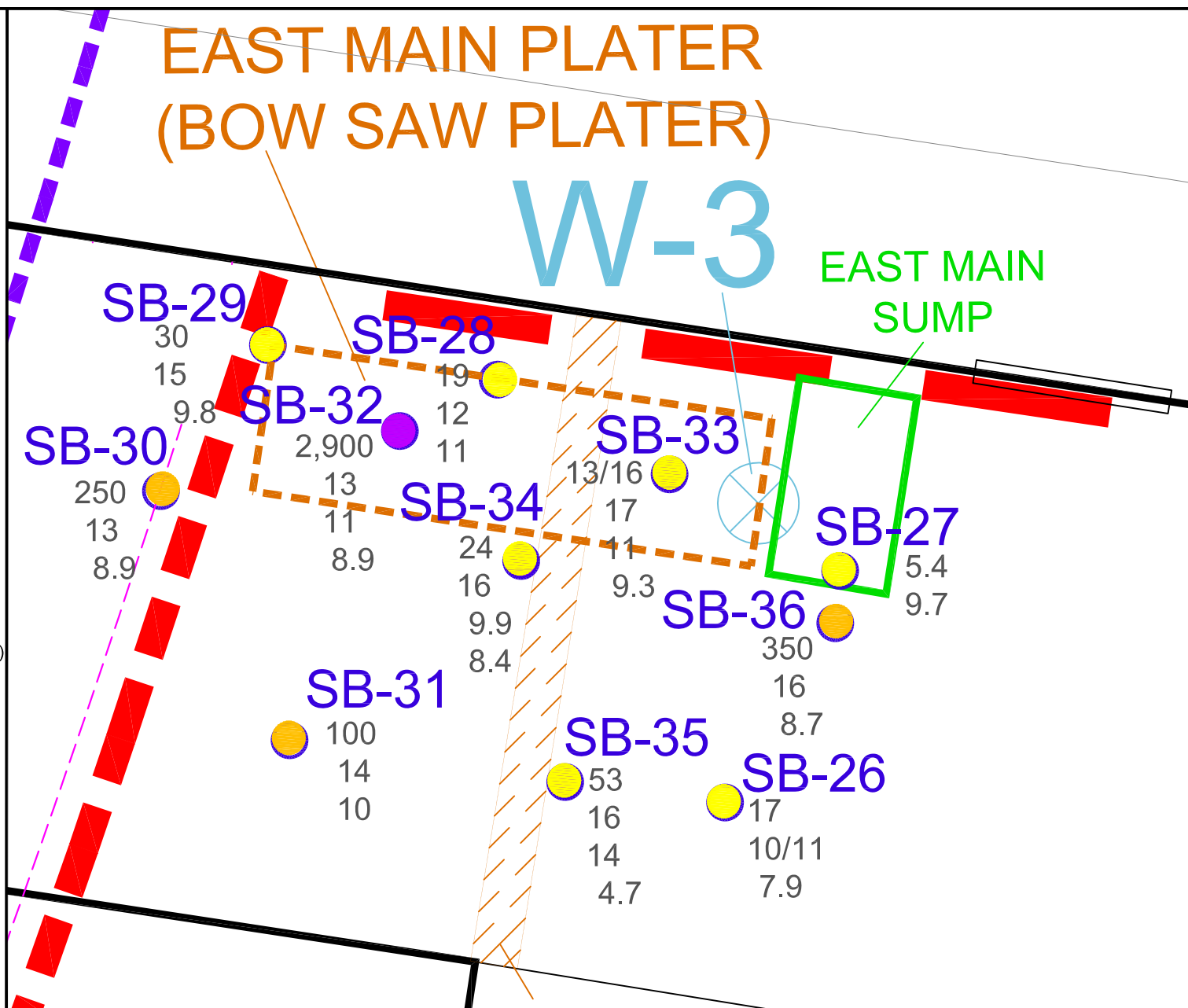
### SOIL ANALYTICAL RESULTS (BY DEPTH, IN MG/KG)

VALUE	DEPTH
5.5	0-2 FT
15	2-5 FT
22	5-10 FT
13	10-20 FT (ABSENT IN 10 FT BORINGS)

VALUES SEPARATED BY A SLASH (/)  
ARE FOR FIELD DUPLICATES

### SOIL ANALYTICAL RESULTS (BY CONCENTRATION, ACCORDING TO SAMPLE WITH HIGHEST CONCENTRATION PER SOIL BORING)

-  >750 MG/KG (IND. PRG)
-  400 (RES. PRG) - 750 MG/KG
-  85 - 390 MG/KG
-  <85 MG/KG (BACKGROUND)



0 5 10  
APPROX. SCALE IN FEET



**MACTEC**  
2456 Fortune Drive, Suite 100  
Lexington, KY 40509  
(859) 255-3308






**SOIL ANALYTICAL RESULTS - LEAD  
INSIDE (EAST MAIN PLATER)**  
FORMER VERMONT AMERICAN FACILITY  
500 EAST MAIN STREET, LOUISVILLE, KENTUCKY  
PROJECT NUMBER: 6680-08-9635

APPROX. SCALE	1" = 10'
DATE	11/01/2010
DRAWN BY	ALD
APPROVED BY	TSK

**FIG.  
5**



## LEGEND





-  EXISTING BUILDING
-  EDGE OF FUTURE INTERSTATE RIGHT-OF-WAY (APPROX.)
-  FUTURE RETAINING WALL OR ABUTMENT (APPROX.)
-  APPROXIMATE LIMIT OF DISTURB AREA
-  SOIL BORING

### SOIL ANALYTICAL RESULTS (BY DEPTH, IN MG/KG)

VALUE	DEPTH
5.5	0-2 FT
15	2-5 FT
22	5-10 FT
13	10-20 FT (ABSENT IN 10 FT BORINGS)

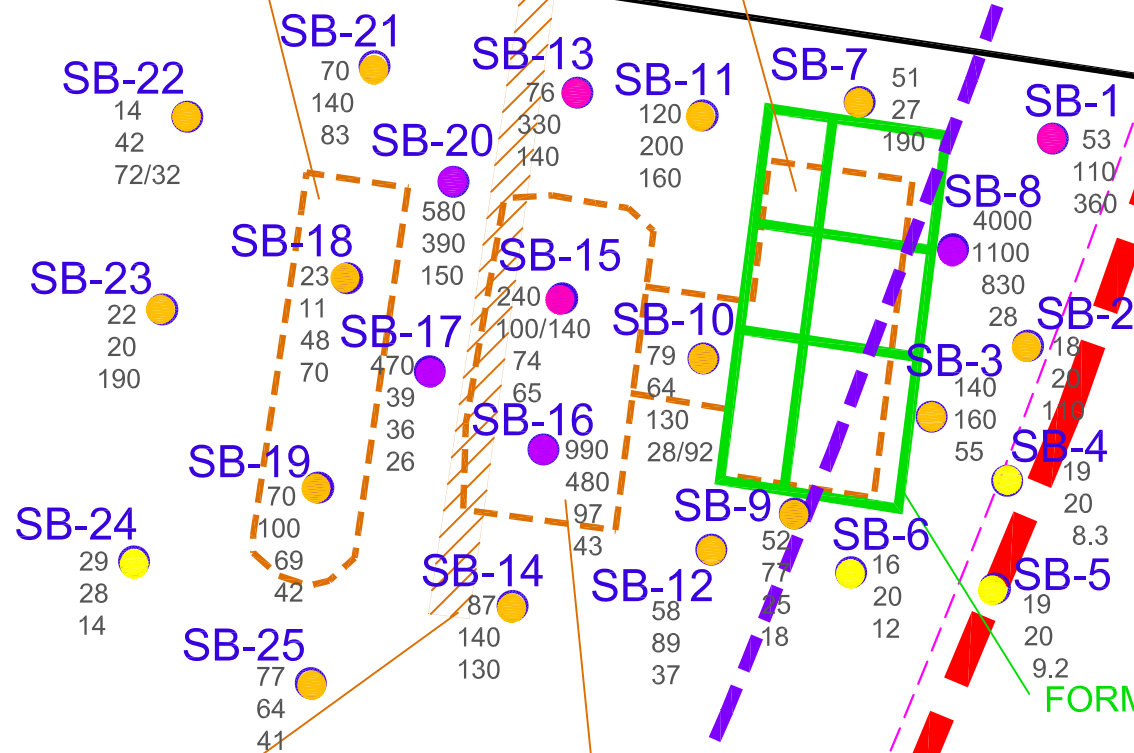
VALUES SEPARATED BY A SLASH (/)  
ARE FOR FIELD DUPLICATES

### SOIL ANALYTICAL RESULTS (BY CONCENTRATION, ACCORDING TO SAMPLE WITH HIGHEST CONCENTRATION PER SOIL BORING)

-  >450 MG/KG (IND. PRG)
-  210 (RES. PRG) - 450 MG/KG
-  40 - 200 MG/KG
-  <40 MG/KG (BACKGROUND)

PLATER #3

CIRCULAR SAW  
PLATER



BRICK WALL  
(BELOW GRADE)

PLATER #2

FORMER WWTP  
TANK  
(BELOW GRADE)

0 7.5 15  
APPROX. SCALE IN FEET



**MACTEC**  
2456 Fortune Drive, Suite 100  
Lexington, KY 40509  
(859) 255-3308

### SOIL ANALYTICAL RESULTS - CHROMIUM OUTSIDE (PLATERS #2 AND #3, CIRCULAR SAW)

FORMER VERMONT AMERICAN FACILITY  
500 EAST MAIN STREET, LOUISVILLE, KENTUCKY  
PROJECT NUMBER: 6680-08-9635

APPROX. SCALE	1" = 15'
DATE	11/01/2010
DRAWN BY	ALD
APPROVED BY	TSK

**FIG.  
6**

## LEGEND

EXISTING BUILDING

EDGE OF FUTURE INTERSTATE RIGHT-OF-WAY (APPROX.)

FUTURE RETAINING WALL OR ABUTMENT (APPROX.)

APPROXIMATE LIMIT OF DISTURB AREA

SOIL BORING

SOIL ANALYTICAL RESULTS  
(BY DEPTH, IN MG/KG)

VALUE	DEPTH
5.5	0-2 FT
15	2-5 FT
22	5-10 FT
13	10-20 FT (ABSENT IN 10 FT BORINGS)

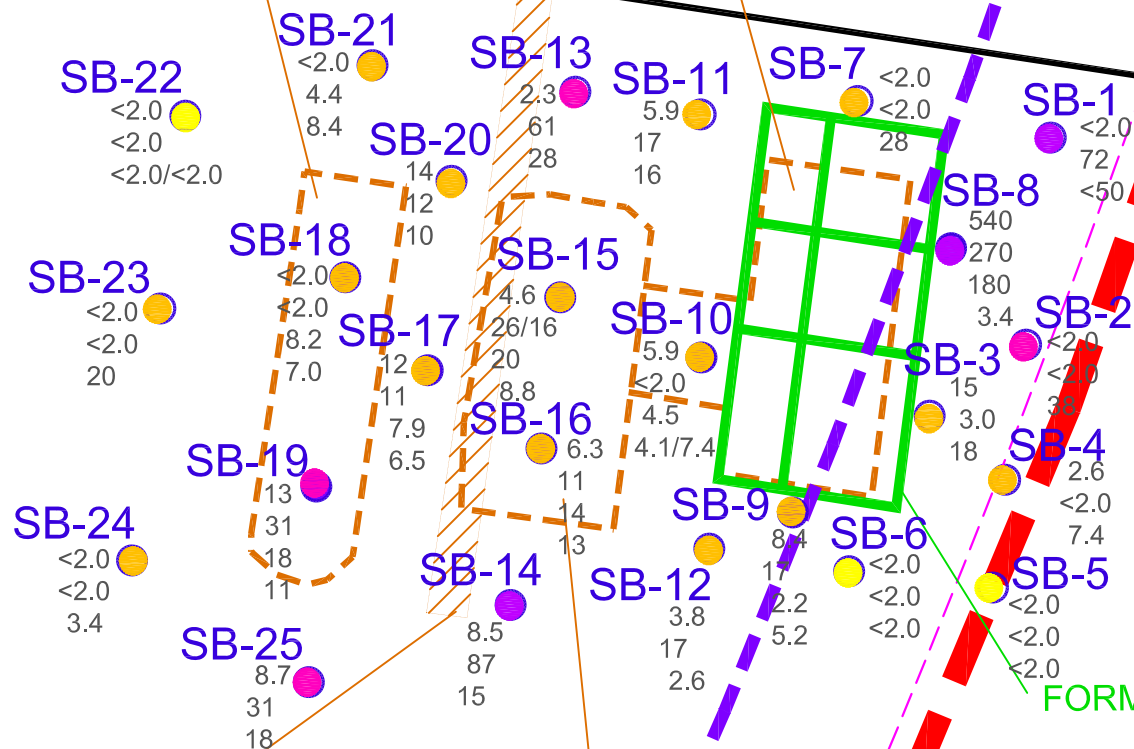
VALUES SEPARATED BY A SLASH (/) ARE FOR FIELD DUPLICATES

SOIL ANALYTICAL RESULTS  
(BY CONCENTRATION, ACCORDING TO SAMPLE WITH HIGHEST CONCENTRATION PER SOIL BORING)

- >64 MG/KG (IND. PRG)
- 30 (RES. PRG) - 64 MG/KG
- 2 - 29 MG/KG
- <2 MG/KG (DETECT. LIMIT)

PLATER #3

CIRCULAR SAW  
PLATER



BRICK WALL  
(BELOW GRADE)

PLATER #2

FORMER WWTP  
TANK  
(BELOW GRADE)

0 7.5 15  
APPROX. SCALE IN FEET



**MACTEC**  
2456 Fortune Drive, Suite 100  
Lexington, KY 40509  
(859) 255-3308

### SOIL ANALYTICAL RESULTS - HEX. CHROMIUM OUTSIDE (PLATERS #2 AND #3, CIRCULAR SAW)






FORMER VERMONT AMERICAN FACILITY  
500 EAST MAIN STREET, LOUISVILLE, KENTUCKY  
PROJECT NUMBER: 6680-08-9635

APPROX. SCALE	1" = 15'
DATE	11/01/2010
DRAWN BY	ALD
APPROVED BY	TSK

**FIG.**  
**7**



# LEGEND





-  EXISTING BUILDING
-  EDGE OF FUTURE INTERSTATE RIGHT-OF-WAY (APPROX.)
-  FUTURE RETAINING WALL OR ABUTMENT (APPROX.)
-  APPROXIMATE LIMIT OF DISTURB AREA
-  SOIL BORING

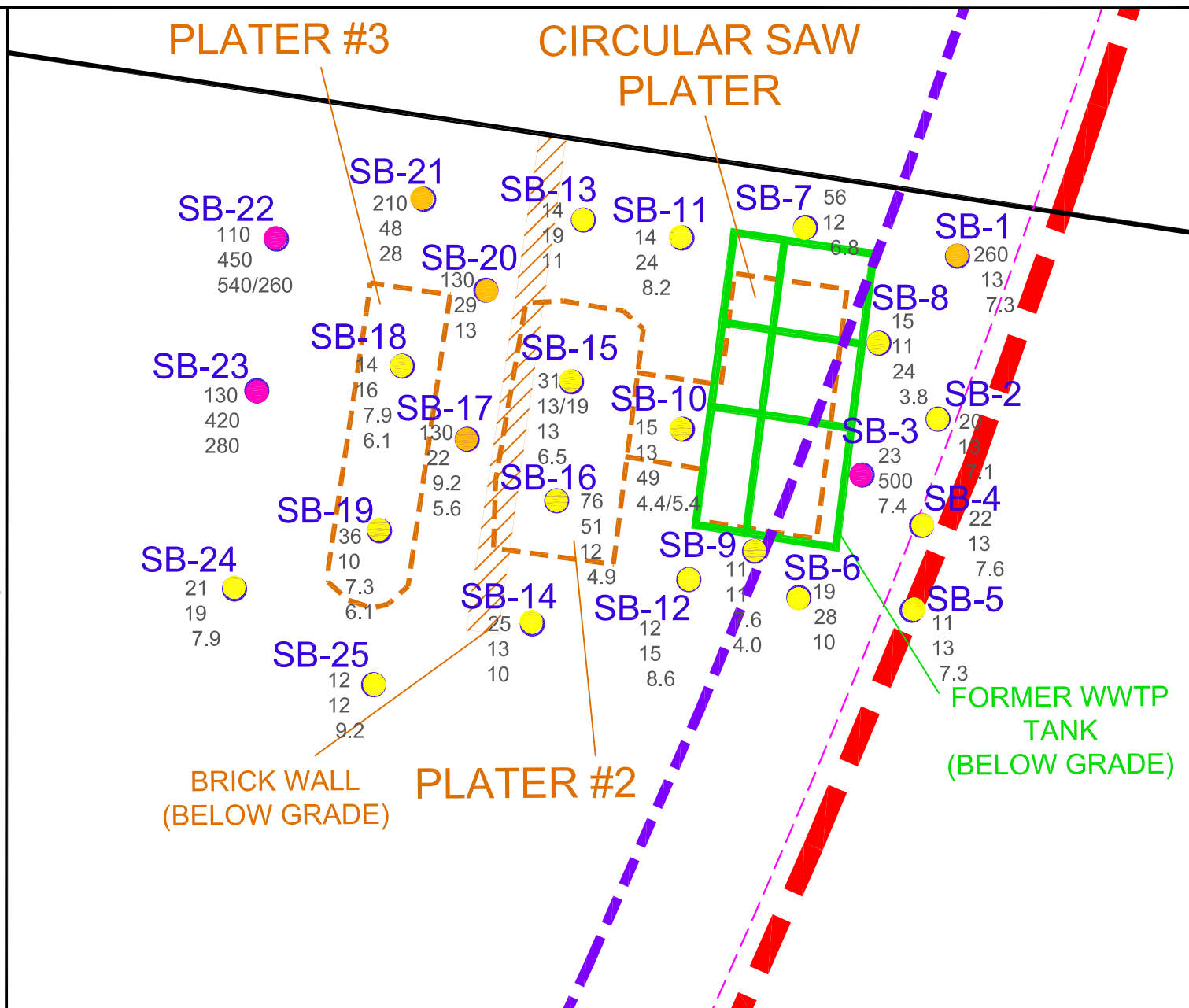
## SOIL ANALYTICAL RESULTS (BY DEPTH, IN MG/KG)

VALUE	DEPTH
5.5	0-2 FT
15	2-5 FT
22	5-10 FT
13	10-20 FT (ABSENT IN 10 FT BORINGS)

VALUES SEPARATED BY A SLASH (/) ARE FOR FIELD DUPLICATES

## SOIL ANALYTICAL RESULTS (BY CONCENTRATION, ACCORDING TO SAMPLE WITH HIGHEST CONCENTRATION PER SOIL BORING)

-  >750 MG/KG (IND. PRG)
-  400 (RES. PRG) - 750 MG/KG
-  85 - 390 MG/KG
-  <85 MG/KG (BACKGROUND)



0 7.5 15  
APPROX. SCALE IN FEET









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2456 Fortune Drive, Suite 100  
Lexington, KY 40509  
(859) 255-3308

**SOIL ANALYTICAL RESULTS - LEAD  
OUTSIDE (PLATERS #2 AND #3, CIRCULAR SAW)**  
FORMER VERMONT AMERICAN FACILITY  
500 EAST MAIN STREET, LOUISVILLE, KENTUCKY  
PROJECT NUMBER: 6680-08-9635




APPROX. SCALE	1" = 15'
DATE	11/01/2010
DRAWN BY	ALD
APPROVED BY	TSK


**FIG.  
8**

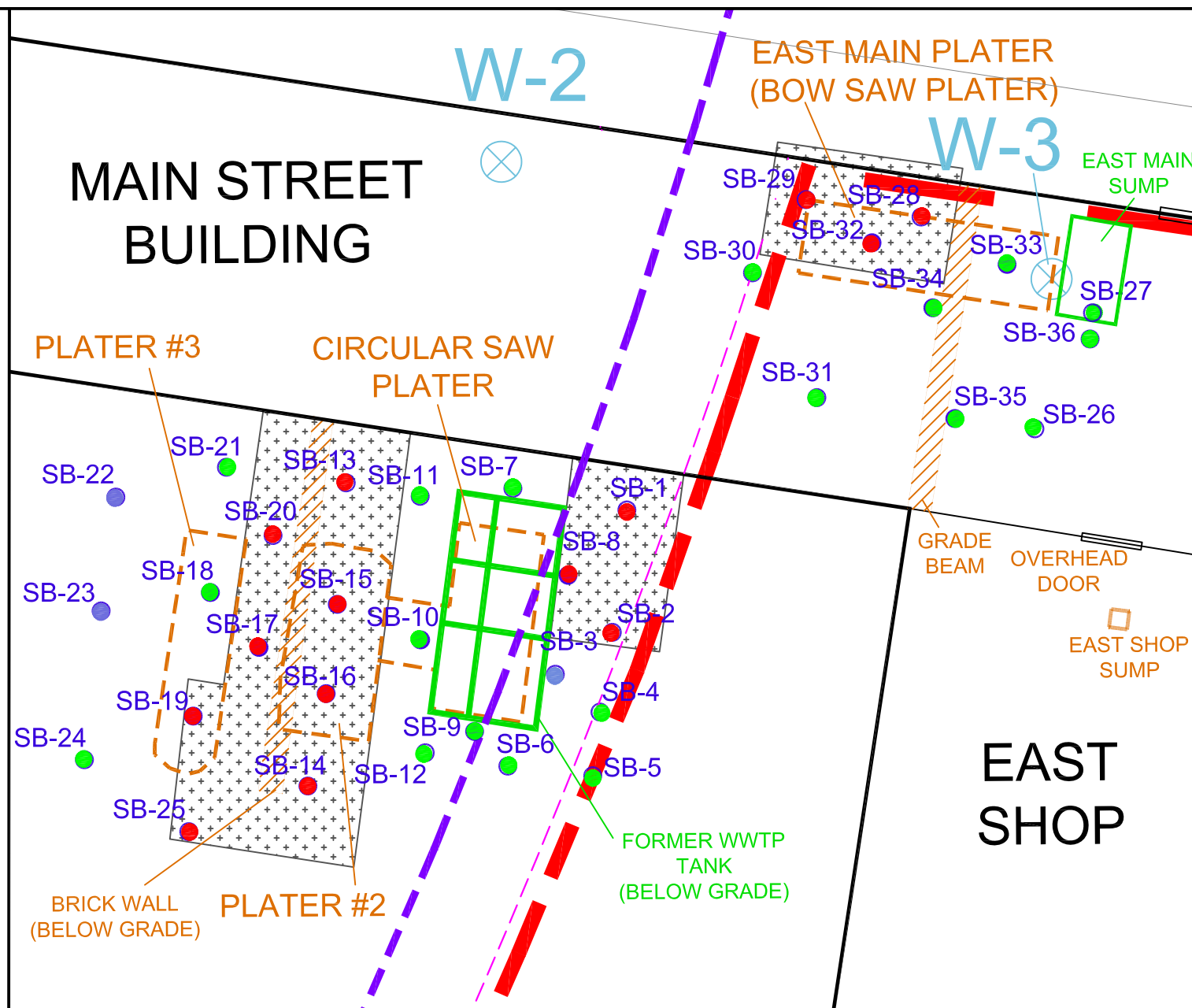
## LEGEND

-  EXISTING BUILDING
-  EDGE OF FUTURE INTERSTATE RIGHT-OF-WAY (APPROX.)
-  FUTURE RETAINING WALL OR ABUTMENT (APPROX.)
-  APPROXIMATE LIMIT OF DISTURB AREA
-  MONITORING WELL (ABANDONED)
-  SOIL BORING (10 FT DEEP)

### SOIL ANALYTICAL RESULTS:

-  NO SOIL RESULTS EXCEED RES. PRGs
-  AT LEAST ONE SAMPLE EXCEEDS RES. PRG FOR CHROMIUM OR HEXAVALENT CHROMIUM
-  AT LEAST ONE SAMPLE EXCEEDS RES. PRG FOR LEAD, NONE EXCEED RES. PRG FOR CHROMIUM OR HEXAVALENT CHROMIUM

 ESTIMATED EXTENT OF PLATER-IMPACTED SOIL



0 10 20  
APPROX. SCALE IN FEET



**MACTEC**  
2456 Fortune Drive, Suite 100  
Lexington, KY 40509  
(859) 255-3308

### SOIL ANALYTICAL RESULTS - OVERVIEW

FORMER VERMONT AMERICAN FACILITY  
500 EAST MAIN STREET, LOUISVILLE, KENTUCKY

PROJECT NUMBER: 6680-08-9635

APPROX. SCALE 1" = 20'

DATE 11/01/2010

DRAWN BY ALD

APPROVED BY TSK

**FIG. 9**

## **APPENDIX A**

### **PHOTOGRAPHS**





**PHOTO 1:**

View across courtyard toward northeast corner, showing extent of over-growth in courtyard prior to clearing.



**PHOTO 2:**

View from the courtyard of the south wall of the East Main Building, showing ivy growth, broken windows, falling vent pipes. Brick facing in many areas was found to be deteriorated, and was sloughing off the walls in some areas.





**PHOTO 3:**

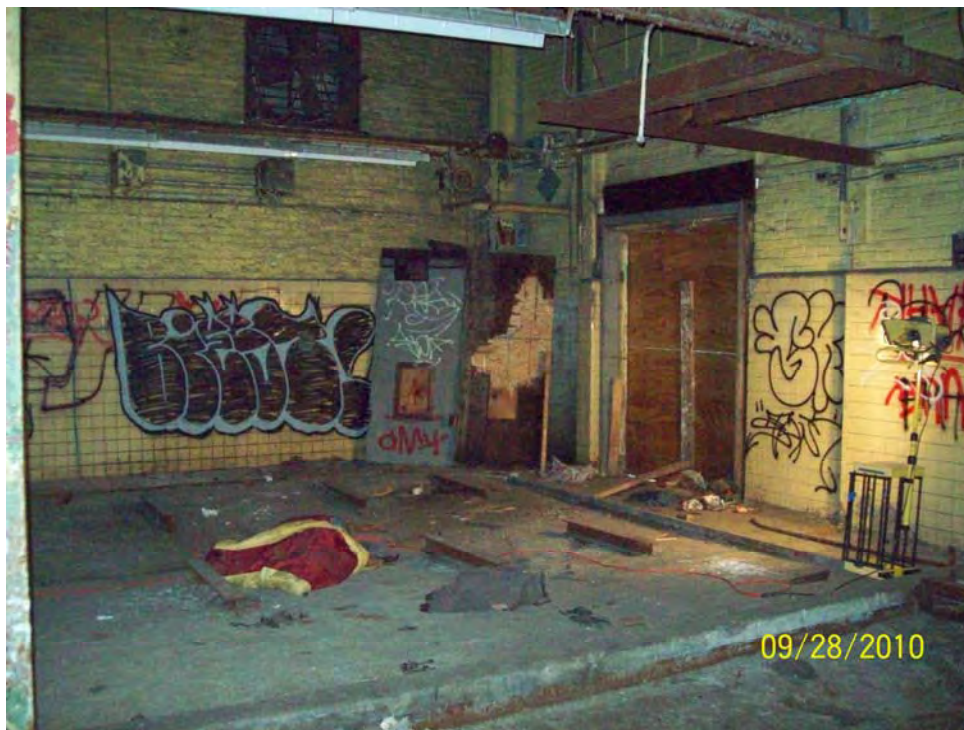
Pre-existing drums, apparently containing investigation derived waste generated in previous investigations, were left undisturbed.



**PHOTO 4:**

View looking east southeast across the courtyard after initial clearing, west wall of East Shop in background. The existing metal door (shown hanging to the right of the opening) could not be salvaged, and a new plywood door was built for security. This opening was used as the main access point to the East Shop and the Main Street building in subsequent cleaning and removal activities.





**PHOTO 5:**

View of the southeast corner of the East Shop prior to cleaning the floor trenches.



**PHOTO 6:**

Cleaning of the floor trenches inside the East Shop. Scrapers were used to break up the accumulated debris and rust, and a shop vac was used to remove the material from the trenches. The debris was containerized in 55-gallon drums, labeled, and staged on-site for disposal.



**PHOTO 7:**

View of the center floor trench at the south wall of the East Shop after cleaning. All of the floor trenches inside the East Shop appear to drain to this point. The discharge pipe from this area to outside the south wall is filled with concrete.



**PHOTO 8:**

View inside the sump at the north end of the East Shop (labeled East Shop Sump on the drawings). The sump had standing water prior to cleaning, with black sludge below the water. A shop vac was used to remove loose debris from the sump. A plywood bottom is visible at the bottom of the sump. Two pipes enter the bottom of the sumps from the north and south. The northern pipe has a plug in it.





**PHOTO 9:**

After the plywood bottom was removed from the sump at the north end of the East Shop, additional sludge and debris was removed using a shop vac. Additional pipes can be seen entering the sump at higher levels in the sidewalls.



**PHOTO 10:**

A post-hole digger and a shovel were used to remove the heavier sludge and debris material from the sump at the north end of the East Shop. The material was containerized in 55-gallon drums.





**PHOTO 11:**

View of the sump at the north end of the East Shop after cleaning. The sump bottom is rough but has no remaining loose material. A sample was subsequently collected for analysis using a steel rod to break up the bottom material and a posthole digger to retrieve the broken debris.



**PHOTO 12:**

View of the large sump in the center of the East Shop after standing water and debris was removed.





**PHOTO 13:**

View looking south of the floor trench running north-south in the center of the East Shop after cleaning.



**PHOTO 14:**

Concrete debris visible at the surface in the outdoor courtyard soil management areas.





**PHOTO 15:**

Large concrete debris at the surface and in the shallow subsurface was removed from the soil management areas outside, using a mini-excavator, so that soil borings could be advanced in these areas.



**PHOTO 16:**

Uncovering the brick wall (located along the west edge of Plater 2) that was depicted in photos from the 1997 KDWM site investigation activities. The top of the brick wall was approximately 6 to 8 inches below grade, and the bottom of the wall was about 18 inches below grade. View looking north at the south wall of the Main Street Building.





**PHOTO 17:**

A former wastewater treatment tank (concrete, multi-chambered) was partially uncovered during removal of near-surface concrete debris. The tank was found to be backfilled with demo debris (brick and concrete of varying sizes, and some metal pieces). The debris was placed back in the tank, and soil borings were performed around the outside of the tank.



**PHOTO 18:**

View looking south across the courtyard, fence along southern boundary of courtyard is visible, building in background is on other side of alley. Concrete debris removed from the outside soil management areas was stockpiled as shown on the south side of the courtyard.





**PHOTO 19:**

View looking north-northeast across the courtyard toward south wall of Main Street Building. Orange stakes placed by surveyors mark west edge of the future interstate right-of-way (ROW, based on the most recent drawing provided by the KYTC). Disturbed soil area to the right of truck is the former wastewater tank after backfilling.



**PHOTO 20:**

View looking northwest across the courtyard soil management areas after debris removal and survey, and before soil borings were advanced. Pink flags represent the outlines of the former platers, green flags represent individual soil boring locations, and orange stakes represent the edge of the Interstate ROW.

*(Photo taken 10/4/2010)*





**PHOTO 21:**

View looking north at the outline of the former Circular Saw Plater and surrounding soil boring locations. South wall of Main Street building in background.

*(Photo taken 10/4/2010)*



**PHOTO 22:**

View looking north at the outlines of former Platers #2 (bordered to the west by the buried brick wall) and #3 (outlined with pink flagging on the far left), and surrounding soil boring locations.

*(photo taken 10/4/2010)*



**PHOTO 23:**

Track-mounted Geoprobe 7720DT rig used to advance soil borings for sample collection using direct-push technology (DPT).

*(photo taken 10/4/2010)*



**PHOTO 24:**

Soil sample collected by DPT in acetate sleeve. The soil sample collected across a two-foot interval has had aliquots removed and composited for analysis by mixing in a clean stainless steel bowl.

*(Photo taken 10/5/2010)*





**PHOTO 25:**

Collection of composited soil samples into 9-ounce jars for submittal to the analytical laboratory.

*(Photo taken 10/5/2010)*



**PHOTO 26:**

Coring was performed through the concrete floor in the Main Street Building in preparation for advancing soil borings in the area of the former East Main Plater.

*(Photo taken 10/6/2010)*





**PHOTO 27:**

In most locations, the concrete floor in the Main Street Building was found to be 10 inches thick.

*(Photo taken 10/6/2010)*



**PHOTO 28:**

View looking north across the floor of the East Main Plater area in the area of the grade beam. After the beam was encountered in two coreholes, the locations for soil borings SB-28, 34 and 35 had to be offset.

*(Photo taken 10/6/2010)*



**PHOTO 29:**

The corehole for soil boring SB-27 encountered saturated pea gravel immediately beneath the concrete. Note the steel I-beam in cross section in the core-hole sidewall.

*(Photo taken 10/6/2010)*



**PHOTO 30:**

Saturated pea gravel from SB-27.

*Photo taken 10/6/2010)*





**PHOTO 31:**

Post-hole diggers were used to collect samples from the 0.8-2.0 foot interval (first soil interval encountered beneath the concrete floor) in each boring inside the Main Street Building.

This was done in preparation for installation of a 4 inch PVC casing to prevent cross contamination of deeper soils during drilling.

*(Photo taken 10/6/2010)*



**PHOTO 32:**

This photo illustrates the 4 inch PVC casing installed in a hand-dug soil boring prior to advancing the DPT rod and sampler.

*(Photo taken 10/6/2010)*



**PHOTO 33:**

Saw-cutting the floor in the Main Street Building, prior to concrete removal.

*(Photo taken  
10/11/2010)*



**PHOTO 34:**

After saw-cutting, the floor in the East Main Plater area was broken up using a mini excavator equipped with a hydraulic jackhammer. Much of the floor was found to have at least two layers of concrete. In some areas, staining was observed following the interface between two layers (yellow staining in this photo).





**PHOTO 35:**

Purple staining in concrete debris from beneath the East Main Plater.

All visibly stained concrete was transferred into roll-off boxes staged in the courtyard.



**PHOTO 36:**

A pipe, apparently part of former process piping under the concrete floor in the area of the East Main Plater, west of the grade beam, was found to contain bright purple liquid waste.



**PHOTO 37:**

The free liquid from the pipe was drained into a 5-gallon bucket.



**PHOTO 38:**

The free liquid was solidified in the bucket with absorbent pellets, and the bucket was disposed with stained concrete debris in a roll-off box.





**PHOTO 39:**

Contents of bucket  
after solidification.



**PHOTO 40:**

Bright yellow and green staining was observed on the bottom side of the concrete along the north wall of the Main Street Building. This concrete could not be removed due to proximity to the north wall.

The woven geotextile fabric in the foreground was used to line the area of floor removal prior to placement of backfill.



**PHOTO 41:**

One of the 20-yard roll-off boxes provided by Heritage for transport of material impacted with plating waste. Concrete debris along with limited quantities of piping and soil were placed in these roll-offs for transport to the disposal facility.



**PHOTO 42:**

Interior of the roll-off box, lined with plastic sheeting.





**PHOTO 43:**

Concrete debris generated from floor removal that was not stained was staged outside in the courtyard (pile on the right), next to the concrete debris removed from the outdoor soil management areas prior to soil sampling (pile on the left).



**PHOTO 44:**

The stockpiled concrete was sampled by using a hammer drill to advance holes into selected slabs of concrete. The pulverized concrete from multiple holes was composited into two samples for laboratory extraction and analysis of TCLP metals.





**PHOTO 45:**

View looking northwest across the floor removal area in area of the East Main Plater, showing the grade beam separating the two sections of removed concrete. Both sections were lined with woven geotextile fabric prior to backfilling.

*(Photo taken  
10/15/2010)*



**PHOTO 46:**

Two loads of dense grade aggregate (DGA) after delivery in the courtyard, and before being used to backfill the floor removal in the East Main Plater.

*(Photo taken  
10/15/2010)*



**PHOTO 47:**

This photo depicts placement of the DGA into the removal area.

*(photo taken  
10/15/2010)*



**PHOTO 48:**

Inside the East Main Building, looking west across the floor removal area after placement of the DGA backfill.

## **APPENDIX B**

### **HISTORIC BUILDING PLAN**





## **APPENDIX C**

### **SOIL BORING LOGS**

DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDENT	TYPE	PID (ppm)	RECOV (in.)	
0	Light brown sand, very fine-grained with silt, brick and concrete fragments, loose, dry			SB-1 0-2			24	
	Yellowish-brown silty clay with fine to medium-grained sand, medium stiff, moist			SB-1 2-4			24	
5				SB-1 4-6			24	
				SB-1 6-8			24	
	Light brown fine to medium-grained sand, loose, moist			SB-1 8-10			24	
10	BORING TERMINATED AT 10.0 FEET							Boring terminated, no refusal, groundwater not encountered

START DATE: 10/4/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:

Prepared By: Michael J. Caudill  
 Logged By: Michael J. Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-1



DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDENT	TYPE	PID (ppm)	RECOV (in.)	
0	Light brown sand, very fine-grained with silt, brick and concrete fragments, loose, dry			SB-2 0-2			24	
	Yellowish-brown sandy clay, moist to very moist, becoming sandier with depth			SB-2 2-4			24	
5				SB-2 4-6			24	
	Yellowish-brown fine to medium-grained sand, loose, moist			SB-2 6-8			24	
				SB-2 8-10			24	
10	BORING TERMINATED AT 10.0 FEET							Boring terminated, no refusal, groundwater not encountered

START DATE: 10/4/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:

Prepared By: Michael J. Caudill  
 Logged By: Michael J. Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-2





DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDENT	TYPE	PID (ppm)	RECOVER (in.)	
0	Yellowish-brown sand, very fine-grained with silt, brick and concrete fragments, loose, dry			SB-3 0-2			24	
				SB-3 2-4			24	
5	Yellowish-brown sandy clay, soft, moist to dry			SB-3 4-6			24	
	Light brown fine to medium-grained sand, loose, moist			SB-3 6-8			24	
				SB-3 8-10			24	
10	BORING TERMINATED AT 10.0 FEET							Boring terminated, no refusal, groundwater not encountered

START DATE: 10/4/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:

Prepared By: Michael J. Caudill  
 Logged By: Michael J. Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-3



DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDENT	TYPE	PID (ppm)	RECOV (in.)	
0	Yellowish-brown sand, very fine-grained and silt, loose, dry							
	Yellowish-brown sandy silt, trace clay, soft, moist to dry			SB-4 0-2			24	
				SB-4 2-4			24	
5				SB-4 4-6			24	
	Light brown, fine to medium-grained sand, loose, moist			SB-4 6-8			24	
				SB-4 8-10			24	
10	BORING TERMINATED AT 10.0 FEET							Boring terminated, no refusal, groundwater not encountered

START DATE: 10/4/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:

Prepared By: Michael J. Caudill  
 Logged By: Michael J. Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-4



DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDENT	TYPE	PID (ppm)	RECOV (in.)	
0	Yellowish-brown sandy silt, trace clay, medium stiff, moist to dry			SB-5 0-2			24	
				SB-5 2-4			24	
5				SB-5 4-6			24	
	Light brown, fine to medium-grained sand, loose, moist			SB-5 6-8			24	
				SB-5 8-10			24	
10	BORING TERMINATED AT 10.0 FEET							Boring terminated, no refusal, groundwater not encountered

START DATE: 10/4/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:

Prepared By: Michael J. Caudill  
 Logged By: Michael J. Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-5



DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDENT	TYPE	PID (ppm)	RECOV (in.)	
0	Yellowish- brown sandy silt with concrete and brick fragments, dry, loose							
	Yellowish-brown sandy silt, trace clay, soft, dry, very moist at 5 feet bgs			SB-6 0-2			24	
				SB-6 2-4			24	
5	Yellowish-brown sandy clay, soft, very moist, rooted			SB-6 4-6			24	
	Light brown fine to medium-grained sand, loose, moist			SB-6 6-8			24	
				SB-6 8-10			24	
10	BORING TERMINATED AT 10.0 FEET							Boring terminated, no refusal, groundwater not encountered

START DATE: 10/4/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:

Prepared By: Michael J.  
 Caudill  
 Logged By: Michael J.  
 Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-6



DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDENT	TYPE	PID (ppm)	RECOVER (in.)	
0	Yellowish-brown sand and silt, with concrete and brick fragments, dry, loose			SB-7 0-2			24	
	Yellowish-brown sandy silt, trace clay, soft, dry			SB-7 2-4			24	
5				SB-7 4-6			24	
	Light brown, fine to medium-grained sand, loose, moist			SB-7 6-8			24	
				SB-7 8-10			24	
10	BORING TERMINATED AT 10.0 FEET							Boring terminated, no refusal, groundwater not encountered

START DATE: 10/4/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:

Prepared By: Michael J. Caudill  
 Logged By: Michael J. Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-7



DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDENT	TYPE	PID (ppm)	RECOV (in.)	
0	Yellowish-brown silty sand, with concrete and brick fragments, loose, dry			SB-8 0-2			24	
	Yellowish-brown sandy clay, soft, moist, becoming sandier with depth, moist to very-moist at 7 feet bgs			SB-8 2-4			24	
5				SB-8 4-6			24	
	Light brown sand, fine to medium-grained, loose, moist			SB-8 6-8			24	
				SB-8 8-10			24	
10	Light brown sand, fine to medium-grained, interbedded with thin silty clay lenses, loose, moist to very moist, wet at 18 feet bgs			SB-8 10-12			24	
				SB-8 12-14			24	
15				SB-8 14-16			24	
				SB-8 16-18			24	
				SB-8 18-20			24	
20	BORING TERMINATED AT 20.0 FEET							Boring terminated, no refusal, groundwater not encountered

START DATE: 10/4/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:

Prepared By: Michael J. Caudill  
 Logged By: Michael J. Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-8



DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDEN T	TYPE	PID (ppm)	RECOV (in.)	
0	Yellowish-brown silty clay with sand, soft, dry near surface, moisture increasing to very moist at 7 feet bgs			SB-9 0-2			24	
				SB-9 2-4			24	
5				SB-9 4-6			24	
	Light brown sand, fine to medium-grained, loose, moist to very moist, wet at 14 feet bgs			SB-9 6-8			24	
				SB-9 8-10			24	
10				SB-9 10-12			24	
				SB-9 12-14			24	
	Yellowish-brown silty clay, wet			SB-9 14-16			24	
15				SB-9 16-18			24	
	Yellowish-brown sand, fine to medium-grained, moist			SB-9 18-20			24	
20	BORING TERMINATED AT 20.0 FEET							boring terminated, no refusal, groundwater not encountered

START DATE: 10/4/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:

Prepared By: Michael J.  
 Caudill  
 Logged By: Michael J.  
 Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-9



DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDENT	TYPE	PID (ppm)	RECOV (in.)	
0	Yellowish-brown silty sand to sandy silt with concrete and brick fragments, dry			SB-10 0-2			24	
	Yellowish-brown sandy silt, with clay, soft, dry to moist, very moist 5 to 7 feet bgs			SB-10 2-4			24	
5				SB-10 4-6			24	
	Yellowish-brown sand, fine to medium-grained, loose, moist			SB-10 6-8			24	
				SB-10 8-10			24	
10				SB-10 10-12			24	
				SB-10 12-14			24	
15	Yellowish-brown silty clay, with fine to medium-grained sand, soft, very moist to wet			SB-10 14-16			24	
				SB-10 16-18			24	
				SB-10 18-20			24	
20	BORING TERMINATED AT 20.0 FEET							Boring terminated, no refusal, groundwater not encountered

START DATE: 10/4/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:



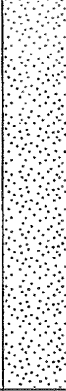
Prepared By: Michael J. Caudill  
 Logged By: Michael J. Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-10





DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDENT	TYPE	PID (ppm)	RECOV (in.)	
0	Yellowish-brown silty clay, with fine-grained sand, soft, dry, stiff and moist at 5 feet bgs			SB-11 0-2			24	
				SB-11 2-4			24	
5	Yellowish-brown silty clay, with fine-grained sand, soft, very moist			SB-11 4-6			24	
				SB-11 6-8			24	
	Yellowish-brown sand, fine to medium-grained, loose, moist			SB-11 8-10			24	
10	BORING TERMINATED AT 10.0 FEET							Boring terminated, no refusal, groundwater not encountered




START DATE: 10/4/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:

Prepared By: Michael J. Caudill  
 Logged By: Michael J. Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-11



DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDENT	TYPE	PID (ppm)	RECOVER (in.)	
0	Yellowish-brown silty clay, with fine-grained sand, soft, dry to moist, very moist at 8 feet bgs			SB-12 0-2			24	
				SB-12 2-4			24	
5				SB-12 4-6			24	
				SB-12 6-8			24	
	Yellowish-brown sand, fine to medium-grained, loose, moist			SB-12 8-10			24	
10	BORING TERMINATED AT 10.0 FEET							Boring terminated, no refusal, groundwater not encountered

START DATE: 10/4/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:



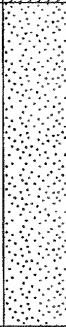
Prepared By: Michael J. Caudill  
 Logged By: Michael J. Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-12



MACTEC ENV SOIL BORING WITH PID BORING LOGS.GPJ MACTEC DATABASE TEMPLATE 01.GDT 10/29/10

DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDENT	TYPE	PID (ppm)	RECOV (in.)	
0	Yellowish-brown silty clay, with fine to medium-grained sand, soft, dry, moist at 7.5 feet bgs			SB-13 0-2			24	
				SB-13 2-4			24	
5				SB-13 4-6			24	
				SB-13 6-8			24	
	Light yellowish-brown sand, fine to medium-grained, loose, moist			SB-13 8-10			24	
10	BORING TERMINATED AT 10.0 FEET							Boring terminated, no refusal, groundwater not encountered


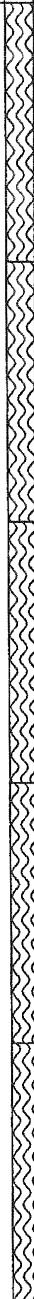

START DATE: 10/4/2010  
CONTRACTOR: AST  
DRILLER: Ted Keen  
EQUIPMENT: Geoprobe 7720DT  
METHOD: DP  
HOLE DIA.: 2.75  
HAMMER: Automatic  
REMARKS:

Prepared By: Michael J.  
Caudill  
Logged By: Michael J.  
Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
Project No: 6680-08-9635  
Checked By: TSK Boring No.: SB-13

 MACTEC

DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDENT	TYPE	PID (ppm)	RECOV (in.)	
0	Yellowish-brown silty clay, with fine-grained sand, soft, dry , stiff 4 to 5 feet bgs, soft, very moist 5 to 7 feet bgs			SB-14 0-2			24	
				SB-14 2-4			24	
5				SB-14 4-6			24	
				SB-14 6-8			24	
	Yellowish-brown sand, fine to medium-grained, loose, moist			SB-14 8-10			24	
10	BORING TERMINATED AT 10.0 FEET							Boring terminated, no refusal, groundwater not encountered









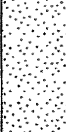

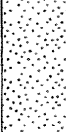



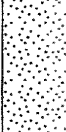



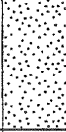

START DATE: 10/4/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:

Prepared By: Michael J. Caudill  
 Logged By: Michael J. Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-14



DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDEN T	TYPE	PID (ppm)	RECOV (in.)	
0	Yellowish-brown sandy clay, with silt, concrete and brick fragments, soft, dry			SB-15 0-2			24	
	Yellowish-brown silty clay with fine-grained sand, soft, moist, very moist at 7 feet bgs			SB-15 2-4			24	
5				SB-15 4-6			24	
	Light yellowish-brown sand, fine to medium-grained, loose, moist, trace clay 18 to 18.25 feet bgs			SB-15 6-8			24	
				SB-15 8-10			24	
10				SB-15 10-12			24	
				SB-15 12-14			24	
15				SB-15 14-16			24	
				SB-15 16-18			24	
				SB-15 18-20			24	
20	BORING TERMINATED AT 20.0 FEET							Boring terminated, no refusal, groundwater not encountered

START DATE: 10/5/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:

Prepared By: Michael J. Caudill  
 Logged By: Michael J. Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-15





DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDENT	TYPE	PID (ppm)	RECOV (in.)	
0	Light brown sandy silt, with concrete and brick fragments, loose, dry							
	Light yellowish-brown sandy clay, medium stiff, moist, light gray mottles and very moist 5 to 8 feet bgs			SB-16 0-2			24	
				SB-16 2-4			24	
5				SB-16 4-6			24	
				SB-16 6-8			24	
	Light yellowish-brown to brown sand, fine to medium-grained, loose, moist			SB-16 8-10			24	
10				SB-16 10-12			24	
				SB-16 12-14			24	
15				SB-16 14-16			24	
				SB-16 16-18			24	
				SB-16 18-20			24	
20	BORING TERMINATED AT 20.0 FEET							Boring terminated, no refusal, groundwater not encountered.

START DATE: 10/5/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:

Prepared By: Michael J.  
 Caudill  
 Logged By: Michael J.  
 Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-16



DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDEN T	TYPE	PID (ppm)	RECOV (in.)	
0	Light brown silty sand, with concrete and brick fragments, loose, dry							
	Yellowish-brown silty clay, with fine sand, soft, dry, becoming moist with depth, very moist and soft at 7 feet bgs			SB-17 0-2			24	
				SB-17 2-4			24	
5				SB-17 4-6			24	
	Light brown sand, fine to medium-grained, loose, moist			SB-17 6-8			24	
				SB-17 8-10			24	
10				SB-17 10-12			24	
				SB-17 12-14			24	
15				SB-17 14-16			24	
				SB-17 16-18			24	
				SB-17 18-20			24	
20	BORING TERMINATED AT 20.0 FEET							Boring terminated, no refusal, groundwater not encountered

START DATE: 10/5/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:

Prepared By: Michael J.  
 Caudill  
 Logged By: Michael J.  
 Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-17



DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDEN T	TYPE	PID (ppm)	RECOV (in.)	
0	Light brown sandy silt, with brick fragments, loose, dry							
	Yellowish-brown sandy clay, brittle, dry, becoming medium stiff and moist with depth, light gray mottles from 5-7 feet bgs, very moist at 7 feet bgs			SB-18 0-2			24	
				SB-18 2-4			24	
5				SB-18 4-6			24	
	Light yellowish-brown sand, medium-grained, coarsening with depth, loose, moist, trace clay 19.5 to 19.7			SB-18 6-8			24	
				SB-18 8-10			24	
10				SB-18 10-12			24	
				SB-18 12-14			24	
15				SB-18 14-16			24	
				SB-18 16-18			24	
				SB-18 18-20			24	
20	BORING TERMINATED AT 20.0 FEET							Boring terminated, no refusal, groundwater not encountered





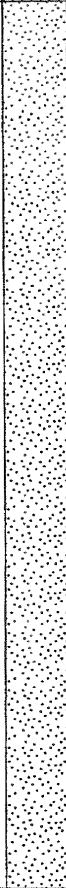







START DATE: 10/5/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:

Prepared By: Michael J.  
 Caudill  
 Logged By: Michael J.  
 Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-18



DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDEN T	TYPE	PID (ppm)	RECOV (in.)	
0	Yellowish-brown silty clay, with fine-grained sand, soft, moist, becoming medium stiff with depth, light gray mottles from 5-7 feet bgs, soft, very moist at 7 feet bgs			SB-19 0-2			24	
				SB-19 2-4			24	
5				SB-19 4-6			24	
	Light brown sand, fine to coarse-grained, loose, moist, trace fine gravel from 12 to 16 feet bgs, silt seam 19 to 19.25 feet bgs, moist			SB-19 6-8			24	
				SB-19 8-10			24	
10				SB-19 10-12			24	
				SB-19 12-14			24	
15				SB-19 14-16			24	
				SB-19 16-18			24	
				SB-19 18-20			24	
20	BORING TERMINATED AT 20.0 FEET							Boring terminated, no refusal, groundwater not encountered

START DATE: 10/5/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:

Prepared By: Michael J. Caudill  
 Logged By: Michael J. Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-19



DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDEN T	TYPE	PID (ppm)	RECOV (in.)	
0	Light brown silty sand, with concrete and brick fragments, loose, dry							
	Light yellowish-brown silty clay, soft, brittle, dry, becoming medium stiff and sandy with depth, moist 2 to 8 feet bgs			SB-20 0-2			24	
				SB-20 2-4			24	
5				SB-20 4-6			24	
				SB-20 6-8			24	
	Light yellowish-brown sand, fine to medium-grained, loose, moist			SB-20 8-10			24	
10	BORING TERMINATED AT 10.0 FEET							Boring terminated, no refusal, groundwater not encountered

START DATE: 10/5/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:

Prepared By: Michael J.  
 Caudill  
 Logged By: Michael J.  
 Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-20





DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDENT	TYPE	PID (ppm)	RECOV (in.)	
0	Light brown silty sand, with concrete, brick and slag fragments, dry							
	Yellowish-brown sandy silt, with clay, brittle, dry			SB-21 0-2			24	
	Yellowish-brown sandy clay, with fine to medium-grained sand, soft, dry, brick fragments 4 to 5 feet bgs, moist, becoming sandier with depth 5 to 8 feet bgs			SB-21 2-4			24	
5				SB-21 4-6			24	
				SB-21 6-8			24	
	Yellowish-brown sand, fine to medium-grained, loose, moist			SB-21 8-10			24	
10	BORING TERMINATED AT 10.0 FEET							Boring terminated, no refusal, groundwater not encountered

START DATE: 10/5/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:

Prepared By: Michael J. Caudill  
 Logged By: Michael J. Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-21



DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDENT	TYPE	PID (ppm)	RECOV (in.)	
0	Dark brown sand and silt, with brick, concrete and slag debris, loose, dry			SB-22 0-2			24	
				SB-22 2-4			24	
5				SB-22 4-6			24	
				SB-22 6-8			24	
				SB-22 8-10			24	
10	BORING TERMINATED AT 10.0 FEET							Boring terminated, no refusal, groundwater not encountered

START DATE: 10/5/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:

Prepared By: Michael J.  
 Caudill  
 Logged By: Michael J.  
 Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-22



DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDENT	TYPE	PID (ppm)	RECOV (in.)	
0	Dark brown silty sand, with brick, concrete and slag fragments, loose, dry							
				SB-23 0-2			24	
				SB-23 2-4			24	
5				SB-23 4-6			24	
				SB-23 6-8			24	
				SB-23 8-10			24	
10	BORING TERMINATED AT 10.0 FEET							Boring terminated, no refusal, groundwater not encountered



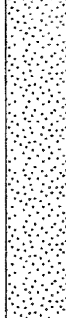
START DATE: 10/5/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:

Prepared By: Michael J.  
 Caudill  
 Logged By: Michael J.  
 Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-23



DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDENT	TYPE	PID (ppm)	RECOV (in.)	
0	Yellowish-brown silty clay, with fine-grained sand, brittle, dry, becoming medium stiff and moist with depth, very moist at 7 feet bgs			SB-24 0-2			24	
				SB-24 2-4			24	
5				SB-24 4-6			24	
				SB-24 6-8			24	
	Light yellowish-brown sand, fine to medium-grained, loose, moist			SB-24 8-10			24	
10	BORING TERMINATED AT 10.0 FEET							Boring terminated, no refusal, groundwater not encountered

START DATE: 10/5/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:

Prepared By: Michael J. Caudill  
 Logged By: Michael J. Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-24



DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDENT	TYPE	PID (ppm)	RECOV (in.)	
0	Yellowish-brown silty clay, with fine-grained sand, brittle, dry, becoming medium stiff and moist with depth, very moist and soft at 7 feet bgs			SB-25 0-2			24	
				SB-25 2-4			24	
5				SB-25 4-6			24	
	Light yellowish-brown sand, fine to medium-grained, loose, moist			SB-25 6-8			24	
				SB-25 8-10			24	
10	BORING TERMINATED AT 10.0 FEET							Boring terminated, no refusal, groundwater not encountered

START DATE: 10/5/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:


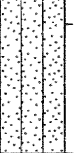

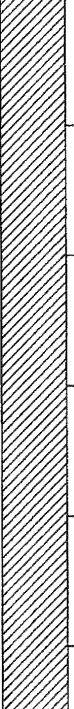




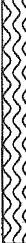
Prepared By: Michael J. Caudill  
 Logged By: Michael J. Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TJK Boring No.: SB-25





DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDENT	TYPE	PID (ppm)	RECOV (in.)	
0	Concrete							
	Dark brown to black sandy silt, with yellowish-brown silty clay fragments, loose, moist			SB-26 0-2			24	
	Yellowish-brown silty clay, with fine-grained sand, medium stiff, moist, very soft, very moist at 7 feet bgs			SB-26 2-4			24	
5				SB-26 4-6			24	
				SB-26 6-8			24	
	Yellowish-brown sand, fine to medium-grained, loose, moist			SB-26 8-10			24	
10	BORING TERMINATED AT 10.0 FEET							Boring terminated, no refusal, groundwater not encountered




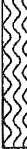

START DATE: 10/6/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:

Prepared By: Michael J. Caudill  
 Logged By: Michael J. Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-26



DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDENT	TYPE	PID (ppm)	RECOV (in.)	
0	Concrete and I-beam steel							
	Pea-gravel, loose, saturated with water, no recovery in sampler 2 to 4 feet bgs, refusal at 6 feet bgs			SB-27 0-2			24	
				SB-27 2-4			0	
5				SB-27 4-6			16	
								Boring terminated, refusal at 6 feet bgs, perched water encountered immediately beneath concrete floor of Main Street Building
10	BORING TERMINATED AT 10.0 FEET							

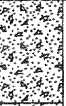







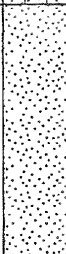

START DATE: 10/6/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:

Prepared By: Michael J.  
 Caudill  
 Logged By: Michael J.  
 Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-27



DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDENT	TYPE	PID (ppm)	RECOV (in.)	
0	Concrete							
	Dark brown to black silty sand, with brick fragments, loose, moist			SB-6 0-2			24	
	Yellowish-brown silty clay, medium stiff, moist, becoming sandy with depth			SB-6 2-4			24	
5				SB-6 4-6			24	
	Yellowish-brown silty sand, loose, moist			SB-6 6-8			24	
	Yellowish-brown sand, fine to medium-grained, loose, moist			SB-6 8-10			24	
10	BORING TERMINATED AT 10.0 FEET							Boring terminated, no refusal, groundwater not encountered

START DATE: 10/7/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:

Prepared By: Michael J. Caudill  
 Logged By: Michael J. Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-28



DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDENT	TYPE	PID (ppm)	RECOV (in.)	
0	Concrete							
	Dark brown to black sandy silt, with yellowish-brown silty clay fragments, trace gravel, loose, moist			SB-29 0-2			24	
	Yellowish-brown silty clay with fine-grained sand, medium stiff, moist, becoming sandy with depth, soft at 7 feet bgs			SB-29 2-4			24	
5				SB-29 4-6			24	
				SB-29 6-8			24	
	Yellowish-brown sand, fine to medium-grained, loose, moist			SB-29 8-10			24	
10	BORING TERMINATED AT 10.0 FEET							Boring terminated, no refusal, groundwater not encountered

START DATE: 10/6/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:


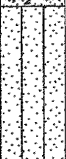







Prepared By: Michael J. Caudill  
 Logged By: Michael J. Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-29



MACTEC ENV SOIL BORING WITH PID BORING LOGS.GPJ MACTEC DATABASE TEMPLATE 01.GDT 10/29/10

DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDENT	TYPE	PID (ppm)	RECOV (in.)	
0	Concrete							
	Dark brown to black sandy silt, with wood fragments and brick debris, loose, moist			SB-30 0-2			24	
	Yellowish-brown silty clay, with very fine-grained sand, medium stiff, moist, soft, very moist at 7 feet bgs			SB-30 2-4			24	
5				SB-30 4-6			24	
	Yellowish-brown sand, fine to medium-grained, trace clay, loose, moist			SB-30 6-8			24	
				SB-30 8-10			24	
10	BORING TERMINATED AT 10.0 FEET							Boring terminated, no refusal, groundwater not encountered

START DATE: 10/6/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:





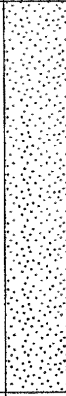
Prepared By: Michael J. Caudill  
 Logged By: Michael J. Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-30





DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDENT	TYPE	PID (ppm)	RECOV (in.)	
0	Concrete							
	Dark brown to black sandy silt, with gravel, brick fragments and yellowish-brown silty clay fragments, loose, moist			SB-31 0-2			24	
	Yellowish-brown silty clay, with very fine-grained sand, medium stiff, moist, becoming siltier with depth, very moist, very soft at 7 feet bgs			SB-31 2-4			24	
5				SB-31 4-6			24	
	Yellowish-brown sand, fine to medium-grained, loose, moist, trace clay at 8 feet bgs			SB-31 6-8			24	
				SB-31 8-10			24	
10	BORING TERMINATED AT 10.0 FEET							Boring terminated, no refusal, groundwater not encountered

START DATE: 10/6/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:

Prepared By: Michael J. Caudill  
 Logged By: Michael J. Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-31



DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDENT	TYPE	PID (ppm)	RECOV (in.)	
0	Concrete							
	Black silty sand, trace gravel, slag fragments, loose, moist			SB-32 0-2			24	
	Yellowish-brown silty clay, with very fine-grained sand, soft, moist, becoming sandier with depth, very soft at 7.5 feet bgs			SB-32 2-4			24	
5				SB-32 4-6			24	
				SB-32 6-8			24	
	Yellowish-brown sand, fine to medium-grained, trace gravel, loose, moist			SB-32 8-10			24	
10				SB-32 10-12			24	
	Yellowish-brown silty clay, soft, moist			SB-32 12-14			24	
	Yellowish-brown sand, fine to medium-grained, loose, moist, trace clay 17.5 to 18 feet bgs, very soft, wet			SB-32 14-16			24	
15				SB-32 16-18			24	
				SB-32 18-20			24	
20	BORING TERMINATED AT 20.0 FEET							Boring terminated, no refusal, groundwater not encountered

START DATE: 10/6/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:

Prepared By: Michael J. Caudill  
 Logged By: Michael J. Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-32



DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS
				IDEN T	TYPE	PID (ppm)	RECOV (in.)	
0	Concrete							<p><i>Note: No information on the borings should be used without considering the entire content of the main document.</i></p>
	Black silty sand, trace gravel, loose, moist			SB-33 0-2			24	
	Yellowish-brown silty clay, trace very fine-grained sand, soft, moist, light gray mottles, becoming siltier with depth, very soft, very moist at 7 feet bgs			SB-33 2-4			24	
5				SB-33 4-6			24	
				SB-33 6-8			24	
	Yellowish-brown sand, fine to medium-grained, loose, moist,			SB-33 8-10			24	
10				SB-33 10-12			24	
				SB-33 12-14			24	
15	Yellowish-brown silty clay, very moist to wet, soft			SB-33 14-16			24	
	Yellowish-brown sand, fine to medium-grained, trace gravel, loose, moist, trace clay 18 to 18.5 feet bgs			SB-33 16-18			24	
				SB-33 18-20			24	<p>Boring terminated, no refusal, groundwater not encountered</p>
20	BORING TERMINATED AT 20.0 FEET							








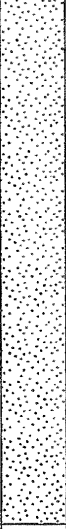






START DATE: 10/7/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:

Prepared By: Michael J. Caudill  
 Logged By: Michael J. Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-33



DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS
				IDEN T	TYPE	PID (ppm)	RECOV (in.)	
0	Concrete							<i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
	Black silty sand, trace gravel and yellowish-brown silty clay, loose, moist			SB-34 0-2			24	
	Yellowish-brown silty clay, medium stiff, moist, becoming siltier with depth, trace fine sand, soft, very moist 7.5 to 8 feet bgs			SB-34 2-4			24	
5				SB-34 4-6			24	
				SB-34 6-8			24	
	Yellowish-brown sand, fine to medium-grained, trace gravel, loose moist			SB-34 8-10			24	
10				SB-34 10-12			24	
				SB-34 12-14			24	
15				SB-34 14-16			24	
	No recovery			SB-34 16-18			0	
				SB-34 18-20			0	
20	BORING TERMINATED AT 20.0 FEET							Boring terminated, no refusal, groundwater not encountered















START DATE: 10/7/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:

Prepared By: Michael J.  
 Caudill  
 Logged By: Michael J.  
 Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-34



DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDEN T	TYPE	PID (ppm)	RECOV (in.)	
0	Concrete							
	Black silty sand, trace gravel with yellowish-brown silty clay fragments, loose, moist			SB-35 0-2			24	
	Yellowish-brown silty clay, medium stiff, moist			SB-35 2-4			24	
5				SB-35 4-6			24	
				SB-35 6-8			24	
	Yellowish-brown sand, fine to medium-grained, loose, moist			SB-35 8-10			24	
10				SB-35 10-12			24	
				SB-35 12-14			24	
15				SB-35 14-16			24	
				SB-35 16-18			24	
				SB-35 18-20			24	
20	BORING TERMINATED AT 20.0 FEET							Boring terminated, no refusal, groundwater not encountered

START DATE: 10/7/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:

Prepared By: Michael J. Caudill  
 Logged By: Michael J. Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-35





DEPTH (ft)	DESCRIPTION  SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES				REMARKS  <i>Note: No information on the borings should be used without considering the entire content of the main document.</i>
				IDENT	TYPE	PID (ppm)	RECOV (in.)	
0	Concrete							
	Yellowish-brown sandy clay, with brick and metal fragments, moist			SB-36 0-2			24	
	Yellowish-brown silty clay, medium stiff, moist, becoming softer and sandy with depth, soft, very moist at 7 feet bgs			SB-36 2-4			24	
5				SB-36 4-6			24	
				SB-36 6-8			24	
	Yellowish-brown silty sand, wet 7.5 to 8, moist 8 to 10 feet bgs			SB-36 8-10			24	
10	BORING TERMINATED AT 10.0 FEET							Boring terminated, no refusal, groundwater not encountered

START DATE: 10/6/2010  
 CONTRACTOR: AST  
 DRILLER: Ted Keen  
 EQUIPMENT: Geoprobe 7720DT  
 METHOD: DP  
 HOLE DIA.: 2.75  
 HAMMER: Automatic  
 REMARKS:

Prepared By: Michael J. Caudill  
 Logged By: Michael J. Caudill

## SOIL BORING RECORD

Project: Bosch Louisville 500 East Main  
 Project No: 6680-08-9635  
 Checked By: TSK Boring No.: SB-36



## **APPENDIX D**

### **LABORATORY REPORTS SOIL SAMPLES**



12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
(615) 758-5858  
1-800-767-5859  
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

### Report Summary

Friday October 22, 2010

Report Number: L482930

Samples Received: 10/08/10

Client Project: 6680-08-9635

Description: RBTC-500 VAC

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Leslie Newton , ESC Representative

### Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487  
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140  
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233  
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,  
TX - T104704245, OK-9915

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

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12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
(615) 758-5858  
1-800-767-5859  
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-1 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 10:08

ESC Sample # : L482930-01

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	90.			mV		2580	10/11/10	1
pH	10.			su		9045D	10/12/10	1
Chromium	53.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	260	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-01 (PH) - 10@19.0c



12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
(615) 758-5858  
1-800-767-5859  
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-1 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 10:12

ESC Sample # : L482930-02

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	72.	3.1	20.	mg/kg		3060A/7	10/12/10	10
ORP	110			mV		2580	10/11/10	1
pH	7.3			su		9045D	10/12/10	1
Chromium	110	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	13.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-02 (PH) - 7.3@19.3c



12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
(615) 758-5858  
1-800-767-5859  
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-1 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 10:15

ESC Sample # : L482930-03

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	7.8	50.	mg/kg	O	3060A/7	10/12/10	25
ORP	160			mV		2580	10/11/10	1
pH	4.4			su		9045D	10/12/10	1
Chromium	360	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	7.3	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06

L482930-03 (CR6) - diluted due to turbidity and color of sample

L482930-03 (PH) - 4.4@19.2c





12065 Lebanon Rd.  
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Tax I.D. 62-0814289

Est. 1970

# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-2 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 10:35

ESC Sample # : L482930-04

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	140			mV		2580	10/11/10	1
pH	7.7			su		9045D	10/12/10	1
Chromium	18.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	20.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-04 (PH) - 7.7@19.4c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-2 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 10:36

ESC Sample # : L482930-05

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	150			mV		2580	10/11/10	1
pH	4.9			su		9045D	10/12/10	1
Chromium	20.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	13.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

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Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-05 (PH) - 4.9@19.3c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-2 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 10:40

ESC Sample # : L482930-06

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	38.	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	140			mV		2580	10/11/10	1
pH	6.0			su		9045D	10/12/10	1
Chromium	110	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	7.1	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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L482930-06 (PH) - 6.0@19.4c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-3 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 10:53

ESC Sample # : L482930-07

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	15.	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	140			mV		2580	10/11/10	1
pH	7.6			su		9045D	10/12/10	1
Chromium	140	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	23.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-07 (PH) - 7.6@19.3c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-3 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 10:56

ESC Sample # : L482930-08

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	3.0	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	140			mV		2580	10/11/10	1
pH	8.1			su		9045D	10/12/10	1
Chromium	160	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	500	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-08 (PH) - 8.1@19.2c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-3 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 11:08

ESC Sample # : L482930-09

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	18.	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	130			mV		2580	10/11/10	1
pH	7.6			su		9045D	10/12/10	1
Chromium	55.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	7.4	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

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L482930-09 (PH) - 7.6@19.3c





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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-4 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 11:10

ESC Sample # : L482930-10

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	2.6	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	140			mV		2580	10/11/10	1
pH	7.1			su		9045D	10/12/10	1
Chromium	19.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	22.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

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L482930-10 (PH) - 7.1@19.3c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-4 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 11:15

ESC Sample # : L482930-11

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	140			mV		2580	10/11/10	1
pH	5.6			su		9045D	10/12/10	1
Chromium	20.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	13.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-11 (PH) - 5.6@19.2c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-4 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 11:20

ESC Sample # : L482930-12

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	7.4	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	120			mV		2580	10/11/10	1
pH	6.3			su		9045D	10/12/10	1
Chromium	8.3	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	7.6	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-12 (PH) - 6.3@19.3c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-5 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 11:28

ESC Sample # : L482930-13

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	110			mV		2580	10/11/10	1
pH	6.6			su		9045D	10/12/10	1
Chromium	19.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	11.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-13 (PH) - 6.6@19.3c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-5 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 11:31

ESC Sample # : L482930-14

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	130			mV		2580	10/11/10	1
pH	5.6			su		9045D	10/12/10	1
Chromium	20.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	13.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-14 (PH) - 5.6@19.3c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-5 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 11:36

ESC Sample # : L482930-15

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	130			mV		2580	10/11/10	1
pH	5.1			su		9045D	10/12/10	1
Chromium	9.2	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	7.3	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-15 (PH) - 5.1@19.3c





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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-6 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 12:50

ESC Sample # : L482930-16

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	150			mV		2580	10/11/10	1
pH	7.0			su		9045D	10/12/10	1
Chromium	16.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	19.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-16 (PH) - 7.0@19.4c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-6 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 12:55

ESC Sample # : L482930-17

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	120			mV		2580	10/11/10	1
pH	7.0			su		9045D	10/12/10	1
Chromium	20.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	28.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-17 (PH) - 7.0@19.4c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-6 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 13:00

ESC Sample # : L482930-18

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	130			mV		2580	10/11/10	1
pH	7.1			su		9045D	10/12/10	1
Chromium	12.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	10.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-18 (PH) - 7.1@19.4c



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1-800-767-5859  
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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-7 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 13:05

ESC Sample # : L482930-19

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	130			mV		2580	10/11/10	1
pH	7.6			su		9045D	10/12/10	1
Chromium	51.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	56.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-19 (PH) - 7.6@19.5c



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1-800-767-5859  
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Tax I.D. 62-0814289

Est. 1970

# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-7 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 13:10

ESC Sample # : L482930-20

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	120			mV		2580	10/11/10	1
pH	6.8			su		9045D	10/12/10	1
Chromium	27.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	12.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-20 (PH) - 6.8@19.5c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-7 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 13:15

ESC Sample # : L482930-21

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	28.	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	130			mV		2580	10/11/10	1
pH	5.3			su		9045D	10/12/10	1
Chromium	190	0.085	0.50	mg/kg		6010B	10/13/10	1
Lead	6.8	0.090	0.25	mg/kg		6010B	10/13/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

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L482930-21 (PH) - 5.3@19.7c





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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-8 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 13:33

ESC Sample # : L482930-22

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	540	7.8	50.	mg/kg	V	3060A/7	10/12/10	25
ORP	150			mV		2580	10/11/10	1
pH	4.3			su		9045D	10/12/10	1
Chromium	4000	0.17	1.0	mg/kg		6010B	10/14/10	2
Lead	15.	0.090	0.25	mg/kg		6010B	10/13/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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L482930-22 (PH) - 4.3@19.7c

L482930-22 (CR6) - reducer



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-8 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 13:35

ESC Sample # : L482930-23

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	270	3.1	20.	mg/kg		3060A/7	10/12/10	10
ORP	150			mV		2580	10/11/10	1
pH	5.1			su		9045D	10/12/10	1
Chromium	1100	0.085	0.50	mg/kg		6010B	10/13/10	1
Lead	11.	0.090	0.25	mg/kg		6010B	10/13/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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L482930-23 (PH) - 5.1@19.7c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-8 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 13:40

ESC Sample # : L482930-24

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	180	3.1	20.	mg/kg		3060A/7	10/12/10	10
ORP	140			mV		2580	10/11/10	1
pH	6.6			su		9045D	10/12/10	1
Chromium	830	0.085	0.50	mg/kg		6010B	10/13/10	1
Lead	24.	0.090	0.25	mg/kg		6010B	10/13/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

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L482930-24 (PH) - 6.6@19.9c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-8 10-20 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 13:45

ESC Sample # : L482930-25

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	3.4	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	150			mV		2580	10/11/10	1
pH	8.2			su		9045D	10/12/10	1
Chromium	28.	0.085	0.50	mg/kg		6010B	10/13/10	1
Lead	3.8	0.090	0.25	mg/kg		6010B	10/13/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-25 (PH) - 8.2@19.9c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-9 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 14:00

ESC Sample # : L482930-26

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	8.4	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	140			mV		2580	10/11/10	1
pH	7.9			su		9045D	10/12/10	1
Chromium	52.	0.085	0.50	mg/kg		6010B	10/13/10	1
Lead	11.	0.090	0.25	mg/kg		6010B	10/13/10	1

U = ND (Not Detected)

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L482930-26 (PH) - 7.9@20.0c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-9 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 14:05

ESC Sample # : L482930-27

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	17.	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	130			mV		2580	10/11/10	1
pH	7.8			su		9045D	10/12/10	1
Chromium	77.	0.085	0.50	mg/kg		6010B	10/13/10	1
Lead	11.	0.090	0.25	mg/kg		6010B	10/13/10	1

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L482930-27 (PH) - 7.8@19.9c





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# REPORT OF ANALYSIS

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MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-9 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 14:10

ESC Sample # : L482930-28

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	2.2	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	140			mV		2580	10/11/10	1
pH	7.5			su		9045D	10/12/10	1
Chromium	25.	0.085	0.50	mg/kg		6010B	10/13/10	1
Lead	7.6	0.090	0.25	mg/kg		6010B	10/13/10	1

U = ND (Not Detected)

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L482930-28 (PH) - 7.5@20.0c



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# REPORT OF ANALYSIS

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MACTEC - Louisville, KY  
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Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-9 10-20 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 14:15

ESC Sample # : L482930-29

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	5.2	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	130			mV		2580	10/11/10	1
pH	6.7			su		9045D	10/12/10	1
Chromium	18.	0.085	0.50	mg/kg		6010B	10/13/10	1
Lead	4.0	0.090	0.25	mg/kg		6010B	10/13/10	1

U = ND (Not Detected)

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-29 (PH) - 6.7@19.9c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-10 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 14:35

ESC Sample # : L482930-30

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	5.9	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	120			mV		2580	10/11/10	1
pH	9.0			su		9045D	10/12/10	1
Chromium	79.	0.085	0.50	mg/kg		6010B	10/13/10	1
Lead	15.	0.090	0.25	mg/kg		6010B	10/13/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-30 (PH) - 9.0@19.9c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-10 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 14:40

ESC Sample # : L482930-31

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	140			mV		2580	10/11/10	1
pH	8.5			su		9045D	10/12/10	1
Chromium	64.	0.085	0.50	mg/kg		6010B	10/13/10	1
Lead	13.	0.090	0.25	mg/kg		6010B	10/13/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-31 (PH) - 8.5@20.0c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-10 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 14:45

ESC Sample # : L482930-32

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	4.5	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	16.			mV		2580	10/12/10	1
pH	7.2			su		9045D	10/09/10	1
Chromium	130	0.085	0.50	mg/kg		6010B	10/13/10	1
Lead	49.	0.090	0.25	mg/kg		6010B	10/13/10	1

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MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-32 (PH) - 7.2@19.9c



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# REPORT OF ANALYSIS

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MACTEC - Louisville, KY  
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Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-10 10-20 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 14:50

ESC Sample # : L482930-33

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	4.1	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	8.0			mV		2580	10/12/10	1
pH	8.3			su		9045D	10/09/10	1
Chromium	28.	0.085	0.50	mg/kg		6010B	10/13/10	1
Lead	4.4	0.090	0.25	mg/kg		6010B	10/13/10	1

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MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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L482930-33 (PH) - 8.3@20.7c



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# REPORT OF ANALYSIS

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October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-11 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 15:13

ESC Sample # : L482930-34

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	5.9	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	46.			mV		2580	10/12/10	1
pH	5.9			su		9045D	10/09/10	1
Chromium	120	0.085	0.50	mg/kg		6010B	10/13/10	1
Lead	14.	0.090	0.25	mg/kg		6010B	10/13/10	1

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MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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L482930-34 (PH) - 5.9@20.6c





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# REPORT OF ANALYSIS

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Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-11 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 15:15

ESC Sample # : L482930-35

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	17.	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	65.			mV		2580	10/12/10	1
pH	4.6			su		9045D	10/09/10	1
Chromium	200	0.085	0.50	mg/kg		6010B	10/13/10	1
Lead	24.	0.090	0.25	mg/kg		6010B	10/13/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-35 (PH) - 4.6@20.4c



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Tax I.D. 62-0814289

Est. 1970

# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-11 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 15:20

ESC Sample # : L482930-36

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	16.	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	68.			mV		2580	10/12/10	1
pH	4.8			su		9045D	10/09/10	1
Chromium	160	0.085	0.50	mg/kg		6010B	10/13/10	1
Lead	8.2	0.090	0.25	mg/kg		6010B	10/13/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-36 (PH) - 4.8@20.3c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-12 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 15:50

ESC Sample # : L482930-37

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	3.8	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	65.			mV		2580	10/12/10	1
pH	7.8			su		9045D	10/09/10	1
Chromium	58.	0.085	0.50	mg/kg		6010B	10/13/10	1
Lead	12.	0.090	0.25	mg/kg		6010B	10/13/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-37 (PH) - 7.8@20.3c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-12 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 15:55

ESC Sample # : L482930-38

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	17.	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	27.			mV		2580	10/12/10	1
pH	7.6			su		9045D	10/09/10	1
Chromium	89.	0.085	0.50	mg/kg		6010B	10/13/10	1
Lead	15.	0.090	0.25	mg/kg		6010B	10/13/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-38 (PH) - 7.6@20.2c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-12 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 16:00

ESC Sample # : L482930-39

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	2.6	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	52.			mV		2580	10/12/10	1
pH	7.4			su		9045D	10/09/10	1
Chromium	37.	0.085	0.50	mg/kg		6010B	10/13/10	1
Lead	8.6	0.090	0.25	mg/kg		6010B	10/13/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-39 (PH) - 7.4@20.3c



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1-800-767-5859  
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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-13 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 15:35

ESC Sample # : L482930-40

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	2.3	0.31	2.0	mg/kg		3060A/7	10/12/10	1
ORP	55.			mV		2580	10/12/10	1
pH	7.0			su		9045D	10/09/10	1
Chromium	76.	0.085	0.50	mg/kg	J3J6	6010B	10/13/10	1
Lead	14.	0.090	0.25	mg/kg		6010B	10/13/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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L482930-40 (PH) - 7.0@20.3c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-13 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 15:40

ESC Sample # : L482930-41

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	61.	1.6	10.	mg/kg		3060A/7	10/13/10	5
ORP	79.			mV		2580	10/12/10	1
pH	5.1			su		9045D	10/09/10	1
Chromium	330	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	19.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-41 (PH) - 5.1@20.4c





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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-13 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 15:45

ESC Sample # : L482930-42

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	28.	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	85.			mV		2580	10/12/10	1
pH	4.8			su		9045D	10/12/10	1
Chromium	140	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	11.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-42 (PH) - 4.8@19.6c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-14 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 16:00

ESC Sample # : L482930-43

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	8.5	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	80.			mV		2580	10/12/10	1
pH	7.7			su		9045D	10/12/10	1
Chromium	87.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	25.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-43 (PH) - 7.7@19.7c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-14 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 16:15

ESC Sample # : L482930-44

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	87.	1.6	10.	mg/kg		3060A/7	10/13/10	5
ORP	92.			mV		2580	10/12/10	1
pH	5.9			su		9045D	10/12/10	1
Chromium	140	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	13.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-44 (PH) - 5.9@19.5c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-14 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 16:20

ESC Sample # : L482930-45

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	15.	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	76.			mV		2580	10/12/10	1
pH	7.0			su		9045D	10/12/10	1
Chromium	130	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	10.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-45 (PH) - 7.0@19.4c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-15 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 08:45

ESC Sample # : L482930-46

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	4.6	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	85.			mV		2580	10/12/10	1
pH	5.2			su		9045D	10/12/10	1
Chromium	240	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	31.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-46 (PH) - 5.2@19.4c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-15 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 08:50

ESC Sample # : L482930-47

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	26.	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	87.			mV		2580	10/12/10	1
pH	6.4			su		9045D	10/12/10	1
Chromium	100	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	13.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-47 (PH) - 6.4@19.3c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-15 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 08:55

ESC Sample # : L482930-48

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	20.	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	99.			mV		2580	10/12/10	1
pH	5.1			su		9045D	10/12/10	1
Chromium	74.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	13.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-48 (PH) - 5.1@20.0c





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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-15 10-20 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 09:00

ESC Sample # : L482930-49

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	8.8	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	90.			mV		2580	10/12/10	1
pH	7.5			su		9045D	10/12/10	1
Chromium	65.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	6.5	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-49 (PH) - 7.5@20.1c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-16 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 09:10

ESC Sample # : L482930-50

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	6.3	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	54.			mV		2580	10/12/10	1
pH	10.			su		9045D	10/12/10	1
Chromium	990	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	76.	0.090	0.25	mg/kg		6010B	10/15/10	1

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L482930-50 (PH) - 10@19.8c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-16 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 09:15

ESC Sample # : L482930-51

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	11.	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	96.			mV		2580	10/12/10	1
pH	8.1			su		9045D	10/12/10	1
Chromium	480	0.085	0.50	mg/kg	J3V	6010B	10/15/10	1
Lead	51.	0.090	0.25	mg/kg	J3V	6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

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Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-51 (PH) - 8.1@19.6c



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Tax I.D. 62-0814289

Est. 1970

# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-16 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 09:20

ESC Sample # : L482930-52

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	14.	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	43.			mV		2580	10/12/10	1
pH	6.8			su		9045D	10/14/10	1
Chromium	97.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	12.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-52 (PH) - 6.8@20.0c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-16 10-20 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 09:25

ESC Sample # : L482930-53

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	13.	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	22.			mV		2580	10/12/10	1
pH	5.1			su		9045D	10/14/10	1
Chromium	43.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	4.9	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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L482930-53 (PH) - 5.1@20.4c



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1-800-767-5859  
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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-17 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 09:40

ESC Sample # : L482930-54

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	12.	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	44.			mV		2580	10/12/10	1
pH	7.6			su		9045D	10/14/10	1
Chromium	470	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	130	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-54 (PH) - 7.6@20.1c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-17 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 09:45

ESC Sample # : L482930-55

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	11.	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	33.			mV		2580	10/12/10	1
pH	7.2			su		9045D	10/14/10	1
Chromium	39.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	22.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-55 (PH) - 7.2@19.9c





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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-17 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 09:50

ESC Sample # : L482930-56

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	7.9	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	32.			mV		2580	10/12/10	1
pH	5.0			su		9045D	10/14/10	1
Chromium	36.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	9.2	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-56 (PH) - 5.0@19.9c



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(615) 758-5858  
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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-17 10-20 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 09:55

ESC Sample # : L482930-57

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	6.5	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	27.			mV		2580	10/12/10	1
pH	7.7			su		9045D	10/14/10	1
Chromium	26.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	5.6	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-57 (PH) - 7.7@19.8c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-18 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 10:15

ESC Sample # : L482930-58

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	33.			mV		2580	10/12/10	1
pH	7.4			su		9045D	10/14/10	1
Chromium	23.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	14.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-58 (PH) - 7.4@19.6c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-18 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 10:20

ESC Sample # : L482930-59

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	55.			mV		2580	10/12/10	1
pH	4.8			su		9045D	10/14/10	1
Chromium	11.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	16.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-59 (PH) - 4.8@19.2c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-18 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 10:25

ESC Sample # : L482930-60

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	8.2	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	55.			mV		2580	10/12/10	1
pH	4.6			su		9045D	10/14/10	1
Chromium	48.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	7.9	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-60 (PH) - 4.6@19.2c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-18 10-20 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 10:30

ESC Sample # : L482930-61

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	7.0	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	59.			mV		2580	10/12/10	1
pH	4.4			su		9045D	10/14/10	1
Chromium	70.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	6.1	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-61 (PH) - 4.4@19.4c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-19 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 10:50

ESC Sample # : L482930-62

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	13.	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	32.			mV		2580	10/12/10	1
pH	8.1			su		9045D	10/14/10	1
Chromium	70.	0.085	0.50	mg/kg		6010B	10/14/10	1
Lead	36.	0.090	0.25	mg/kg		6010B	10/14/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-62 (PH) - 8.1@18.8c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-19 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 10:55

ESC Sample # : L482930-63

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	31.	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	33.			mV		2580	10/12/10	1
pH	5.9			su		9045D	10/14/10	1
Chromium	100	0.085	0.50	mg/kg		6010B	10/14/10	1
Lead	10.	0.090	0.25	mg/kg		6010B	10/14/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-63 (PH) - 5.9@19.0c





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Est. 1970

# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-19 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 11:00

ESC Sample # : L482930-64

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	18.	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	43.			mV		2580	10/12/10	1
pH	5.8			su		9045D	10/14/10	1
Chromium	69.	0.085	0.50	mg/kg		6010B	10/14/10	1
Lead	7.3	0.090	0.25	mg/kg		6010B	10/14/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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L482930-64 (PH) - 5.8@18.9c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-19 10-20 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 11:05

ESC Sample # : L482930-65

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	11.	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	60.			mV		2580	10/12/10	1
pH	4.5			su		9045D	10/14/10	1
Chromium	42.	0.085	0.50	mg/kg		6010B	10/14/10	1
Lead	6.1	0.090	0.25	mg/kg		6010B	10/14/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-65 (PH) - 4.5@19.0c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-20 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 11:20

ESC Sample # : L482930-66

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	14.	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	55.			mV		2580	10/12/10	1
pH	8.5			su		9045D	10/14/10	1
Chromium	580	0.085	0.50	mg/kg		6010B	10/14/10	1
Lead	130	0.090	0.25	mg/kg		6010B	10/14/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-66 (PH) - 8.5@18.6c



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Mt. Juliet, TN 37122  
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1-800-767-5859  
Fax (615) 758-5859

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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-20 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 11:25

ESC Sample # : L482930-67

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	12.	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	57.			mV		2580	10/12/10	1
pH	4.6			su		9045D	10/14/10	1
Chromium	390	0.085	0.50	mg/kg		6010B	10/14/10	1
Lead	29.	0.090	0.25	mg/kg		6010B	10/14/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-67 (PH) - 4.6@18.9c



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Tax I.D. 62-0814289

Est. 1970

# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-20 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 11:30

ESC Sample # : L482930-68

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	10.	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	57.			mV		2580	10/12/10	1
pH	4.4			su		9045D	10/14/10	1
Chromium	150	0.085	0.50	mg/kg		6010B	10/14/10	1
Lead	13.	0.090	0.25	mg/kg		6010B	10/14/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-68 (PH) - 4.4@18.7c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-21 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 11:40

ESC Sample # : L482930-69

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	57.			mV		2580	10/12/10	1
pH	8.1			su		9045D	10/14/10	1
Chromium	70.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	210	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

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L482930-69 (PH) - 8.1@19.3c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-21 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 11:45

ESC Sample # : L482930-70

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	4.4	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	47.			mV		2580	10/12/10	1
pH	6.7			su		9045D	10/14/10	1
Chromium	140	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	48.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-70 (PH) - 6.7@18.6c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-21 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 11:50

ESC Sample # : L482930-71

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	8.4	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	64.			mV		2580	10/12/10	1
pH	6.9			su		9045D	10/14/10	1
Chromium	83.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	28.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-71 (PH) - 6.9@18.9c





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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-22 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 12:55

ESC Sample # : L482930-72

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	-22.			mV		2580	10/13/10	1
pH	8.2			su		9045D	10/13/10	1
Chromium	14.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	110	0.45	1.3	mg/kg		6010B	10/15/10	5

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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L482930-72 (PH) - 8.2@20.3c



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1-800-767-5859  
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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-22 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 13:00

ESC Sample # : L482930-73

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	-3.0			mV		2580	10/13/10	1
pH	7.8			su		9045D	10/13/10	1
Chromium	42.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	450	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-73 (PH) - 7.8@20.2c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-22 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 13:05

ESC Sample # : L482930-74

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	-7.0			mV		2580	10/13/10	1
pH	7.8			su		9045D	10/13/10	1
Chromium	72.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	540	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-74 (PH) - 7.8@20.1c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-23 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 13:20

ESC Sample # : L482930-75

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	-11.			mV		2580	10/13/10	1
pH	9.7			su		9045D	10/13/10	1
Chromium	22.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	130	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-75 (PH) - 9.7@20.1c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-23 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 13:25

ESC Sample # : L482930-76

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	-7.0			mV		2580	10/13/10	1
pH	8.2			su		9045D	10/13/10	1
Chromium	20.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	420	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-76 (PH) - 8.2@19.9c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-23 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 13:30

ESC Sample # : L482930-77

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	20.	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	3.0			mV		2580	10/13/10	1
pH	8.4			su		9045D	10/13/10	1
Chromium	190	0.085	0.50	mg/kg	J3J6	6010B	10/15/10	1
Lead	280	0.090	0.25	mg/kg	V	6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-77 (PH) - 8.4@20.1c



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# REPORT OF ANALYSIS

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MACTEC - Louisville, KY  
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Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-24 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 13:35

ESC Sample # : L482930-78

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	-5.0			mV		2580	10/13/10	1
pH	8.1			su		9045D	10/13/10	1
Chromium	29.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	21.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-78 (PH) - 8.1@20.0c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-24 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 13:40

ESC Sample # : L482930-79

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	-22.			mV		2580	10/13/10	1
pH	7.9			su		9045D	10/13/10	1
Chromium	28.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	19.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-79 (PH) - 7.9@20.0c





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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-24 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 13:45

ESC Sample # : L482930-80

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	3.4	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	-33.			mV		2580	10/13/10	1
pH	8.0			su		9045D	10/13/10	1
Chromium	14.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	7.9	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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L482930-80 (PH) - 8.0@19.9c



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# REPORT OF ANALYSIS

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MACTEC - Louisville, KY  
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Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-25 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 13:50

ESC Sample # : L482930-81

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	8.7	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	-1.0			mV		2580	10/13/10	1
pH	7.7			su		9045D	10/13/10	1
Chromium	77.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	12.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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L482930-81 (PH) - 7.7@19.9c



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# REPORT OF ANALYSIS

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MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-25 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 13:55

ESC Sample # : L482930-82

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	31.	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	13.			mV		2580	10/13/10	1
pH	7.5			su		9045D	10/13/10	1
Chromium	64.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	12.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-82 (PH) - 7.5@19.8c



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(615) 758-5858  
1-800-767-5859  
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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-25 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 14:00

ESC Sample # : L482930-83

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	18.	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	8.0			mV		2580	10/13/10	1
pH	7.1			su		9045D	10/13/10	1
Chromium	41.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	9.2	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

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RDL = Reported Detection Limit = LOQ = PQL = EQL

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-83 (PH) - 7.1@19.8c



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(615) 758-5858  
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Tax I.D. 62-0814289

Est. 1970

# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-26 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/06/10 09:55

ESC Sample # : L482930-84

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	22.			mV		2580	10/13/10	1
pH	7.8			su		9045D	10/13/10	1
Chromium	11.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	17.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-84 (PH) - 7.8@19.8c



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(615) 758-5858  
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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-26 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/06/10 11:20

ESC Sample # : L482930-85

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	29.			mV		2580	10/13/10	1
pH	7.3			su		9045D	10/13/10	1
Chromium	17.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	10.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-85 (PH) - 7.3@19.7c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-26 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/06/10 11:25

ESC Sample # : L482930-86

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	33.			mV		2580	10/13/10	1
pH	5.8			su		9045D	10/13/10	1
Chromium	8.7	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	7.9	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-86 (PH) - 5.8@19.9c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-27 4-6 FT

Collected By : Michael J. Caudill  
Collection Date : 10/06/10 11:47

ESC Sample # : L482930-87

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	2.6	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	36.			mV		2580	10/13/10	1
pH	12.			su		9045D	10/13/10	1
Chromium	41.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	9.7	0.45	1.3	mg/kg		6010B	10/15/10	5

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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L482930-87 (PH) - 12@20.0c





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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-28 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/07/10 08:35

ESC Sample # : L482930-88

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	52.	1.6	10.	mg/kg		3060A/7	10/13/10	5
ORP	-76.			mV		2580	10/13/10	1
pH	7.6			su		9045D	10/13/10	1
Chromium	570	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	19.	0.090	0.25	mg/kg		6010B	10/15/10	1

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L482930-88 (PH) - 7.6@19.8c



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(615) 758-5858  
1-800-767-5859  
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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-28 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/07/10 08:40

ESC Sample # : L482930-89

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	61.	3.1	20.	mg/kg		3060A/7	10/13/10	10
ORP	3.0			mV		2580	10/13/10	1
pH	7.2			su		9045D	10/13/10	1
Chromium	200	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	12.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

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L482930-89 (PH) - 7.2@20.0c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-28 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/07/10 08:45

ESC Sample # : L482930-90

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	120	3.1	20.	mg/kg		3060A/7	10/13/10	10
ORP	58.			mV		2580	10/13/10	1
pH	5.2			su		9045D	10/13/10	1
Chromium	160	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	11.	0.090	0.25	mg/kg		6010B	10/15/10	1

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MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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L482930-90 (PH) - 5.2@20.0c



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# REPORT OF ANALYSIS

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MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-29 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/06/10 10:20

ESC Sample # : L482930-91

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	140	7.8	50.	mg/kg		3060A/7	10/13/10	25
ORP	81.			mV		2580	10/13/10	1
pH	7.8			su		9045D	10/12/10	1
Chromium	310	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	30.	0.090	0.25	mg/kg		6010B	10/15/10	1

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-91 (PH) - 7.8@20.1c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-29 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/06/10 12:05

ESC Sample # : L482930-92

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	150	16.	100	mg/kg		3060A/7	10/13/10	50
ORP	140			mV		2580	10/13/10	1
pH	6.5			su		9045D	10/12/10	1
Chromium	200	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	15.	0.090	0.25	mg/kg		6010B	10/15/10	1

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-92 (PH) - 6.5@20.2c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-29 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/06/10 12:10

ESC Sample # : L482930-93

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	24.	0.31	2.0	mg/kg		3060A/7	10/20/10	1
ORP	150			mV		2580	10/13/10	1
pH	5.8			su		9045D	10/12/10	1
Chromium	45.	0.085	0.50	mg/kg		6010B	10/21/10	1
Lead	9.8	0.090	0.25	mg/kg		6010B	10/15/10	1

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-93 (PH) - 5.8@20.0c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-30 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/06/10 10:35

ESC Sample # : L482930-94

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	150			mV		2580	10/13/10	1
pH	4.6			su		9045D	10/12/10	1
Chromium	14.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	250	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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L482930-94 (PH) - 4.6@19.8c



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1-800-767-5859  
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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-30 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/06/10 13:15

ESC Sample # : L482930-95

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	150			mV		2580	10/13/10	1
pH	5.2			su		9045D	10/12/10	1
Chromium	17.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	13.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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L482930-95 (PH) - 5.2@20.1c





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1-800-767-5859  
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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-30 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/06/10 13:20

ESC Sample # : L482930-96

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	150			mV		2580	10/13/10	1
pH	7.9			su		9045D	10/12/10	1
Chromium	9.5	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	8.9	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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L482930-96 (PH) - 7.9@20.1c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-31 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/06/10 10:52

ESC Sample # : L482930-97

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	140			mV		2580	10/13/10	1
pH	8.0			su		9045D	10/12/10	1
Chromium	12.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	100	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-97 (PH) - 8.0@20.0c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-31 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/06/10 13:35

ESC Sample # : L482930-98

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	140			mV		2580	10/13/10	1
pH	7.4			su		9045D	10/12/10	1
Chromium	19.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	14.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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L482930-98 (PH) - 7.4@20.1c



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(615) 758-5858  
1-800-767-5859  
Fax (615) 758-5859

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# REPORT OF ANALYSIS

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MACTEC - Louisville, KY  
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Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-31 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/06/10 13:40

ESC Sample # : L482930-99

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	150			mV		2580	10/13/10	1
pH	5.3			su		9045D	10/12/10	1
Chromium	12.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	10.	0.090	0.25	mg/kg		6010B	10/15/10	1

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-99 (PH) - 5.3@20.1c



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Tax I.D. 62-0814289

Est. 1970

# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-32 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/06/10 14:00

ESC Sample # : L482930-100

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	3.1	0.31	2.0	mg/kg		3060A/7	10/13/10	1
ORP	150			mV		2580	10/13/10	1
pH	8.6			su		9045D	10/12/10	1
Chromium	540	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	2900	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-100 (PH) - 8.6@20.8c



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(615) 758-5858  
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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-32 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/06/10 15:00

ESC Sample # : L482930-101

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	24.	0.31	2.0	mg/kg		3060A/7	10/14/10	1
ORP	140			mV		2580	10/13/10	1
pH	8.2			su		9045D	10/12/10	1
Chromium	74.	0.085	0.50	mg/kg		6010B	10/14/10	1
Lead	13.	0.090	0.25	mg/kg		6010B	10/14/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-101 (PH) - 8.2@20.7c



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REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-32 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/06/10 15:05

ESC Sample # : L482930-102

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	12.	0.31	2.0	mg/kg		3060A/7	10/14/10	1
ORP	140			mV		2580	10/13/10	1
pH	7.9			su		9045D	10/12/10	1
Chromium	50.	0.085	0.50	mg/kg		6010B	10/14/10	1
Lead	11.	0.090	0.25	mg/kg		6010B	10/14/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-102 (PH) - 7.9@20.6c



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(615) 758-5858  
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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-32 10-20 FT

Collected By : Michael J. Caudill  
Collection Date : 10/06/10 15:10

ESC Sample # : L482930-103

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	7.2	0.31	2.0	mg/kg		3060A/7	10/14/10	1
ORP	130			mV		2580	10/13/10	1
pH	7.2			su		9045D	10/12/10	1
Chromium	27.	0.085	0.50	mg/kg		6010B	10/14/10	1
Lead	8.9	0.090	0.25	mg/kg		6010B	10/14/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-103 (PH) - 7.2@20.5c





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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-33 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/07/10 15:25

ESC Sample # : L482930-104

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	2.8	0.31	2.0	mg/kg		3060A/7	10/14/10	1
ORP	120			mV		2580	10/13/10	1
pH	7.3			su		9045D	10/12/10	1
Chromium	21.	0.085	0.50	mg/kg		6010B	10/14/10	1
Lead	13.	0.090	0.25	mg/kg		6010B	10/14/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-104 (PH) - 7.3@20.6c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-33 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/07/10 15:35

ESC Sample # : L482930-105

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	5.2	0.31	2.0	mg/kg		3060A/7	10/14/10	1
ORP	130			mV		2580	10/13/10	1
pH	5.4			su		9045D	10/12/10	1
Chromium	55.	0.085	0.50	mg/kg		6010B	10/14/10	1
Lead	17.	0.090	0.25	mg/kg		6010B	10/14/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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L482930-105 (PH) - 5.4@20.4c



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Fax (615) 758-5859

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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-33 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/07/10 15:40

ESC Sample # : L482930-106

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	15.	0.31	2.0	mg/kg		3060A/7	10/14/10	1
ORP	140			mV		2580	10/13/10	1
pH	5.3			su		9045D	10/12/10	1
Chromium	42.	0.085	0.50	mg/kg		6010B	10/14/10	1
Lead	11.	0.090	0.25	mg/kg		6010B	10/14/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-106 (PH) - 5.3@20.4c



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(615) 758-5858  
1-800-767-5859  
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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-33 10-20 FT

Collected By : Michael J. Caudill  
Collection Date : 10/07/10 15:45

ESC Sample # : L482930-107

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	3.0	0.31	2.0	mg/kg		3060A/7	10/14/10	1
ORP	120			mV		2580	10/13/10	1
pH	7.2			su		9045D	10/12/10	1
Chromium	22.	0.085	0.50	mg/kg		6010B	10/14/10	1
Lead	9.3	0.090	0.25	mg/kg		6010B	10/14/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-107 (PH) - 7.2@20.2c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-34 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/07/10 08:55

ESC Sample # : L482930-108

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/14/10	1
ORP	140			mV		2580	10/13/10	1
pH	7.8			su		9045D	10/12/10	1
Chromium	19.	0.085	0.50	mg/kg		6010B	10/14/10	1
Lead	24.	0.090	0.25	mg/kg		6010B	10/14/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-108 (PH) - 7.8@20.3c



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1-800-767-5859  
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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-34 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/07/10 09:00

ESC Sample # : L482930-109

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	3.8	0.31	2.0	mg/kg		3060A/7	10/14/10	1
ORP	130			mV		2580	10/13/10	1
pH	8.5			su		9045D	10/12/10	1
Chromium	30.	0.085	0.50	mg/kg		6010B	10/14/10	1
Lead	16.	0.090	0.25	mg/kg		6010B	10/14/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-109 (PH) - 8.5@20.2c



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1-800-767-5859  
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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-34 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/07/10 09:05

ESC Sample # : L482930-110

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	9.0	0.31	2.0	mg/kg		3060A/7	10/14/10	1
ORP	110			mV		2580	10/13/10	1
pH	5.8			su		9045D	10/12/10	1
Chromium	37.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	9.9	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-110 (PH) - 5.8@20.1c



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1-800-767-5859  
Fax (615) 758-5859

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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-34 10-20 FT

Collected By : Michael J. Caudill  
Collection Date : 10/07/10 09:10

ESC Sample # : L482930-111

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	15.	0.31	2.0	mg/kg		3060A/7	10/14/10	1
ORP	140			mV		2580	10/13/10	1
pH	6.8			su		9045D	10/12/10	1
Chromium	100	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	8.4	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-111 (PH) - 6.8@20.8c





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(615) 758-5858  
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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-35 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/07/10 10:35

ESC Sample # : L482930-112

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/14/10	1
ORP	16.			mV		2580	10/13/10	1
pH	6.8			su		9045D	10/12/10	1
Chromium	13.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	53.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-112 (PH) - 6.8@20.7c



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REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-35 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/07/10 10:40

ESC Sample # : L482930-113

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/14/10	1
ORP	6.0			mV		2580	10/13/10	1
pH	7.0			su		9045D	10/12/10	1
Chromium	17.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	16.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-113 (PH) - 7.0@20.6c



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1-800-767-5859  
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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-35 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/07/10 10:45

ESC Sample # : L482930-114

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/14/10	1
ORP	23.			mV		2580	10/13/10	1
pH	7.8			su		9045D	10/12/10	1
Chromium	14.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	14.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-114 (PH) - 7.8@20.5c



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(615) 758-5858  
1-800-767-5859  
Fax (615) 758-5859

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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-35 10-20 FT

Collected By : Michael J. Caudill  
Collection Date : 10/07/10 10:50

ESC Sample # : L482930-115

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/14/10	1
ORP	10.			mV		2580	10/13/10	1
pH	6.7			su		9045D	10/12/10	1
Chromium	5.0	0.085	0.50	mg/kg		6010B	10/14/10	1
Lead	4.7	0.090	0.25	mg/kg		6010B	10/14/10	1

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-115 (PH) - 6.7@20.5c



12065 Lebanon Rd.  
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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-36 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/07/10 09:50

ESC Sample # : L482930-116

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/14/10	1
ORP	47.			mV		2580	10/13/10	1
pH	8.1			su		9045D	10/12/10	1
Chromium	8.1	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	350	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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L482930-116 (PH) - 8.1@20.5c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-36 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/07/10 09:55

ESC Sample # : L482930-117

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/14/10	1
ORP	38.			mV		2580	10/13/10	1
pH	7.9			su		9045D	10/12/10	1
Chromium	16.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	16.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-117 (PH) - 7.9@20.4c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-36 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/07/10 10:00

ESC Sample # : L482930-118

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/14/10	1
ORP	25.			mV		2580	10/13/10	1
pH	7.3			su		9045D	10/12/10	1
Chromium	31.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	8.7	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-118 (PH) - 7.3@20.5c



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REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : EB-1

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 16:45

ESC Sample # : L482930-119

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium	U	0.0017	0.010	mg/l		6010B	10/15/10	1
Lead	U	0.0018	0.0050	mg/l		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06





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REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : EB-2

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 15:00

ESC Sample # : L482930-120

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium	U	0.0017	0.010	mg/l		6010B	10/15/10	1
Lead	U	0.0018	0.0050	mg/l		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : EB-3

Collected By : Michael J. Caudill  
Collection Date : 10/06/10 16:45

ESC Sample # : L482930-121

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium	U	0.0017	0.010	mg/l		6010B	10/15/10	1
Lead	U	0.0018	0.0050	mg/l		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06



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REPORT OF ANALYSIS

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13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : EB-4

Collected By : Michael J. Caudill  
Collection Date : 10/07/10 11:30

ESC Sample # : L482930-122

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium	U	0.0017	0.010	mg/l		6010B	10/15/10	1
Lead	U	0.0018	0.0050	mg/l		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : DUP-1

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 00:00

ESC Sample # : L482930-123

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	7.4	0.31	2.0	mg/kg		3060A/7	10/14/10	1
ORP	2.0			mV		2580	10/13/10	1
pH	8.7			su		9045D	10/12/10	1
Chromium	92.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	5.4	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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L482930-123 (PH) - 8.7@20.5c



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MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : DUP-2

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 00:00

ESC Sample # : L482930-124

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	16.	0.31	2.0	mg/kg		3060A/7	10/14/10	1
ORP	14.			mV		2580	10/13/10	1
pH	6.2			su		9045D	10/12/10	1
Chromium	140	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	19.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-124 (PH) - 6.2@20.6c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : DUP-3

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 00:00

ESC Sample # : L482930-125

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/14/10	1
ORP	48.			mV		2580	10/13/10	1
pH	8.1			su		9045D	10/12/10	1
Chromium	32.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	260	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-125 (PH) - 8.1@20.3c



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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : DUP-4

Collected By : Michael J. Caudill  
Collection Date : 10/06/10 00:00

ESC Sample # : L482930-126

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/14/10	1
ORP	53.			mV		2580	10/13/10	1
pH	7.4			su		9045D	10/12/10	1
Chromium	10.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	11.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:06  
L482930-126 (PH) - 7.4@20.2c



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MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : DUP-5

Collected By : Michael J. Caudill  
Collection Date : 10/07/10 00:00

ESC Sample # : L482930-127

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	3.1	0.31	2.0	mg/kg		3060A/7	10/14/10	1
ORP	38.			mV		2580	10/13/10	1
pH	7.2			su		9045D	10/12/10	1
Chromium	52.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	16.	0.090	0.25	mg/kg		6010B	10/15/10	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:07  
L482930-127 (PH) - 7.2@20.2c





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Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 22, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-27 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/06/10 10:10

ESC Sample # : L482930-128

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chromium, Hexavalent	U	0.31	2.0	mg/kg		3060A/7	10/14/10	1
ORP	48.			mV		2580	10/13/10	1
pH	8.9			su		9045D	10/12/10	1
Chromium	12.	0.085	0.50	mg/kg		6010B	10/15/10	1
Lead	5.4	0.45	1.3	mg/kg		6010B	10/15/10	5

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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Reported: 10/17/10 09:51 Revised: 10/22/10 13:07  
L482930-128 (PH) - 8.9@20.1c

Attachment A  
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L482930-03	WG502426	SAMP	Chromium, Hexavalent	R1424028	O
L482930-22	WG502427	SAMP	Chromium, Hexavalent	R1423868	V
L482930-40	WG502945	SAMP	Chromium	R1426379	J3J6
L482930-51	WG502952	SAMP	Chromium	R1430088	J3V
	WG502952	SAMP	Lead	R1430088	J3V
L482930-77	WG503139	SAMP	Chromium	R1429249	J3J6
	WG503139	SAMP	Lead	R1429249	V

Attachment B  
Explanation of QC Qualifier Codes

Qualifier	Meaning
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low
J3	The associated batch QC was outside the established quality control range for precision.
V	(ESC) - Additional QC Info: The sample concentration is too high to evaluate accurate spike recoveries.
O	(ESC) Sample diluted due to matrix interferences that impaired the ability to make an accurate analytical determination. The detection limit is elevated in order to reflect the necessary dilution.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.



**YOUR LAB OF CHOICE**

MACTEC - Louisville, KY  
Mr. Scott Kelly  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

Quality Assurance Report  
Level II

L482930

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Mt. Juliet, TN 37122  
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Fax (615) 758-5859

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October 22, 2010

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
pH	6.40	su			WG502424	10/09/10 10:33
pH	6.50	su			WG502608	10/12/10 09:29
pH	5.70	su			WG502618	10/12/10 10:03
Chromium,Hexavalent	< 2	mg/kg			WG502427	10/12/10 16:22
Chromium,Hexavalent	< 2	mg/kg			WG502426	10/12/10 19:54
Chromium,Hexavalent	< 2	mg/kg			WG502428	10/13/10 08:30
pH	4.90	su			WG502614	10/12/10 21:00
pH	4.90	su			WG502613	10/12/10 21:36
pH	5.20	su			WG502820	10/12/10 14:50
Chromium,Hexavalent	< 2	mg/kg			WG502429	10/13/10 14:51
Chromium,Hexavalent	< 2	mg/kg			WG502430	10/13/10 21:39
Chromium	< .5	mg/kg			WG502945	10/13/10 12:19
Lead	< .25	mg/kg			WG502945	10/13/10 12:19
pH	5.30	su			WG502612	10/13/10 23:09
Chromium	< .5	mg/kg			WG503042	10/14/10 14:40
Lead	< .25	mg/kg			WG503042	10/14/10 14:40
Chromium,Hexavalent	< 2	mg/kg			WG502431	10/14/10 19:36
Chromium,Hexavalent	< 2	mg/kg			WG502432	10/14/10 20:09
pH	5.20	su			WG502611	10/14/10 17:35
Chromium	< .5	mg/kg			WG503142	10/14/10 22:40
Lead	< .25	mg/kg			WG503142	10/14/10 22:40
Chromium	< .5	mg/kg			WG503297	10/15/10 11:55
Lead	< .25	mg/kg			WG503297	10/15/10 11:55

\* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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October 22, 2010

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Chromium	< .5	mg/kg			WG503139	10/15/10 13:30
Lead	< .25	mg/kg			WG503139	10/15/10 13:30
Chromium	< .5	mg/kg			WG503140	10/15/10 10:39
Lead	< .25	mg/kg			WG503140	10/15/10 10:39
Chromium	< .5	mg/kg			WG502941	10/15/10 18:28
Lead	< .25	mg/kg			WG502941	10/15/10 18:28
Chromium	< .01	mg/l			WG503047	10/15/10 15:36
Lead	< .005	mg/l			WG503047	10/15/10 15:36
Chromium	< .5	mg/kg			WG502952	10/15/10 19:30
Lead	< .25	mg/kg			WG502952	10/15/10 19:30
Chromium,Hexavalent	< 2	mg/kg			WG503666	10/20/10 08:58
Chromium	< .5	mg/kg			WG504415	10/21/10 16:12

Analyte	Units	Result	Duplicate		RPD	Limit	Ref Samp	Batch
			Duplicate					
pH	su	6.30	6.30		0	1	L482572-01	WG502424
pH	su	7.20	7.20		0	1	L482930-32	WG502424
ORP	mV	84.0	90.0		6.90	20	L482930-01	WG502368
ORP	mV	110.	110.		3.57	20	L482930-02	WG502368
ORP	mV	120.	120.		3.39	20	L482930-12	WG502369
ORP	mV	150.	150.		0	20	L482930-22	WG502369
pH	su	11.0	10.0		9.52*	1	L482930-01	WG502608
pH	su	6.40	6.30		1.57*	1	L482930-12	WG502608
pH	su	6.60	6.60		0	1	L482930-24	WG502618
pH	su	8.60	8.50		1.17*	1	L482930-31	WG502618
ORP	mV	19.0	16.0		17.1	20	L482930-32	WG502798
ORP	mV	100.	96.0		5.08	20	L482930-51	WG502798
Chromium,Hexavalent	mg/kg	27.0	28.0		2.90	20	L482930-21	WG502427
Chromium,Hexavalent	mg/kg	4.70	4.50		4.13	20	L482930-32	WG502427
Chromium,Hexavalent	mg/kg	0	0		0	20	L482930-01	WG502426
Chromium,Hexavalent	mg/kg	0	0		0	20	L482930-20	WG502426

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Louisville, KY 40223

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Level II

L482930

12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
(615) 758-5858  
1-800-767-5859  
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Analyte	Units	Result	Duplicate	RPD	Limit	Ref Samp	Batch
			Duplicate				
pH	su	6.80	6.70	1.48*	1	L482930-115	WG502614
pH	su	9.00	8.90	1.12*	1	L482930-128	WG502614
Chromium,Hexavalent	mg/kg	14.0	14.0	2.90	20	L482930-52	WG502428
Chromium,Hexavalent	mg/kg	63.0	61.0	3.70	20	L482930-41	WG502428
pH	su	8.50	8.60	1.17*	1	L482930-100	WG502613
pH	su	5.10	5.20	1.94*	1	L482930-95	WG502613
ORP	mV	49.0	43.0	13.0	20	L482930-52	WG502799
ORP	mV	63.0	64.0	1.57	20	L482930-71	WG502799
pH	su	8.00	8.10	1.24*	1	L482930-51	WG502820
ORP	mV	9.00	10.0	10.5	20	L482930-115	WG502922
ORP	mV	45.0	48.0	6.45	20	L482930-128	WG502922
Chromium,Hexavalent	mg/kg	8.20	8.40	2.90	20	L482930-71	WG502429
Chromium,Hexavalent	mg/kg	7.10	7.00	0.995	20	L482930-61	WG502429
Chromium,Hexavalent	mg/kg	120.	120.	0.837	20	L482930-90	WG502430
Chromium,Hexavalent	mg/kg	3.30	3.10	6.25	20	L482930-100	WG502430
Chromium	mg/kg	62.0	76.0	20.8*	20	L482930-40	WG502945
Lead	mg/kg	13.0	14.0	5.13	20	L482930-40	WG502945
pH	su	8.30	8.20	1.21*	1	L482930-72	WG502612
pH	su	5.20	5.20	0	1	L482930-90	WG502612
ORP	mV	0	0	0	20	L482930-72	WG502919
ORP	mV	74.0	81.0	9.03	20	L482930-91	WG502919
ORP	mV	140.	150.	8.33	20	L482930-100	WG502921
ORP	mV	150.	150.	1.98	20	L482930-95	WG502921
Chromium	mg/kg	6.90	4.70	37.4*	20	L482406-03	WG503042
Lead	mg/kg	4.20	4.80	14.0	20	L482406-03	WG503042
ORP	mV	0	0	0	20	L482930-72	WG502919
ORP	mV	74.0	81.0	9.03	20	L482930-91	WG502919
Chromium,Hexavalent	mg/kg	17.0	15.0	13.7	20	L482930-111	WG502431
Chromium,Hexavalent	mg/kg	26.0	24.0	9.52	20	L482930-101	WG502431

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Analyte	Units	Result	Duplicate		RPD	Limit	Ref Samp	Batch
			Duplicate	Duplicate				
Chromium,Hexavalent	mg/kg	0	0	0	0	20	L482930-126	WG502432
pH	su	6.80	6.80	0	0	1	L482930-52	WG502611
pH	su	8.10	8.10	0	0	1	L482930-62	WG502611
Chromium	mg/kg	5.00	5.00	0.598	0	20	L482930-115	WG503142
Lead	mg/kg	5.40	4.70	12.9	0	20	L482930-115	WG503142
Chromium	mg/kg	82.0	70.0	15.8	0	20	L482930-61	WG503297
Lead	mg/kg	6.40	6.10	4.49	0	20	L482930-61	WG503297
Chromium	mg/kg	130.	190.	40.5*	0	20	L482930-77	WG503139
Lead	mg/kg	260.	280.	7.02	0	20	L482930-77	WG503139
Chromium	mg/kg	18.0	17.0	8.45	0	20	L482930-95	WG503140
Lead	mg/kg	12.0	13.0	6.35	0	20	L482930-95	WG503140
Chromium	mg/kg	24.0	27.0	13.9	0	20	L482930-20	WG502941
Lead	mg/kg	11.0	12.0	6.01	0	20	L482930-20	WG502941
Chromium	mg/l	0.00100	0.00170	51.9*	0	20	L482936-11	WG503047
Lead	mg/l	0	0	0	0	20	L482936-11	WG503047
Chromium	mg/kg	370.	480.	26.4*	0	20	L482930-51	WG502952
Lead	mg/kg	34.0	51.0	40.6*	0	20	L482930-51	WG502952
Chromium,Hexavalent	mg/kg	0	0	0	0	20	L484041-03	WG503666
Chromium,Hexavalent	mg/kg	23.0	24.0	2.96	0	20	L482930-93	WG503666
Chromium	mg/kg	42.0	45.0	6.19	0	20	L482930-93	WG504415

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
pH	su	6.92	6.80	98.3	97.98-102.02	WG502424
ORP	mV	229	220.	96.1	95.6-104.37	WG502368
ORP	mV	229	220.	96.1	95.6-104.37	WG502369
pH	su	6.92	7.00	101.	97.98-102.02	WG502608
pH	su	6.92	7.00	101.	97.98-102.02	WG502618

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Analyte	Units	Laboratory Control Known Val	Sample Result	% Rec	Limit	Batch
ORP	mV	229	220.	96.1	95.6-104.37	WG502798
Chromium,Hexavalent	mg/kg	100	63.1	63.1	50-143	WG502427
Chromium,Hexavalent	mg/kg	100	84.3	84.3	50-143	WG502426
Chromium,Hexavalent	mg/kg	100	77.6	77.6	50-143	WG502428
pH	su	6.92	7.00	101.	97.98-102.02	WG502614
pH	su	6.92	7.00	101.	97.98-102.02	WG502613
ORP	mV	229	220.	96.1	95.6-104.37	WG502799
pH	su	6.92	6.90	99.7	97.98-102.02	WG502820
ORP	mV	229	220.	96.1	95.6-104.37	WG502922
Chromium,Hexavalent	mg/kg	100	75.3	75.3	50-143	WG502429
Chromium,Hexavalent	mg/kg	100	85.8	85.8	50-143	WG502430
Chromium	mg/kg	168	164.	97.6	80.4-120.2	WG502945
Lead	mg/kg	113	106.	93.8	77.3-122.1	WG502945
pH	su	6.92	6.90	99.7	97.98-102.02	WG502612
ORP	mV	229	220.	96.1	95.6-104.37	WG502919
ORP	mV	229	220.	96.1	95.6-104.37	WG502921
Chromium	mg/kg	168	170.	101.	80.4-120.2	WG503042
Lead	mg/kg	113	123.	109.	77.3-122.1	WG503042
Chromium,Hexavalent	mg/kg	100	75.3	75.3	50-143	WG502431
Chromium,Hexavalent	mg/kg	100	87.8	87.8	50-143	WG502432
pH	su	6.92	7.00	101.	97.98-102.02	WG502611

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Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Chromium	mg/kg	168	156.	92.9	80.4-120.2	WG503142
Lead	mg/kg	113	109.	96.5	77.3-122.1	WG503142
Chromium	mg/kg	168	164.	97.6	80.4-120.2	WG503297
Lead	mg/kg	113	107.	94.7	77.3-122.1	WG503297
Chromium	mg/kg	168	162.	96.4	80.4-120.2	WG503139
Lead	mg/kg	113	103.	91.2	77.3-122.1	WG503139
Chromium	mg/kg	168	163.	97.0	80.4-120.2	WG503140
Lead	mg/kg	113	114.	101.	77.3-122.1	WG503140
Chromium	mg/kg	168	168.	100.	80.4-120.2	WG502941
Lead	mg/kg	113	110.	97.3	77.3-122.1	WG502941
Chromium	mg/l	1.13	1.16	103.	85-115	WG503047
Lead	mg/l	1.13	1.13	100.	85-115	WG503047
Chromium	mg/kg	168	171.	102.	80.4-120.2	WG502952
Lead	mg/kg	113	115.	102.	77.3-122.1	WG502952
Chromium,Hexavalent	mg/kg	100	59.6	59.6	50-143	WG503666
Chromium	mg/kg	168	161.	95.8	80.4-120.2	WG504415

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
pH	su	6.80	6.80	98.0	97.98-102.02	0	20	WG502424
ORP	mV	220.	220.	96.0	95.6-104.37	0	20	WG502368
ORP	mV	220.	220.	96.0	95.6-104.37	0	20	WG502369
pH	su	7.00	7.00	101.	97.98-102.02	0	20	WG502608
pH	su	7.00	7.00	101.	97.98-102.02	0	20	WG502618
ORP	mV	220.	220.	96.0	95.6-104.37	0	20	WG502798
Chromium,Hexavalent	mg/kg	64.5	63.1	64.0	50-143	2.19	20	WG502427
Chromium,Hexavalent	mg/kg	82.4	84.3	82.0	50-143	2.28	20	WG502426

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Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Chromium,Hexavalent	mg/kg	78.8	77.6	79.0	50-143	1.53	20	WG502428
pH	su	7.00	7.00	101.	97.98-102.02	0	20	WG502614
pH	su	7.00	7.00	101.	97.98-102.02	0	20	WG502613
ORP	mV	220.	220.	96.0	95.6-104.37	0	20	WG502799
pH	su	6.90	6.90	100.	97.98-102.02	0	20	WG502820
ORP	mV	220.	220.	96.0	95.6-104.37	0	20	WG502922
Chromium,Hexavalent	mg/kg	76.8	75.3	77.0	50-143	1.97	20	WG502429
Chromium,Hexavalent	mg/kg	86.5	85.8	86.0	50-143	0.813	20	WG502430
pH	su	6.90	6.90	100.	97.98-102.02	0	20	WG502612
ORP	mV	220.	220.	96.0	95.6-104.37	0	20	WG502919
ORP	mV	220.	220.	96.0	95.6-104.37	0	20	WG502921
Chromium,Hexavalent	mg/kg	77.8	75.3	78.0	50-143	3.27	20	WG502431
Chromium,Hexavalent	mg/kg	85.0	87.8	85.0	50-143	3.24	20	WG502432
pH	su	7.00	7.00	101.	97.98-102.02	0	20	WG502611
Chromium,Hexavalent	mg/kg	60.3	59.6	60.0	50-143	1.17	20	WG503666

Analyte	Units	Matrix Spike				Limit	Ref Samp	Batch
		MS Res	Ref Res	TV	% Rec			
Chromium,Hexavalent	mg/kg	553.	540.	20	2.60*	50-150	L482930-22	WG502427
Chromium,Hexavalent	mg/kg	21.1	2.60	20	92.5	50-150	L482930-10	WG502426
Chromium,Hexavalent	mg/kg	28.4	11.0	20	87.0	50-150	L482930-51	WG502428
Chromium,Hexavalent	mg/kg	32.4	20.0	20	62.0	50-150	L482930-77	WG502429

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Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Chromium,Hexavalent	mg/kg	16.7	0	20	83.5	50-150	L482930-95	WG502430
Chromium	mg/kg	113.	76.0	50	74.0*	75-125	L482930-40	WG502945
Lead	mg/kg	63.9	14.0	50	99.8	75-125	L482930-40	WG502945
Chromium	mg/kg	46.6	4.70	50	83.8	75-125	L482406-03	WG503042
Lead	mg/kg	44.6	4.80	50	79.6	75-125	L482406-03	WG503042
Chromium,Hexavalent	mg/kg	18.1	0	20	90.5	50-150	L482930-115	WG502431
Chromium,Hexavalent	mg/kg	17.9	0	20	89.5	50-150	L482930-125	WG502432
Chromium	mg/kg	57.5	5.00	50	105.	75-125	L482930-115	WG503142
Lead	mg/kg	59.4	4.70	50	109.	75-125	L482930-115	WG503142
Chromium	mg/kg	132.	70.0	50	124.	75-125	L482930-61	WG503297
Lead	mg/kg	46.2	6.10	50	80.2	75-125	L482930-61	WG503297
Chromium	mg/kg	201.	190.	50	22.0*	75-125	L482930-77	WG503139
Lead	mg/kg	325.	280.	50	90.0	75-125	L482930-77	WG503139
Chromium	mg/kg	67.3	17.0	50	101.	75-125	L482930-95	WG503140
Lead	mg/kg	56.8	13.0	50	87.6	75-125	L482930-95	WG503140
Chromium	mg/kg	77.7	27.0	50	101.	75-125	L482930-20	WG502941
Lead	mg/kg	59.2	12.0	50	94.4	75-125	L482930-20	WG502941
Chromium	mg/l	1.23	0.00170	1.13	109.	75-125	L482936-11	WG503047
Lead	mg/l	1.21	0	1.13	107.	75-125	L482936-11	WG503047
Chromium	mg/kg	406.	480.	50	0*	75-125	L482930-51	WG502952
Lead	mg/kg	84.8	51.0	50	67.6*	75-125	L482930-51	WG502952
Chromium,Hexavalent	mg/kg	-1.47	0	20	0*	50-150	L483743-01	WG503666
Chromium	mg/kg	83.2	45.0	50	76.4	75-125	L482930-93	WG504415

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Chromium,Hexavalent	mg/kg	550.	553.	2.00*	50-150	0.544	20	L482930-22	WG502427
Chromium,Hexavalent	mg/kg	22.5	21.1	99.5	50-150	6.42	20	L482930-10	WG502426

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Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Chromium,Hexavalent	mg/kg	28.8	28.4	89.0	50-150	1.40	20	L482930-51	WG502428
Chromium,Hexavalent	mg/kg	32.1	32.4	60.5	50-150	0.930	20	L482930-77	WG502429
Chromium,Hexavalent	mg/kg	17.1	16.7	85.5	50-150	2.37	20	L482930-95	WG502430
Chromium	mg/kg	114.	113.	76.0	75-125	0.881	20	L482930-40	WG502945
Lead	mg/kg	62.1	63.9	96.2	75-125	2.86	20	L482930-40	WG502945
Chromium	mg/kg	53.5	46.6	97.6	75-125	13.8	20	L482406-03	WG503042
Lead	mg/kg	51.3	44.6	93.0	75-125	14.0	20	L482406-03	WG503042
Chromium,Hexavalent	mg/kg	18.9	18.1	94.5	50-150	4.32	20	L482930-115	WG502431
Chromium,Hexavalent	mg/kg	16.4	17.9	82.0	50-150	8.75	20	L482930-125	WG502432
Chromium	mg/kg	51.2	57.5	92.4	75-125	11.6	20	L482930-115	WG503142
Lead	mg/kg	53.5	59.4	97.6	75-125	10.5	20	L482930-115	WG503142
Chromium	mg/kg	124.	132.	108.	75-125	6.25	20	L482930-61	WG503297
Lead	mg/kg	50.3	46.2	88.4	75-125	8.50	20	L482930-61	WG503297
Chromium	mg/kg	213.	201.	46.0*	75-125	5.80	20	L482930-77	WG503139
Lead	mg/kg	322.	325.	84.0	75-125	0.927	20	L482930-77	WG503139
Chromium	mg/kg	68.0	67.3	102.	75-125	1.03	20	L482930-95	WG503140
Lead	mg/kg	62.4	56.8	98.8	75-125	9.40	20	L482930-95	WG503140
Chromium	mg/kg	72.0	77.7	90.0	75-125	7.62	20	L482930-20	WG502941
Lead	mg/kg	60.7	59.2	97.4	75-125	2.50	20	L482930-20	WG502941
Chromium	mg/l	1.19	1.23	105.	75-125	3.31	20	L482936-11	WG503047
Lead	mg/l	1.19	1.21	105.	75-125	1.67	20	L482936-11	WG503047
Chromium	mg/kg	447.	406.	0*	75-125	9.61	20	L482930-51	WG502952
Lead	mg/kg	88.6	84.8	75.2	75-125	4.38	20	L482930-51	WG502952
Chromium,Hexavalent	mg/kg	-0.156	-1.47	0*	50-150	-162.*	20	L483743-01	WG503666
Chromium	mg/kg	85.6	83.2	81.2	75-125	2.84	20	L482930-93	WG504415

Batch number /Run number / Sample number cross reference

\* Performance of this Analyte is outside of established criteria.  
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

MACTEC - Louisville, KY  
Mr. Scott Kelly  
13425 Eastpoint Center Dr. Ste. 122

Louisville, KY 40223

Quality Assurance Report  
Level II

L482930

12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
(615) 758-5858  
1-800-767-5859  
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

October 22, 2010

WG502424: R1420768: L482930-32 33 34 35 36 37 38 39 40 41  
WG502368: R1422548: L482930-01 02 03 04 05 06 07 08 09 10 11  
WG502369: R1422552: L482930-12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31  
WG502608: R1423190: L482930-01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20  
WG502618: R1423209: L482930-21 22 23 24 25 26 27 28 29 30 31  
WG502798: R1423212: L482930-32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51  
WG502427: R1423868: L482930-21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40  
WG502426: R1424028: L482930-01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20  
WG502614: R1424490: L482930-111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128  
WG502428: R1424491: L482930-41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60  
WG502613: R1424508: L482930-91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110  
WG502799: R1424549: L482930-52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71  
WG502820: R1424553: L482930-42 43 44 45 46 47 48 49 50 51  
WG502922: R1425172: L482930-112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128  
WG502429: R1425490: L482930-61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80  
WG502430: R1426009: L482930-81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100  
WG502945: R1426379: L482930-21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40  
WG502612: R1426408: L482930-72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90  
WG502919: R1426448: L482930-72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91  
WG502921: R1427268: L482930-92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111  
WG503042: R1427569 R1427570: L482930-63 64 65 66 67 68 62  
WG502431: R1427948: L482930-101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121  
WG502432: R1427968: L482930-125 126 127 128  
WG502611: R1428268: L482930-52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71  
WG503142: R1429008 R1429009: L482930-102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121  
WG503297: R1429209 R1429210: L482930-60 61 125 127 128 126  
WG503139: R1429249: L482930-69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88  
WG503140: R1429310 R1429311: L482930-89 90 91 92 93 94 95 96 97 98 99 100  
WG503047: R1430068: L482930-119 120 121 122  
WG502941: R1430070 R1430071: L482930-01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20  
WG502952: R1430088 R1430089: L482930-41 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 42  
WG503666: R1435529: L482930-93  
WG504415: R1439509: L482930-93

\* \* Calculations are performed prior to rounding of reported values .  
\* Performance of this Analyte is outside of established criteria.  
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



**YOUR LAB OF CHOICE**

MACTEC - Louisville, KY  
Mr. Scott Kelly  
13425 Eastpoint Center Dr. Ste. 122

Louisville, KY 40223

Quality Assurance Report  
Level II

L482930

12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
(615) 758-5858  
1-800-767-5859  
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

October 22, 2010

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

# MACTEC - Louisville, KY

13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

## Billing information:

MACTEC  
AP Processing  
1105 Lakewood, Ste. 300  
Alpharetta, GA 30009

## Analysis/Container/Preservative

F103

ain of Custody  
je \_\_\_ of \_\_\_



12065 Lebanon Road  
Mt. Juliet, TN 37122

Phone: (800) 767-5859  
Phone: (615) 758-5858  
Fax: (615) 758-5859

Report to: Mr. Scott Kelly

Email: tskelly@mactec.com

Project Description: RBTC-500 VAC *Louisville*  
*Letchfield, KY*

City/State Collected: *Louisville, Ky*

Phone: (502) 253-2500  
FAX: (502) 253-2501

Client Project #  
6680-08-9635

Lab Project #  
MACTECLOU-RBTC500

Collected by (print): *Michael J. Caudill*

Site/Facility ID#:

P.O.#: 4201013638 9/30

Collected by (signature): *Michael J. Caudill*  
Immediately Packed on Ice N \_\_\_ Y \_\_\_

Rush? (Lab MUST Be Notified)  
\_\_\_ Same Day ..... 200%  
\_\_\_ Next Day ..... 100%  
\_\_\_ Two Day ..... 50%  
\_\_\_ Three Day ..... 25%

Date Results Needed  
Email? \_\_\_ No \_\_\_ Yes  
FAX? \_\_\_ No \_\_\_ Yes

No. of Cntrs

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs
<i>SB-1 (0-2)</i>	<i>C</i>	SS	<i>0-2</i>	<i>10/4/10</i>	<i>1008</i>	<i>1</i>
<i>SB-1 (2-5)</i>		SS	<i>2-5</i>		<i>1012</i>	<i>1</i>
<i>SB-1 (5-10)</i>		SS	<i>5-10</i>		<i>1015</i>	<i>1</i>
<i>SB-2 (0-2)</i>		SS	<i>0-2</i>		<i>1035</i>	<i>1</i>
<i>SB-2 (2-5)</i>		SS	<i>2-5</i>		<i>1036</i>	<i>1</i>
<i>SB-2 (5-10)</i>		SS	<i>5-10</i>		<i>1040</i>	<i>1</i>
<i>SB-3 (0-2)</i>		SS	<i>0-2</i>		<i>1053</i>	<i>1</i>
<i>SB-3 (2-5)</i>		SS	<i>2-5</i>		<i>1056</i>	<i>1</i>
<i>SB-3 (5-10)</i>		SS	<i>5-10</i>		<i>1108</i>	<i>1</i>

CR6 250mlHDPE-NoPres

Pb, Cr 500mlHDPE-HNO3

Pb, Cr, Cd, Cr6SS+ARCHIVE 8ozClr-NoPres

*(Signature)*

Account: MACTECLOU (lab use only)  
Template/Prelogin T67470 P334302  
Cooler #: *9/30/10*  
Shipped Via: FedEx Standard

Remarks/Contaminant Sample # (lab only)

*482930 - 01*  
*02*  
*03*  
*04*  
*05*  
*06*  
*07*  
*08*  
*09*

\*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks: Samples to be HELD for 90 DAYS after analysis.

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Relinquished by: (Signature) <i>Michael J. Caudill</i>	Date: <i>10/7/10</i>	Time: <i>1500</i>	Received by: (Signature) <i>Kenn Warren</i>	Samples returned via: <input checked="" type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier	Condition: (lab use only)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: <i>Amb</i> Bottles Received: <i>14/0</i>	COC Seal Intact: ___ Y ___ N <i>NA</i>
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: <i>10/8/10</i> Time: <i>0900</i>	pH Checked: NCF: <i>✓</i>

*43559308 5782*

# MACTEC - Louisville, KY

13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

## Billing information:

MACTEC  
AP Processing  
1105 Lakewood, Ste. 300  
Alpharetta, GA 30009

## Analysis/Container/Preservative

Chain of Custody  
Page \_\_\_ of \_\_\_



12065 Lebanon Road  
Mt. Juliet, TN 37122

Phone: (800) 767-5859  
Phone: (615) 758-5858  
Fax: (615) 758-5859

Report to: Mr. Scott Kelly  
Email: tskelly@mactec.com

Project Description: RBTC-500 VAC *Louisville*  
City/State Collected: *Louisville, Ky*

Phone: (502) 253-2500  
FAX: (502) 253-2501  
Client Project #: 6680-08-9635  
Lab Project #: MACTECLOU-RBTC500

Collected by (print): *Michael J. Caudle*  
Site/Facility ID#: *6680-08-9635*  
P.O.#: 201013638 9/30

Collected by (signature): *Michael J. Caudle*  
Immediately Packed on Ice N ☐ Y ☐  
Rush? (Lab MUST Be Notified)  
Same Day ..... 200%  
Next Day ..... 100%  
Two Day ..... 50%  
Three Day ..... 25%  
Date Results Needed  
Email? ☐ No ☒ Yes  
FAX? ☐ No ☐ Yes

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	CR6 250mlHDPE-NoPres	Pb, Cr 500mlHDPE-HNO3	Pb,C6,CR6SS+ARCHIVE 8ozClr-NoPres	Remarks/Contaminant	Sample # (lab only)
<i>SB-4 (0-2)</i>	<i>C</i>	SS	<i>0-2</i>	<i>10/4/10</i>	<i>1110</i>	1	<i>X</i>	<i>X</i>	<i>X</i>		<i>L482930-10</i>
<i>SB-4 (2-5)</i>		SS	<i>2-5</i>		<i>1115</i>	1			<i>X</i>		<i>11</i>
<i>SB-4 (5-10)</i>		SS	<i>5-10</i>		<i>1120</i>	1			<i>X</i>		<i>12</i>
<i>SB-5 (0-2)</i>		SS	<i>0-2</i>		<i>1128</i>	1			<i>X</i>		<i>13</i>
<i>SB-5 (2-5)</i>		SS	<i>2-5</i>		<i>1131</i>	1			<i>X</i>		<i>14</i>
<i>SB-5 (5-10)</i>		SS	<i>5-10</i>		<i>1136</i>	1			<i>X</i>		<i>15</i>
<i>SB-6 (0-2)</i>		SS	<i>0-2</i>		<i>1250</i>	1			<i>X</i>		<i>16</i>
<i>SB-6 (2-5)</i>		SS	<i>2-5</i>		<i>1255</i>	1			<i>X</i>		<i>17</i>
<i>SB-6 (5-10)</i>		SS	<i>5-10</i>		<i>1300</i>	1			<i>X</i>		<i>18</i>

\*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other \_\_\_\_\_

Remarks: Samples to be HELD for 90 DAYS after analysis.

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Relinquished by: (Signature) <i>Michael J. Caudle</i>	Date: <i>10/1/10</i>	Time: <i>1:50</i>	Received by: (Signature)	Samples returned via: <input checked="" type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier	Condition: (lab use only)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: <i>Amb</i> Bottles Received: <i>140</i>	COC Seal Intact: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N <input checked="" type="checkbox"/> NA
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>Kenn W. Oden</i>	Date: <i>10/8/10</i> Time: <i>0900</i>	pH Checked: <input checked="" type="checkbox"/> NCF: <input checked="" type="checkbox"/>



# MACTEC - Louisville, KY

13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

## Billing information

MACTEC  
AP Processing  
1105 Lakewood, Ste. 300  
Alpharetta, GA 30009

## Analysis/Container/Preservative

Chain of Custody  
Page \_\_\_ of \_\_\_



12065 Lebanon Road  
Mt. Juliet, TN 37122

Phone: (800) 767-5859  
Phone: (615) 758-5858  
Fax: (615) 758-5859

Report to: Mr. Scott Kelly

Email: [tskelly@mactec.com](mailto:tskelly@mactec.com)

Project Description: RBTC-500 VAC - ~~Leitchfield~~, KY

City/State Collected: Louisville KY  
Lab Project #: MACTECLOU-RBTC500

Phone: (502) 253-2500  
FAX: (502) 253-2501

Client Project #: 6680-08-9635

Collected by (Print): Michael J. Caudill

Site/Facility ID#:

P.O.#: 201013638 9/30

Collected by (Signature): Michael J. Caudill

Rush? (Lab MUST Be Notified)

Same Day ..... 200%  
Next Day ..... 100%  
Two Day ..... 50%  
Three Day ..... 25%

Date Results Needed

Email? ☐ No ☒ Yes  
FAX? ☐ No ☐ Yes

No. of Cntrs

Immediately  
Packed on Ice N ☐ Y ☐

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	CR6 250mlHDPE-NoPres	Pb, Cr 500mlHDPE-HNO3	Pb, Cr6, CR6SS+ARCHIVE 8ozClr-NoPres	Remarks/Contaminant	Sample # (lab only)
SB-27(4-6)	C	SS	4-6	10/6/10	1147	1	X	X	X		482930-91 87
SB-28(0-2)		SS	0-2	10/7/10	0835	1			X		88-92
SB-28(2-5)		SS	2-5		0840	1			X		89-93
SB-28(5-10)		SS	5-10		0845	1			X		90-94
SB-27(0-2)		SS	0-2	10/6/10	1120	1			X		91-95
SB-29(2-5)		SS	2-5		1205	1			X		92-96
SB-29(5-10)		SS	5-10		1210	1			X		93-97
SB-30(0-2)		SS	0-2		1035	1			X		94-98
SB-30(2-5)		SS	2-5		1315	1			X		95-99

Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks: Samples to be HELD for 90 DAYS after analysis.

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Relinquished by (Signature): <u>Michael J. Caudill</u>	Date: <u>10/10</u>	Time: <u>1720</u>	Received by (Signature):	Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier	Condition: (lab use only)
Relinquished by (Signature):	Date:	Time:	Received by (Signature):	Temp: <u>Amb</u> Bottles Received: <u>1610</u>	COC Seal Intact: <u>Y</u> <u>N</u> <u>NA</u>
Relinquished by (Signature):	Date:	Time:	Received for lab by (Signature): <u>Kenn</u>	Date: <u>10/8/10</u> Time: <u>0900</u>	pH Checked: <u>/</u> NCF: <u>/</u>

# MACTEC - Louisville, KY

13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

## Billing information:

MACTEC  
AP Processing  
1105 Lakewood, Ste. 300  
Alpharetta, GA 30009

## Analysis/Container/Preservative

Chain of Custody

Page \_\_\_ of \_\_\_



L A B S C I E N C E S

12065 Lebanon Road  
Mt. Juliet, TN 37122

Phone: (800) 767-5859  
Phone: (615) 758-5858  
Fax: (615) 758-5859

Report to: Mr. Scott Kelly

Email: tskelly@mactec.com

Project Description: RBTC-500 VAC - Leitchfield, KY

City/State Collected: Louisville, Ky

Phone: (502) 253-2500  
FAX: (502) 253-2501

Client Project #: 6680-08-9635

Lab Project #: MACTECLOU-RBTC500

Collected by (print): Michael J. Caudle

P.O. #: 201013638 9/30

Collected by (signature): Michael J. Caudle

Rush? (Lab MUST Be Notified)

Same Day ..... 200%  
Next Day ..... 100%  
Two Day ..... 50%  
Three Day ..... 25%

Date Results Needed

Email? \_\_\_ No \_\_\_ Yes  
FAX? \_\_\_ No \_\_\_ Yes

No. of Cntrs

Immediately Packed on Ice N \_\_\_ Y \_\_\_

Account: MACTECLOU (lab use only)

Template/Prelogin: T67470/P334302

Cooler #: 9/30/10 MJB

Shipped Via: FedEx Standard

Remarks/Contaminant Sample # (lab only)

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	CR6 250mlHDPE-NoPres	Pb, Cr 500mlHDPE-HNO3	Pb,C6,CR6SS+ARCHIVE 8ozClr-NoPres	Remarks/Contaminant	Sample # (lab only)
GB-30(2-5MS)	C	SS	2-5	10/10/10	1315	1	X	X	X		1482930 -100 95
GB-30(2-5MS)		SS	2-5		1315	1			X		+01 ↓
GB-30(5-10)		SS	5-10		1320	1			X		96 -102
GB-31(0-2)		SS	0-2		1052	1			X		97 -103
GB-31(2-5)		SS	2-5		1335	1			X		98 -104
GB-31(5-10)		SS	5-10		1340	1			X		99 -105
GB-32(0-2)		SS	0-2		1400	1			X		100 -106
GB-32(2-5)		SS	2-5		1500	1			X		101 -107
GB-32(5-10)		SS	5-10		1505	1			X		102 -108

\*Matrix (SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other)

pH \_\_\_\_\_ Temp \_\_\_\_\_

Remarks: Samples to be HELD for 90 DAYS after analysis.

Flow \_\_\_\_\_ Other \_\_\_\_\_

Relinquished by: (Signature) Michael J. Caudle	Date: 10/10/10	Time: 1720	Received by: (Signature)	Samples returned via: <input checked="" type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier	Condition: (lab use only)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: Amb	Bottles Received: 140
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) Kenna W. Wood	Date: 10/8/10	Time: 0900
				COC Seal Intact: Y N NA	pH Checked: NCF: ✓

# MACTEC - Louisville, KY

13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

## Billing information:

MACTEC  
AP Processing  
1105 Lakewood, Ste. 300  
Alpharetta, GA 30009

## Analysis/Container/Preservative

Chain of Custody

Page \_\_\_ of \_\_\_



12065 Lebanon Road  
Mt. Juliet, TN 37122

Phone: (800) 767-5839  
Phone: (615) 758-5858  
Fax: (615) 758-5859

Report to:

Mr. Scott Kelly

Email:

tskelly@mactec.com

Project

Description: RBTC-500 VAC - Leitchfield, KY

City/State  
Collected

Louisville, KY

Phone: (502) 253-2500

FAX: (502) 253-2501

Client Project #:

6680-08-9635

Lab Project #

MACTECLOU-RBTC500

Collected by (print):

Michael J. Caudill

Site/Facility ID#:

P.O.#: 201013638 9/30

Collected by (signature):

Michael J. Caudill

Rush? (Lab MUST Be Notified)

Same Day ..... 200%  
Next Day ..... 100%  
Two Day ..... 50%  
Three Day ..... 25%

Date Results Needed

Email? \_\_\_ No \_\_\_ Yes  
FAX? \_\_\_ No \_\_\_ Yes

No.  
of  
Cnts

CR6 250mlHDPE-NoPres

Pb, Cr 500mlHDPE-HNO3

Pb, Cr6, CR6SS+ARCHIVE 8ozClr-NoPres

*(Signature)*

Acctnum: MACTECLOU (lab use only)

Template/Prelogin: T67470 P334302

Cooler #:

9/30/10

Shipped Via: FedEx Standard

Remarks/Contaminant Sample # (lab only)

LY 82 930 104 103  
Time = 1545 per label 104 110  
105 111  
106 112  
107 113  
108 114  
109 115  
110 116  
111 117

Sample ID

Comp/Grab

Matrix\*

Depth

Date

Time

No.  
of  
Cnts

SB 32 (10-20) C SS 10-20 10/6/10 1510 1  
SB 33 (0-2) SS 0-2 10/1/10 1540 1  
SB 33 (2-5) SS 2-5 1540 1  
SB 33 (5-10) SS 5-10 1540 1  
SB 33 (10-20) SS 10-20 1545 1  
SB 34 (0-2) SS 0-2 0855 1  
SB 34 (2-5) SS 2-5 0900 1  
SB 34 (5-10) SS 5-10 0905 1  
SB 34 (10-20) SS 10-20 0910 1

\*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

pH \_\_\_\_\_ Temp \_\_\_\_\_

Remarks: Samples to be HELD for 90 DAYS after analysis.

Flow \_\_\_\_\_ Other \_\_\_\_\_

Relinquished by: (Signature) <i>Michael J. Caudill</i>	Date: 10/1/10	Time: 1720	Received by: (Signature)	Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/>	Condition: (lab use only)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: Arb Bottles Received: 148	COC Seal Intact: ___ Y ___ N <input checked="" type="checkbox"/> NA
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>Kenn W. Moore</i>	Date: 10/8/10 Time: 0900	pH Checked: _____ NCF: <input checked="" type="checkbox"/>

# MACTEC - Louisville, KY

13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

## Billing information:

MACTEC  
AP Processing  
1105 Lakewood, Ste. 300  
Alpharetta, GA 30009

## Analysis/Container/Preservative

Chain of Custody

Page \_\_\_ of \_\_\_



12065 Lebanon Road  
Mt. Juliet, TN 37122

Phone: (800) 767-5859  
Phone: (615) 758-5858  
Fax: (615) 758-5859

Report to: Mr. Scott Kelly

Email: tskelly@mactec.com

Project Description: RBTC-500 VAC - Leitchfield, KY

City/State Collected: Louisville, KY  
Lab Project #: MACTECLOU-RBTC500

Phone: (502) 253-2500  
FAX: (502) 253-2501

Client Project #: 6680-08-9635

Collected by (print): Michael J. Caudill

Site/Facility ID#:

P.O.#: 201013638 9/30

Collected by (signature): Michael J. Caudill

Rush? (Lab MUST Be Notified)

Same Day ..... 200%  
Next Day ..... 100%  
Two Day ..... 50%  
Three Day ..... 25%

Date Results Needed

Email? \_\_\_ No \_\_\_ Yes  
FAX? \_\_\_ No \_\_\_ Yes

No. of Cntrs

Immediately Packed on Ice N \_\_\_ Y \_\_\_

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	CR6 250mlHDPE-NoPres	Pb, Cr 500mlHDPE-HNO3	Pb, Cr6, CR6SS+ARCHIVE 8ozClr-NoPres	Remarks/Contaminant	Sample # (lab only)
SB-35(0-2)	C	SS	0-2	10/1/10	1035	1	X	X	X		482930-HB 112
SB-35(2-5)		SS	2-5		1040	1			X		113 HB
SB-35(5-10)		SS	5-10		1045	1			X		114 HB
SB-35(10-20)		SS	10-20		1050	1			X		115 HB
SB-35(12-20) (MS)		SS	10-20		1050	1			X		116 HB
SB-35(10-20) (MS)		SS	10-20		1050	1			X		117 HB
SB-36(0-2)		SS	0-2	10/1/10	0850	1			X		118 HB
EB-1 SB-36(2-5)		GWSS	2-5		0855	1	X	X	X		
EB-2 SB-36(5-10)		GWSS	5-10		1000	1	X	X	X		

\*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks: Samples to be HELD for 90 DAYS after analysis.

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Relinquished by (Signature): Michael J. Caudill	Date: 10/1/10	Time: 1720	Received by (Signature):	Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier	Condition: (lab use only)
Relinquished by (Signature):	Date:	Time:	Received by (Signature):	Temp: 140	Bottles Received: 140
Relinquished by (Signature):	Date:	Time:	Received for lab by (Signature):	Date: 10/8/10	Time: 0900
				COC Seal Intact: Y N NA	pH Checked: NCF: ✓

# MACTEC - Louisville, KY

13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

## Billing information:

MACTEC  
AP Processing  
1105 Lakewood, Ste. 300  
Alpharetta, GA 30009

## Analysis/Container/Preservative

Chain of Custody

Page \_\_\_ of \_\_\_



12065 Lebanon Road  
Mt Juliet, TN 37122

Phone: (800) 767-5859  
Phone: (615) 758-5858  
Fax: (615) 758-5859

Report to: Mr. Scott Kelly

Email: tskelly@mactec.com

Project Description: RBTC-500 VAC - Leitchfield, KY

City/State Collected: Louisville, Ky

Phone: (502) 253-2500  
FAX: (502) 253-2501

Client Project #: 6680-08-9635

Lab Project #: MACTECLOU-RBTC500

Collected by (print): Michael J. Caudill

Site/Facility ID#:

P.O.#: 201013638 9/30

Collected by (signature): Michael J. Caudill

Rush? (Lab MUST Be Notified)

Same Day ..... 200%  
Next Day ..... 100%  
Two Day ..... 50%  
Three Day ..... 25%

Date Results Needed

Email? \_\_\_ No \_\_\_ Yes  
FAX? \_\_\_ No \_\_\_ Yes

No of Cntrs

Immediately Packed on ice N \_\_\_ Y \_\_\_

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No of Cntrs	CR6 250m HDPE No Pres	Pb, Cr 500m HDPE TINO3	Pb, Cr, Cd, Cr6, SS, ARCHIVE 8oz Cit No Pres	Chromium	Hex-Chromium	Lead
EB-3 EB-1	G	GW		10/4/10	1645	2	X	X		X	X	X
EB-4 EB-2		GW		10/5/10	1500	2	X	X		X	X	X
EB-5 EB-3		GW		10/6/10	1646	2	X	X		X	X	X
EB-6 EB-4		GW		10/7/10	1130	2	X	X		X	X	X
EB-7 Dup-1	SC	GWSS		10/4/10		2	X	X		X	X	X
EB-8 Dup-2		GW		10/5/10		2	X	X		X	X	X
EB-9 Dup-3		GW		10/5/10		2	X	X		X	X	X
Dup-4				10/6/10		1						
Dup-5				10/7/10		1						

Account: MACTECLOU (lab use only)

Template/Prelogin: T67470 P334302

Cooler #: 9/30/10 W/D

Shipped Via: FedEx Standard

Remarks/Contaminant Sample # (lab only)

1482 930 +27-119  
-120 +20 +28  
-121 +29  
-122 +30  
-123 +31  
-124 +32  
-125 +33  
-126 +34  
-127 +35

\*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks: Samples to be HELD for 90 DAYS after analysis.

(SU) SB-27 0-2

SS 0-2 10/6/10 10/10

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

-128 +36  
scn

Relinquished by: (Signature) Michael J. Caudill	Date: 10/10	Time: 1720	Received by: (Signature)	Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/>	Condition: (lab use only)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: Amb Bottles Received: 140	COC Seal Intact: ___ Y ___ N ___ NA
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) Kenna W. Eden	Date: 10/8/10 Time: 0900	pH Checked: NCF: <input checked="" type="checkbox"/>

<b>MACTEC - Louisville, KY</b>  13425 Eastpoint Center Dr. Ste. 122 Louisville, KY 40223			Billing information:  MACTEC AP Processing 1105 Lakewood, Ste. 300  Alpharetta, GA 30009			Analysis/Container/Preservative <div style="display: flex; justify-content: space-between;"> <div>CR6-250mHDP-NO Pres</div> <div>Pb, Cr-500mHDP-ENOT</div> <div>CR6-250mHDP-NO Pres</div> <div>CR6-250mHDP-NO Pres</div> </div>			Chain of Custody Page ___ of ___  <div style="text-align: center;">   <b>ESC</b>          L-A-B S-C-I-E-N-C-E-S          12065 Lebanon Road          Mt. Juliet, TN 37122           Phone: (800) 767-5859          Phone: (615) 758-5858          Fax: (615) 758-5859       </div>		
Report to: <b>Mr. Scott Kelly</b>			Email: <b>tskelly@mactec.com</b>								
Project Description: <b>RBTC-500 VAC - Leitchfield, KY</b>			City/State Collected: <b>Louisville, Ky</b>								
Phone: (502) 253-2500 FAX: (502) 253-2501		Client Project #: <b>6680-08-9635</b>		Lab Project #: <b>MACTECLOU-RBTC500</b>							
Collected by (print): <b>Michael J. Caudill</b>		Site/Facility ID#: _____		P.O. #: <b>201013638 9/30</b>							
Collected by (signature): <i>Michael J. Caudill</i>		Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day ..... 200% <input type="checkbox"/> Next Day ..... 100% <input type="checkbox"/> Two Day ..... 50% <input type="checkbox"/> Three Day ..... 25%		Date Results Needed _____							
Packed on Ice <input checked="" type="checkbox"/> N <input type="checkbox"/>				Email? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes FAX? <input type="checkbox"/> No <input type="checkbox"/> Yes		No. of Cntrs _____					
Sample ID	Comp/Grab	Matrix*	Depth	Date	Time						
EB-3-EB-1	G	GW		10/4/10	1645	2	X	X			
EB-4-EB-2		GW		10/5/10	1500	2	X	X			
EB-5-EB-3		GW		10/5/10	1645	2	X	X			
EB-6-EB-4		GW		10/5/10	1130	2	X	X			
EB-7-Dip-1	SC	GWSS		10/4/10		2	X	X			
EB-8-Dip-2		GW		10/5/10		2	X	X			
EB-9-Dip-3		GW		10/5/10		2	X	X			
Dip-4				10/6/10		1					
Dip-5				10/7/10		1					
ADD > SB-27(0-2) <span style="margin-left: 100px;">SS</span> <span style="margin-left: 100px;">0-2</span> <span style="margin-left: 100px;">10/6/10</span> <span style="margin-left: 100px;">1010</span> <span style="margin-left: 100px;">1</span>						pH _____ Temp _____					

Remarks: Samples to be HELD for 90 DAYS after analysis.

Relinquished by (Signature): <i>Michael J. Caudill</i>	Date: <b>10/1/10</b>	Time: _____	Received by (Signature):	Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier	Condition: _____ (lab use only)
Relinquished by (Signature):	Date: _____	Time: _____	Received by (Signature):	Temp: <b>5</b> Bottles Received: <b>140</b>	COC Seal Intact: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N <input type="checkbox"/> NA
Relinquished by (Signature): _____	Date: _____	Time: _____	Received for lab by (Signature): <i>Kenneth J. Caudill</i>	Date: <b>10/8/10</b> Time: <b>0600</b>	pH Checked: <input checked="" type="checkbox"/> NCP <input type="checkbox"/>

## ENVIRONMENTAL SCIENCE CORP.

## SAMPLE NON-CONFORMANCE FORM

Login No.: L482930Date: 10/8/10Evaluated by: K. WallaceClient: MALTECH

Non-Conformance (check applicable items)

- |   |  |
|---|--|
| <input type="checkbox"/> Chain of Custody is missing                          | <input checked="" type="checkbox"/> Login Clarification Needed                                     |
| <input type="checkbox"/> Improper container type                              | <input type="checkbox"/> Improper preservation   |
| <input type="checkbox"/> Chain of custody is incomplete                       | <input type="checkbox"/> Container lid not intact  |
| <input checked="" type="checkbox"/> Parameter(s) past holding time            | <input type="checkbox"/> Improper temperature  |
| <input type="checkbox"/> Broken container(s) see below                        | <input type="checkbox"/> Broken container: sufficient sample volume remains for analysis requested |
| <input type="checkbox"/> Insufficient packing material around container       |  |
| <input type="checkbox"/> Insufficient packing material inside cooler          |  |
| <input type="checkbox"/> Improper handling by carrier (FedEx / UPS / Courier) |  |
| <input type="checkbox"/> Sample was frozen                                    |  |

① Comments: Revised CR6 out of Hold for samples EB1,2,3,4  
 ② Revised sample id -27(0.8-2) not on doc

Login Instructions:

TSR Initials: LnClient informed by call / email / fax / voice mail date: 10/8/10 time: 11:15Client contact: Mike Caudill, Alison DunnNo CR6 for EB samples

## Jonah Huckabay

**From:** Leslie Newton  
**Sent:** Friday, October 08, 2010 9:05 AM  
**To:** Login  
**Subject:** MACTECLOU - Incoming samples - lots of soil samples for metals

Please watch for these samples today. *Thanks, Leslie*

**From:** Caudill, Michael [mailto:MJCAUDILL@mactec.com]  
**Sent:** Friday, October 08, 2010 8:05 AM  
**To:** Leslie Newton  
**Cc:** Dunn, Alison  
**Subject:** RE: Incoming samples - lots of soil samples for metals

Hi Leslie,

Just FYI, there were a total of 5 coolers shipped yesterday evening with 136 samples total (132 soil and 4 water). I accidentally left one soil sample off the COC, SB-27 (0-2) collected on 10/6/2010. Also, I ran out of space on the COCs due to the pre-printed EB samples (we only had so collect 4) and analyses. I crossed out the EB's I did not need and hand entered the remaining soil samples I had and the Chromium, Hex Chromium and Lead analyses. Hope that's ok. Please feel free to call me if you have questions.

Thanks,  
M.

**From:** Leslie Newton [mailto:LNewton@esclabsciences.com]  
**Sent:** Thursday, October 07, 2010 11:03 AM  
**To:** Dunn, Alison  
**Cc:** Kelly, Scott; Caudill, Michael  
**Subject:** RE: Incoming samples - lots of soil samples for metals

I have alerted our Login, Metals and Sample Storage departments that the samples are coming in and will need special handling (achieving). I will watch these and prepare a list of any samples over the limit.

## Thanks, Leslie

Leslie Newton  
Sr. Technical Service Representative  
ESC Lab Sciences

12065 Lebanon Rd.

Mt. Juliet, TN 37122

615-773-9670

<http://www.myesc.esclabsciences.com>

10/8/2010



**From:** Dunn, Alison [mailto:ALDUNN@mactec.com]  
**Sent:** Thursday, October 07, 2010 9:32 AM  
**To:** Leslie Newton  
**Cc:** Kelly, Scott; Caudill, Michael  
**Subject:** Incoming samples - lots of soil samples for metals

Hi Leslie,

Mike Caudill is going to ship out this evening all the soil samples collected from the Bosch site in Louisville this week (140+, in 5 or 6 coolers), for delivery tomorrow. They will all need to be analyzed for lead, chromium and hex chromium, regular TAT. These are the samples we talked about maintaining in archive for 90 days.

Some of the samples will need to have TCLP metals run on them. The work plan says that any samples with lead over 150 mg/kg, or chromium over 120 mg/kg, will have TCLP extracts run for lead and chromium. What I'd like is to get a list from you, once the total metals are run, of the samples that exceed these limits. If the list is really long (hopefully not), we may decide not to do the TCLP on all of the exceeding samples, but just a representative number.

We are still thinking of running TCLP metals on some concrete samples, but won't make that decision until next week.

Please let me know if you have questions, thanks!  
Alison

---

Alison L. Dunn, P.G. | Principal Hydrogeologist  
MACTEC Engineering and Consulting, Inc.  
2456 Fortune Drive, Suite 100, Lexington, KY 40509  
Office (859) 255-3308 | Direct Dial (859) 566-3729 | Mobile (859) 421-5921 | Fax (859) 254-2327

E-mail [aldunn@mactec.com](mailto:aldunn@mactec.com) | Web [www.mactec.com](http://www.mactec.com)

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# MACTEC - Louisville, KY

13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

## Billing information:

MACTEC  
AP Processing  
1105 Lakewood, Ste. 300  
Alpharetta, GA 30009

## Analysis/Container/Preservative

Chain of Custody

Page \_\_\_ of \_\_\_



12065 Lebanon Road  
Mt. Juliet, TN 37122

Phone: (800) 767-5859  
Phone: (615) 758-5858  
Fax: (615) 758-5859

## Report to:

Mr. Scott Kelly

## Email:

tskelly@mactec.com

## Project

Description: RBTC-500 VAC - *Louisville*  
*Leitchfield, KY*

Phone: (502) 253-2500

FAX: (502) 253-2501

Client Project #:

6680-08-9635

Lab Project #

MACTECLOU-RBTC500

Collected by (print):

*Michael T. Caudle*

Site/Facility ID#:

P.O.#:

201013638 9/30

Collected by (signature):

*Michael Caudle*

Rush? (Lab MUST Be Notified)

Same Day ..... 200%

Next Day ..... 100%

Two Day ..... 50%

Three Day ..... 25%

Date Results Needed

Email? ☐ No ☒ Yes

FAX? ☐ No ☐ Yes

No.  
of  
Cntrs

CR6 250mlHDPE-NoPres

Pb, Cr 500mlHDPE-HNO3

Pb, Cr, Cd, Cr6SS+ARCHIVE 8ozClr-NoPres

Account: MACTECLOU (lab use only)

Template/Prelogin T67470 P334302

Cooler #: 9/30/10 MCT

Shipped Via: FedEx Standard

Remarks/Contaminant Sample # (lab only)

C482930 -19

20

21

22

23

24

25

26

27

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs
SB-7(0-2)	C	SS	0-2	10/4/10	1305	1
SB-7(2-5)		SS	2-5		1310	1
SB-7(5-10)		SS	5-10		1315	1
SB-8(0-2)		SS	0-2		1333	1
SB-8(2-5)		SS	2-5		1333	1
SB-8(5-10)		SS	5-10		1340	1
SB-8(10-20)		SS	10-20		1345	1
SB-7(0-2)		SS	0-2		1400	1
SB-7(2-5)	V	SS	2-5		1405	1

\*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks: Samples to be HELD for 90 DAYS after analysis.

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Relinquished by: (Signature)

*Michael Caudle*

Date:

10/10

Time:

1300

Received by: (Signature)

*Kenn W. Wilson*

Received by: (Signature)

*Kenn W. Wilson*

Received for lab by: (Signature)

*Kenn W. Wilson*

4355 9308 5760

Samples returned via: ☐ UPS

☒ FedEx ☐ Courier ☐

Temp: *Amb* Bottles Received: *14/6*

Date: *10/8/10* Time: *0900*

Condition: (lab use only)

COC Seal Intact: ☐ Y ☒ N ☒ NA

pH Checked: ☒ NCF: ☒

# MACTEC - Louisville, KY

13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

## Billing information:

MACTEC  
AP Processing  
1105 Lakewood, Ste. 300  
Alpharetta, GA 30009

## Analysis/Container/Preservative

## Chain of Custody

Page \_\_\_\_ of \_\_\_\_



12065 Lebanon Road  
Mt. Juliet, TN 37122

Phone: (800) 767-5859  
Phone: (615) 758-5858  
Fax: (615) 758-5859

Report to: Mr. Scott Kelly

Email: [tskelly@mactec.com](mailto:tskelly@mactec.com)

Project Description: RBTC-500 VAC - *Louisville*  
*Leitchfield, KY*

City/State Collected: *Louisville, KY*

Phone: (502) 253-2500  
FAX: (502) 253-2501

Client Project #: 6680-08-9635

Lab Project #: MACTECLOU-RBTC500

Collected by (print): *Michael J. Cantrell*

Site/Facility ID#:

P.O.#: 201013638 9/30

Collected by (signature): *Michael J. Cantrell*  
Immediately  
Packed on Ice N ☐ Y ☐

### Rush? (Lab MUST Be Notified)

Same Day ..... 200%  
Next Day ..... 100%  
Two Day ..... 50%  
Three Day ..... 25%

Date Results Needed

Email? ☐ No ☒ Yes  
FAX? ☐ No ☐ Yes

No. of Cntrs

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	CR6 250mlHDPE-NoPres	Pb, Cr 500mlHDPE-HNO3	Pb, Cr6, CR6SS+ARCHIVE 8ozClr-NoPres	Remarks/Contaminant	Sample # (lab only)
<i>SB-9 (5-10)</i>	<i>C</i>	<i>SS</i>	<i>5-10</i>	<i>10/4/10</i>	<i>1410</i>	<i>1</i>	<i>X</i>	<i>X</i>			<i>482930-28</i>
<i>SB-9 (10-20)</i>		<i>SS</i>	<i>10-20</i>		<i>1415</i>	<i>1</i>	<i>X</i>	<i>X</i>			<i>29</i>
<i>SB-10 (0-2)</i>		<i>SS</i>	<i>0-2</i>		<i>1435</i>	<i>1</i>	<i>X</i>	<i>X</i>			<i>30</i>
<i>SB-10 (2-5)</i>		<i>SS</i>	<i>2-5</i>		<i>1440</i>	<i>1</i>	<i>X</i>	<i>X</i>			<i>31</i>
<i>SB-10 (5-10)</i>		<i>SS</i>	<i>5-10</i>		<i>1445</i>	<i>1</i>	<i>X</i>	<i>X</i>			<i>32</i>
<i>SB-10 (10-20)</i>		<i>SS</i>	<i>10-20</i>		<i>1450</i>	<i>1</i>	<i>X</i>	<i>X</i>			<i>33</i>
<i>SB-11 (0-2)</i>		<i>SS</i>	<i>0-2</i>		<i>1515</i>	<i>1</i>	<i>X</i>	<i>X</i>		<i>time = 1513 per label</i>	<i>34</i>
<i>SB-11 (2-5)</i>		<i>SS</i>	<i>2-5</i>		<i>1515</i>	<i>1</i>	<i>X</i>	<i>X</i>		<i>(JH)</i>	<i>35</i>
<i>SB-11 (5-10)</i>	<i>Y</i>	<i>SS</i>	<i>5-10</i>	<i>Y</i>	<i>1520</i>	<i>1</i>	<i>X</i>	<i>X</i>			<i>36</i>

\*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other \_\_\_\_\_

pH \_\_\_\_\_ Temp \_\_\_\_\_

Remarks: Samples to be HELD for 90 DAYS after analysis.

Flow \_\_\_\_\_ Other \_\_\_\_\_

Relinquished by: (Signature) <i>Michael J. Cantrell</i>	Date: <i>10/1/10</i>	Time: <i>1500</i>	Received by: (Signature) <i>[Signature]</i>	Samples returned via: <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> UPS <input type="checkbox"/> Courier	Condition: (lab use only)
Relinquished by: (Signature) <i>[Signature]</i>	Date:	Time:	Received by: (Signature) <i>[Signature]</i>	Temp: <i>Amb</i> Bottles Received: <i>1416</i>	COC Seal Intact: <input type="checkbox"/> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> NA
Relinquished by: (Signature) <i>[Signature]</i>	Date:	Time:	Received for lab by: (Signature) <i>[Signature]</i>	Date: <i>10/8/10</i> Time: <i>0900</i>	pH Checked: <input type="checkbox"/> NCF: <input checked="" type="checkbox"/>

# MACTEC - Louisville, KY

13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

## Billing information:

MACTEC  
AP Processing  
1105 Lakewood, Ste. 300  
Alpharetta, GA 30009

## Analysis/Container/Preservative

Chain of Custody

Page \_\_\_ of \_\_\_



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Phone: (615) 758-5858  
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Report to: Mr. Scott Kelly

Email: [tskelly@mactec.com](mailto:tskelly@mactec.com)

Project Description: RBTC-500 VAC -- Leitchfield, KY

City/State/County: Louisville, Ky

Phone: (502) 253-2500  
FAX: (502) 253-2501

Client Project #: 6680-08-9635

Lab Project #: MACTECLOU-RBTC500

Collected by (print): Michael S. Caudin

Site/Facility ID#:

P.O.#: 201013638 9/30

Collected by (signature): Michael S. Caudin  
Immediately  
Packed on ice N \_\_\_ Y \_\_\_

### Rush? (Lab MUST Be Notified)

Same Day ..... 200%  
Next Day ..... 100%  
Two Day ..... 50%  
Three Day ..... 25%

Date Results Needed

Email? \_\_\_ No \_\_\_ Yes  
FAX? \_\_\_ No \_\_\_ Yes

No. of Cntrs

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	CR6 250mlHDPE-NoPres	Pb, Cr 500mlHDPE-HNO3	Pb, Cr6, CR6SS+ARCHIVE 8ozClr-NoPres								
<u>SB-2 (0-2)</u>	<u>L</u>	<u>SS</u>	<u>0-2</u>	<u>10/1/10</u>	<u>1550</u>	<u>1</u>	<u>X</u>	<u>X</u>	<u>X</u>								
<u>SB-2 (2-5)</u>		<u>SS</u>	<u>2-5</u>		<u>1555</u>	<u>1</u>			<u>X</u>								
<u>SB-2 (5-10)</u>		<u>SS</u>	<u>5-10</u>		<u>1600</u>	<u>1</u>			<u>X</u>								
<u>SB-3 (0-2)</u>		<u>SS</u>	<u>0-2</u>		<u>1535</u>	<u>1</u>			<u>X</u>								
<u>SB-3 (2-5)</u>		<u>SS</u>	<u>2-5</u>		<u>1540</u>	<u>1</u>			<u>X</u>								
<u>SB-3 (5-10)</u>		<u>SS</u>	<u>5-10</u>		<u>1545</u>	<u>1</u>			<u>X</u>								
<u>SB-4 (0-2)</u>		<u>SS</u>	<u>0-2</u>		<u>1600</u>	<u>1</u>			<u>X</u>								
<u>SB-4 (2-5)</u>		<u>SS</u>	<u>2-5</u>		<u>1615</u>	<u>1</u>			<u>X</u>								
<u>SB-4 (5-10)</u>	<u>V</u>	<u>SS</u>	<u>5-10</u>	<u>V</u>	<u>1620</u>	<u>1</u>	<u>V</u>	<u>V</u>	<u>X</u>								

Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks: Samples to be HELD for 90 DAYS after analysis.

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Account: MACTECLOU (lab use only)  
Template/Prelogin: T67470 P334302  
Cooler #: 9/30/10 M2  
Shipped Via: FedEx Standard

Remarks/Contaminant Sample # (lab only)

L482930 -37  
38  
39  
40  
41  
42  
43  
44  
45

Relinquished by (Signature): <u>Michael S. Caudin</u>	Date: <u>10/1/10</u>	Time: <u>1200</u>	Received by (Signature):	Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier	Condition: (lab use only)
Relinquished by (Signature):	Date:	Time:	Received by (Signature):	Temp: <u>Amb</u> Bottles Received: <u>140</u>	COC Seal Intact: <u>Y</u> <u>N</u> <u>NA</u>
Relinquished by (Signature):	Date:	Time:	Received for lab by (Signature): <u>Kenn W. Olson</u>	Date: <u>10/8/10</u> Time: <u>0900</u>	pH Checked: <u>✓</u> NCF: <u>✓</u>

# MACTEC - Louisville, KY

13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

## Billing information:

MACTEC  
AP Processing  
1105 Lakewood, Ste. 300  
Alpharetta, GA 30009

## Analysis/Container/Preservative

Chain of Custody

Page \_\_\_ of \_\_\_



12065 Lebanon Road  
Mt. Juliet, TN 37122

Phone: (800) 767-5859  
Phone: (615) 758-5858  
Fax: (615) 758-5859

## Report to:

Mr. Scott Kelly

## Email:

tskelly@mactec.com

## Project

Description: RBTC-500 VAC - Leitchfield, KY

City/State/  
Collected

Louisville, Ky

Phone: (502) 253-2500

FAX: (502) 253-2501

Client Project #:

6680-08-9635

Lab Project #

MACTECLOU-RBTC500

Collected by (print):

Michael J. Caudill

Site/Facility ID#:

P.O.#:

201013638 9/30

Collected by (signature):

Michael J. Caudill

Rush? (Lab MUST Be Notified)

Same Day ..... 200%

Next Day ..... 100%

Two Day ..... 50%

Three Day ..... 25%

Date Results Needed

Email? ☐ No ☒ Yes

FAX? ☐ No ☐ Yes

No.  
of  
Cntrs

CR6 250mlHDPE-NoPres

Pb, Cr 500mlHDPE-HNO3

Pb, Cr, Cd, Cu, Fe, Ni, Se, Zn, Hg, Mn, Mo, V, W, As, B, Br, Ca, Co, Cs, K, Li, Mg, Na, P, S, Si, Sr, Ta, Te, Ti, Tl, U, Y, Zr, Ba, Be, Bi, C, Cl, F, Ga, Ge, In, I, J, La, Nb, Os, Pt, Rb, Sc, Sn, Th, Tm, Zn, Zr, H, He, N, O, S, Se, Te, U, V, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR, AS, AT, AU, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI, BJ, BK, BL, BM, BN, BO, BP, BQ, BR, BS, BT, BU, BV, BW, BX, BY, BZ, CA, CB, CC, CD, CE, CF, CG, CH, CI, CJ, CK, CL, CM, CN, CO, CP, CQ, CR, CS, CT, CU, CV, CW, CX, CY, CZ, DA, DB, DC, DD, DE, DF, DG, DH, DI, DJ, DK, DL, DM, DN, DO, DP, DQ, DR, DS, DT, DU, DV, DW, DX, DY, DZ, EA, EB, EC, ED, EE, EF, EG, EH, EI, EJ, EK, EL, EM, EN, EO, EP, EQ, ER, ES, ET, EU, EV, EW, EX, EY, EZ, FA, FB, FC, FD, FE, FF, FG, FH, FI, FJ, FK, FL, FM, FN, FO, FP, FQ, FR, FS, FT, FU, FV, FW, FX, FY, FZ, GA, GB, GC, GD, GE, GF, GG, GH, GI, GJ, GK, GL, GM, GN, GO, GP, GQ, GR, GS, GT, GU, GV, GW, GX, GY, GZ, HA, HB, HC, HD, HE, HF, HG, HH, HI, HJ, HK, HL, HM, HN, HO, HP, HQ, HR, HS, HT, HU, HV, HW, HX, HY, HZ, IA, IB, IC, ID, IE, IF, IG, IH, II, IJ, IK, IL, IM, IN, IO, IP, IQ, IR, IS, IT, IU, IV, IW, IX, IY, IZ, JA, JB, JC, JD, JE, JF, JG, JH, JI, JJ, JK, JL, JM, JN, JO, JP, JQ, JR, JS, JT, JU, JV, JW, JX, JY, JZ, KA, KB, KC, KD, KE, KF, KG, KH, KI, KJ, KK, KL, KM, KN, KO, KP, KQ, KR, KS, KT, KU, KV, KW, KX, KY, KZ, LA, LB, LC, LD, LE, LF, LG, LH, LI, LJ, LK, LL, LM, LN, LO, LP, LQ, LR, LS, LT, LU, LV, LW, LX, LY, LZ, MA, MB, MC, MD, ME, MF, MG, MH, MI, MJ, MK, ML, MM, MN, MO, MP, MQ, MR, MS, MT, MU, MV, MW, MX, MY, MZ, NA, NB, NC, ND, NE, NF, NG, NH, NI, NJ, NK, NL, NM, NN, NO, NP, NQ, NR, NS, NT, NU, NV, NW, NX, NY, NZ, OA, OB, OC, OD, OE, OF, OG, OH, OI, OJ, OK, OL, OM, ON, OO, OP, OQ, OR, OS, OT, OU, OV, OW, OX, OY, OZ, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ, PK, PL, PM, PN, PO, PP, PQ, PR, PS, PT, PU, PV, PW, PX, PY, PZ, QA, QB, QC, QD, QE, QF, QG, QH, QI, QJ, QK, QL, QM, QN, QO, QP, QQ, QR, QS, QT, QU, QV, QW, QX, QY, QZ, RA, RB, RC, RD, RE, RF, RG, RH, RI, RJ, RK, RL, RM, RN, RO, RP, RQ, RR, RS, RT, RU, RV, RW, RX, RY, RZ, SA, SB, SC, SD, SE, SF, SG, SH, SI, SJ, SK, SL, SM, SN, SO, SP, SQ, SR, SS, ST, SU, SV, SW, SX, SY, SZ, TA, TB, TC, TD, TE, TF, TG, TH, TI, TJ, TK, TL, TM, TN, TO, TP, TQ, TR, TS, TT, TU, TV, TW, TX, TY, TZ, UA, UB, UC, UD, UE, UF, UG, UH, UI, UJ, UK, UL, UM, UN, UO, UP, UQ, UR, US, UT, UY, UZ, VA, VB, VC, VD, VE, VF, VG, VH, VI, VJ, VK, VL, VM, VN, VO, VP, VQ, VR, VS, VT, VU, VV, VW, VX, VY, VZ, WA, WB, WC, WD, WE, WF, WG, WH, WI, WJ, WK, WL, WM, WN, WO, WP, WQ, WR, WS, WT, WU, WV, WW, WX, WY, WZ, XA, XB, XC, XD, XE, XF, XG, XH, XI, XJ, XK, XL, XM, XN, XO, XP, XQ, XR, XS, XT, XU, XV, XW, XX, XY, XZ, YA, YB, YC, YD, YE, YF, YG, YH, YI, YJ, YK, YL, YM, YN, YO, YP, YQ, YR, YS, YT, YU, YV, YW, YX, YY, YZ, ZA, ZB, ZC, ZD, ZE, ZF, ZG, ZH, ZI, ZJ, ZK, ZL, ZM, ZN, ZO, ZP, ZQ, ZR, ZS, ZT, ZU, ZV, ZW, ZX, ZY, ZZ

Account: MACTECLOU (lab use only)

Template/Prelogin T67470 P334302

Cooler #: 9/30/10 RW6

Shipped Via: FedEx Standard

Remarks/Contaminant Sample # (lab only)

L482930-46

47

48

49

50

51

52

53

51-54

\*Matrix SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks: Samples to be HELD for 90 DAYS after analysis.

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Relinquished by: (Signature)

Michael J. Caudill 10/1/10 1200

Date:

Time:

Received by: (Signature)

Samples returned via: ☐ UPS

☒ FedEx ☐ Courier ☐

Condition: (lab use only)

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: Bottles Received:

Amb 140

COC Seal Intact: ☐ Y ☒ N

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date: Time:

10/8/10 0900

pH Checked: NCF:

✓

# MACTEC - Louisville, KY

13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

## Billing information:

MACTEC  
AP Processing  
1105 Lakewood, Ste. 300  
Alpharetta, GA 30009

## Analysis/Container/Preservative

Chain of Custody

Page \_\_\_ of \_\_\_



12065 Lebanon Road  
Mt. Juliet, TN 37122

Phone: (800) 767-5859  
Phone: (615) 758-5858  
Fax: (615) 758-5859

Report to: Mr. Scott Kelly

Email: [tskelly@mactec.com](mailto:tskelly@mactec.com)

Project Description: RBTC-500 VAC - Leitchfield, KY

City/State Collected: Louisville, Ky

Phone: (502) 253-2500  
FAX: (502) 253-2501

Client Project #: 6680-08-9635

Lab Project #: MACTECLOU-RBTC500

Collected by (print): Michael J. Caudill

Site/Facility ID#:

P.O.#: 201013638 9/30

Collected by (signature): Michael J. Caudill

Rush? (Lab MUST Be Notified)

Same Day ..... 200%  
Next Day ..... 100%  
Two Day ..... 50%  
Three Day ..... 25%

Date Results Needed

Email? ☐ No ☒ Yes  
FAX? ☐ No ☐ Yes

No. of Cntrs

Immediately Packed on Ice N \_\_\_ Y \_\_\_

Account: MACTECLOU (lab use only)

Template/Prelogin: T67470 P334302

Cooler #: 9/30/10 MS

Shipped Via: FedEx Standard

Remarks/Contaminant Sample # (lab only)

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	CR6 250mlHDPE-NoPres	Pb, Cr 500mlHDPE-HNO3	Pb,Cr,Cr6SS+ARCHIVE 8ozClr-NoPres								
SB-16(2-5MS)	C	SS	2-5	10/5/10	0915	1	X	X	X								6482 970 55 51
SB-17(0-2)		SS	0-2		0940	1			X								54 56
SB-17(2-5)		SS	2-5		0945	1			X								55 57
SB-17(5-10)		SS	5-10		0950	1			X								56 58
SB-17(10-20)		SS	10-20		0955	1			X								57 59
SB-18(0-2)		SS	0-2		1015	1			X								58 60
SB-18(2-5)		SS	2-5		1020	1			X								59 61
SB-18(5-10)		SS	5-10		1025	1			X								60 62
SB-18(10-20)		SS	10-20		1030	1			X								61 63

\*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks: Samples to be HELD for 90 DAYS after analysis.

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Relinquished by: (Signature) <i>Michael J. Caudill</i>	Date: 10/16/10	Time: 1200	Received by: (Signature) _____	Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/>	Condition: (lab use only)
Relinquished by: (Signature) _____	Date: _____	Time: _____	Received by: (Signature) _____	Temp: Amb Bottles Received: 140	COC Seal Intact: ___ Y ___ N <input checked="" type="checkbox"/>
Relinquished by: (Signature) _____	Date: _____	Time: _____	Received for lab by: (Signature) <i>Kenn W. Brown</i>	Date: 10/8/10 Time: 0900	pH Checked: _____ NCF: <input checked="" type="checkbox"/>

# MACTEC - Louisville, KY

13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

## Billing information:

MACTEC  
AP Processing  
1105 Lakewood, Ste. 300  
Alpharetta, GA 30009

## Analysis/Container/Preservative

Chain of Custody

Page \_\_\_\_ of \_\_\_\_



L.A.B. S.C.I.E.N.C.E.S.

12065 Lebanon Road  
Mt. Juliet, TN 37122

Phone: (800) 767-5859

Phone: (615) 758-5858

Fax: (615) 758-5859

Report to: Mr. Scott Kelly

Email: tskelly@mactec.com

Project Description: RBTC-500 VAC - Leitchfield, KY

City/State Collected: Louisville, Ky

Phone: (502) 253-2500

FAX: (502) 253-2501

Client Project #:

6680-08-9635

Lab Project #:

MACTECLOU-RBTC500

Collected by (print): Michael J. Caudill

Site/Facility ID#:

P.O.#: 201013638 9/30

Collected by (signature): Michael J. Caudill

Rush? (Lab MUST Be Notified)

Same Day ..... 200%

Next Day ..... 100%

Two Day ..... 50%

Three Day ..... 25%

Date Results Needed

Email? ☐ No ☒ Yes

FAX? ☐ No ☒ Yes

No. of Cntrs

Immediately Packed on Ice N ☐ Y ☒

Account: MACTECLOU (lab use only)

Template/Prelogin T67470 P334302

Cooler #: 9/30/10 NW6

Shipped Via: FedEx Standard

Remarks/Contaminant Sample # (lab only)

L182 930 -64 62

63 65

64 66

65 67

66 68

67 69

68 70

69 71

70 72

(sum)

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs
SB-19(0-2)	C	SS	0-2	10/5/10	1050	1
SB-19(2-5)		SS	2-5		1035	1
SB-19(5-10)		SS	5-10		1100	1
SB-19(10-20)		SS	10-20		1105	1
SB-20(0-2)		SS	0-2		1120	1
SB-20(2-5)		SS	2-5		1125	1
SB-20(5-10)		SS	5-10		1130	1
SB-21(0-2)		SS	0-2		1140	1
SB-21(2-5)	✓	SS	2-5	✓	1145	1

\*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks: Samples to be HELD for 90 DAYS after analysis.

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Relinquished by: (Signature) Michael J. Caudill	Date: 10/1/10	Time: 1200	Received by: (Signature)	Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier	Condition: (lab use only)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: Amb	Bottles Received: 140
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) Kim W. ...	Date: 10/8/10	Time: 0900
				COC Seal Intact: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N <input checked="" type="checkbox"/> NA	pH Checked: NCF: ✓

# MACTEC - Louisville, KY

13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

## Billing information:

MACTEC  
AP Processing  
1105 Lakewood, Ste. 300  
Alpharetta, GA 30009

## Analysis/Container/Preservative

Chain of Custody

Page \_\_\_ of \_\_\_



12065 Lebanon Road  
Mt. Juliet, TN 37122

Phone: (800) 767-5859  
Phone: (615) 758-5858  
Fax: (615) 758-5859

Report to: Mr. Scott Kelly

Email: [tskelly@mactec.com](mailto:tskelly@mactec.com)

Project Description: RBTC-500 VAC - ~~Leitchfield~~, KY

City/State Collected: Louisville, Ky

Phone: (502) 253-2500  
FAX: (502) 253-2501

Client Project #: 6680-08-9635

Lab Project #: MACTECLOU-RBTC500

Collected by (print): Michael J. Caudill

Site/Facility ID#:

P.O.#: 201013638 9/30

Collected by (signature): Michael J. Caudill

Rush? (Lab MUST Be Notified)

Same Day ..... 200%  
Next Day ..... 100%  
Two Day ..... 50%  
Three Day ..... 25%

Date Results Needed

Email? ☐ No ☒ Yes  
FAX? ☐ No ☐ Yes

No. of Cntrs

Immediately Packed on Ice N ☐ Y ☐

Account: MACTECLOU (lab use only)

Template/Prelogin: T67470 P334302

Cooler #: 9/30/10 NA

Shipped Via: FedEx Standard

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	CR6 250mIHDPE-NoPres	Pb, Cr 500mIHDPE-HNO3	Pb, Cr6, CR6SS+ARCHIVE 8ozCir-NoPres	Remarks/Contaminant	Sample # (lab only)
SB-21 (5-10)	C	SS	5-10	10/5/10	1150	1	X	X	X		L482430 -73 71
SB-22 (0-2)		SS	0-2		1255	1	X	X	X		72 74
SB-22 (2-5)		SS	2-5		1300	1	X	X	X		73 75
SB-22 (5-10)		SS	5-10		1305	1	X	X	X		74 76
SB-23 (0-2)		SS	0-2		1320	1	X	X	X		75 77
SB-23 (2-5)		SS	2-5		1325	1	X	X	X		76 78
SB-23 (5-10)		SS	5-10		1330	1	X	X	X		77 79
SB-23 (5-10/MS)		SS	5-10		1330	1	X	X	X		77 78 80
SB-23 (5-10/MSI)		SS	5-10		1330	1	X	X	X		77 81

\*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other \_\_\_\_\_

Remarks: Samples to be HELD for 90 DAYS after analysis.

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Relinquished by: (Signature) <u>Michael J. Caudill</u>	Date: <u>10/16/10</u>	Time: <u>1720</u>	Received by: (Signature) _____	Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/>	Condition: (lab use only)
Relinquished by: (Signature) _____	Date: _____	Time: _____	Received by: (Signature) _____	Temp: <u>Amb</u> Bottles Received: <u>14/8</u>	COC Seal Intact: <input type="checkbox"/> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> NA
Relinquished by: (Signature) _____	Date: _____	Time: _____	Received for lab by: (Signature) <u>Kenn W. Allen</u>	Date: <u>10/8/10</u> Time: <u>0900</u>	pH Checked: _____ NCF: <input checked="" type="checkbox"/>



# MACTEC - Louisville, KY

13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

## Billing information:

MACTEC  
AP Processing  
1105 Lakewood, Ste. 300  
Alpharetta, GA 30009

## Analysis/Container/Preservative

Chain of Custody

Page \_\_\_ of \_\_\_



12065 Lebanon Road  
Mt Juliet, TN 37122

Phone: (800) 767-5859  
Phone: (615) 758-5858  
Fax: (615) 758-5859

Report to: Mr. Scott Kelly

Email: [tskelly@mactec.com](mailto:tskelly@mactec.com)

Project Description: RBTC-500 VAC - ~~Leitchfield, KY~~

City/State Collected: Louisville/Ky

Phone: (502) 253-2500  
FAX: (502) 253-2501

Client Project #: 6680-08-9635

Lab Project #: MACTECLOU-RBTC500

Collected by (print): Michael J. Caudill

Site/Facility ID#

P.O.#: 201013638 9/30

Collected by (signature): Michael J. Caudill

Rush? (Lab MUST Be Notified)

Same Day ..... 200%

Next Day ..... 100%

Two Day ..... 50%

Three Day ..... 25%

Date Results Needed

Email? ☐ No ☒ Yes

FAX? ☐ No ☐ Yes

No. of Cntrs

CR6 250mlHDPE-NoPres

Pb, Cr 500mlHDPE-HNO3

Pb, Cr6, CR6SS+ARCHIVE 8ozClr-NoPres

Account: MACTECLOU (lab use only)

Template/Prelogin: T67470 P334302

Cooler #: 9/30/01 NB

Shipped Via: FedEx Standard

Remarks/Contaminant Sample # (lab only)

L482930-82 78  
79 83  
80 84  
81 85  
82 86  
83 87  
84 88  
85 89  
86 90

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs
SB-24(0-2)	C	SS	0-2	10/5/10	1345	1
SB-24(2-5)		SS	2-5		1345	1
SB-24(5-10)		SS	5-10		1345	1
SB-25(0-2)		SS	0-2		1350	1
SB-25(2-5)		SS	2-5		1355	1
SB-25(5-10)		SS	5-10		1400	1
SB-26(0-2)		SS	0-2	10/6/10	1120	1
SB-26(2-5)		SS	2-5		1120	1
SB-26(5-10)	Y	SS	5-10		1125	1

\*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks: Samples to be HELD for 90 DAYS after analysis.

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Relinquished by: (Signature) <u>Michael J. Caudill</u>	Date: <u>10/10</u>	Time: <u>1200</u>	Received by: (Signature) _____	Samples returned via: <input type="checkbox"/> UPS	Condition: _____ (lab use only)
Relinquished by: (Signature) _____	Date: _____	Time: _____	Received by: (Signature) _____	<input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/> _____	
Relinquished by: (Signature) _____	Date: _____	Time: _____	Received for lab by: (Signature) <u>Kenn [unclear]</u>	Temp: <u>74</u>	Bottles Received: <u>140</u>
				Date: <u>10/8/10</u>	Time: <u>0900</u>
					COC Seal Intact: <u>Y</u> <u>N</u> <u>NA</u>
					pH Checked: _____ NCF: <u>✓</u>



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Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

### Report Summary

Thursday November 04, 2010

Report Number: L485755

Samples Received: 10/08/10

Client Project: 6680-08-9635

Description: RBTC-500 VAC

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Leslie Newton , ESC Representative

### Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487  
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140  
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233  
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,  
TX - T104704245, OK-9915

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

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REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY  
Sample ID : SB-1 0-2 FT  
Collected By : Michael J. Caudill  
Collection Date : 10/04/10 10:08

ESC Sample # : L485755-01

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/28/10 1158	MVE	1
Chromium	BDL	0.050	mg/l	5.0	6010B	10/30/10 1124	ALT	1
Lead	BDL	0.050	mg/l	5.0	6010B	10/30/10 1124	ALT	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Limit - Maximum Contaminant Level as established by the US EPA

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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-1 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 10:15

ESC Sample # : L485755-02

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/28/10 1158	MVE	1
Chromium	0.59	0.050	mg/l	5.0	6010B	10/30/10 1128	ALT	1
Lead	BDL	0.050	mg/l	5.0	6010B	10/30/10 1128	ALT	1

BDL - Below Detection Limit

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# REPORT OF ANALYSIS

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MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-3 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 10:53

ESC Sample # : L485755-03

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/28/10 1158	MVE	1
Chromium	BDL	0.050	mg/l	5.0	6010B	10/30/10 1131	ALT	1
Lead	BDL	0.050	mg/l	5.0	6010B	10/30/10 1131	ALT	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

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13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-3 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 10:56

ESC Sample # : L485755-04

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/28/10 1158	MVE	1
Chromium	0.11	0.050	mg/l	5.0	6010B	10/30/10 1134	ALT	1
Lead	BDL	0.25	mg/l	5.0	6010B	10/30/10 1354	ALT	5

BDL - Below Detection Limit

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# REPORT OF ANALYSIS

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13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-7 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 13:15

ESC Sample # : L485755-05

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/28/10 1158	MVE	1
Chromium	0.12	0.050	mg/l	5.0	6010B	10/30/10 1137	ALT	1
Lead	BDL	0.050	mg/l	5.0	6010B	10/30/10 1137	ALT	1

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November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-8 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 13:33

ESC Sample # : L485755-06

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/28/10 1158	MVE	1
Chromium	8.8	0.050	mg/l	5.0	6010B	10/30/10 1140	ALT	1
Lead	BDL	0.050	mg/l	5.0	6010B	10/30/10 1140	ALT	1

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Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-8 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 13:35

ESC Sample # : L485755-07

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/28/10 1158	MVE	1
Chromium	8.0	0.050	mg/l	5.0	6010B	10/30/10 1143	ALT	1
Lead	BDL	0.050	mg/l	5.0	6010B	10/30/10 1143	ALT	1

BDL - Below Detection Limit

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13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-8 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 13:40

ESC Sample # : L485755-08

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/28/10 1158	MVE	1
Chromium	4.4	0.050	mg/l	5.0	6010B	10/30/10 1218	ALT	1
Lead	BDL	0.050	mg/l	5.0	6010B	10/30/10 1218	ALT	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

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Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-10 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 14:43

ESC Sample # : L485755-09

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/28/10 1158	MVE	1
Chromium	BDL	0.050	mg/l	5.0	6010B	10/30/10 1221	ALT	1
Lead	BDL	0.050	mg/l	5.0	6010B	10/30/10 1221	ALT	1

BDL - Below Detection Limit

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13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-11 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 15:13

ESC Sample # : L485755-10

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/28/10 1158	MVE	1
Chromium	BDL	0.050	mg/l	5.0	6010B	10/30/10 1224	ALT	1
Lead	BDL	0.050	mg/l	5.0	6010B	10/30/10 1224	ALT	1

BDL - Below Detection Limit

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# REPORT OF ANALYSIS

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MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-11 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 15:15

ESC Sample # : L485755-11

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/28/10 1158	MVE	1
Chromium	BDL	0.050	mg/l	5.0	6010B	10/30/10 1227	ALT	1
Lead	BDL	0.050	mg/l	5.0	6010B	10/30/10 1227	ALT	1

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Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-11 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 15:20

ESC Sample # : L485755-12

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/29/10 0707	LJN	1
Chromium	0.25	0.050	mg/l	5.0	6010B	11/02/10 1759	ESC	1
Lead	BDL	0.050	mg/l	5.0	6010B	11/02/10 1759	ESC	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

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# REPORT OF ANALYSIS

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MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-13 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 15:40

ESC Sample # : L485755-13

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/29/10 0707	LJN	1
Chromium	0.47	0.050	mg/l	5.0	6010B	11/02/10 1756	ESC	1
Lead	BDL	0.050	mg/l	5.0	6010B	11/02/10 1756	ESC	1

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Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-13 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 15:45

ESC Sample # : L485755-14

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/29/10 0707	LJN	1
Chromium	0.48	0.050	mg/l	5.0	6010B	11/02/10 1754	ESC	1
Lead	BDL	0.050	mg/l	5.0	6010B	11/02/10 1754	ESC	1

BDL - Below Detection Limit

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Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-14 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 16:15

ESC Sample # : L485755-15

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/29/10 0707	LJN	1
Chromium	1.1	0.050	mg/l	5.0	6010B	11/02/10 1751	ESC	1
Lead	BDL	0.050	mg/l	5.0	6010B	11/02/10 1751	ESC	1

BDL - Below Detection Limit

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Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-14 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/04/10 16:20

ESC Sample # : L485755-16

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/29/10 0707	LJN	1
Chromium	0.44	0.050	mg/l	5.0	6010B	11/02/10 1749	ESC	1
Lead	BDL	0.050	mg/l	5.0	6010B	11/02/10 1749	ESC	1

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REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY  
Sample ID : SB-15 0-2 FT  
Collected By : Michael J. Caudill  
Collection Date : 10/05/10 08:45

ESC Sample # : L485755-17

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/29/10 0707	LJN	1
Chromium	0.080	0.050	mg/l	5.0	6010B	11/02/10 1746	ESC	1
Lead	BDL	0.050	mg/l	5.0	6010B	11/02/10 1746	ESC	1

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Tax I.D. 62-0814289

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REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-16 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 09:10

ESC Sample # : L485755-18

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/29/10 0707	LJN	1
Chromium	0.31	0.050	mg/l	5.0	6010B	11/02/10 1742	ESC	1
Lead	BDL	0.050	mg/l	5.0	6010B	11/02/10 1742	ESC	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Limit - Maximum Contaminant Level as established by the US EPA

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REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-16 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 09:15

ESC Sample # : L485755-19

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/29/10 0707	LJN	1
Chromium	0.18	0.050	mg/l	5.0	6010B	11/02/10 1739	ESC	1
Lead	BDL	0.050	mg/l	5.0	6010B	11/02/10 1739	ESC	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-16 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 09:20

ESC Sample # : L485755-20

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/29/10 0707	LJN	1
Chromium	0.23	0.050	mg/l	5.0	6010B	11/02/10 1737	ESC	1
Lead	BDL	0.050	mg/l	5.0	6010B	11/02/10 1737	ESC	1

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MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-17 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 09:40

ESC Sample # : L485755-21

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/29/10 0707	LJN	1
Chromium	0.052	0.050	mg/l	5.0	6010B	11/02/10 1656	ESC	1
Lead	BDL	0.050	mg/l	5.0	6010B	11/02/10 1656	ESC	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

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REPORT OF ANALYSIS

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MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-20 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 11:20

ESC Sample # : L485755-22

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/29/10 0707	LJN	1
Chromium	BDL	0.050	mg/l	5.0	6010B	11/02/10 1653	ESC	1
Lead	BDL	0.050	mg/l	5.0	6010B	11/02/10 1653	ESC	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Limit - Maximum Contaminant Level as established by the US EPA

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# REPORT OF ANALYSIS

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MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY  
Sample ID : SB-20 2-5 FT  
Collected By : Michael J. Caudill  
Collection Date : 10/05/10 11:25

ESC Sample # : L485755-23

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/29/10 0707	LJN	1
Chromium	0.056	0.050	mg/l	5.0	6010B	11/02/10 1651	ESC	1
Lead	BDL	0.050	mg/l	5.0	6010B	11/02/10 1651	ESC	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Limit - Maximum Contaminant Level as established by the US EPA

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Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-20 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 11:30

ESC Sample # : L485755-24

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/29/10 0707	LJN	1
Chromium	0.070	0.050	mg/l	5.0	6010B	11/02/10 1449	ESC	1
Lead	BDL	0.050	mg/l	5.0	6010B	11/02/10 1449	ESC	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Limit - Maximum Contaminant Level as established by the US EPA

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13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-21 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 11:45

ESC Sample # : L485755-25

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/29/10 0707	LJN	1
Chromium	BDL	0.050	mg/l	5.0	6010B	11/02/10 1648	ESC	1
Lead	BDL	0.050	mg/l	5.0	6010B	11/02/10 1648	ESC	1

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November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-22 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 13:00

ESC Sample # : L485755-26

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/29/10 0707	LJN	1
Chromium	BDL	0.050	mg/l	5.0	6010B	11/02/10 1646	ESC	1
Lead	BDL	0.050	mg/l	5.0	6010B	11/02/10 1646	ESC	1

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13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-22 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 13:05

ESC Sample # : L485755-27

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/29/10 0707	LJN	1
Chromium	0.062	0.050	mg/l	5.0	6010B	11/02/10 1643	ESC	1
Lead	BDL	0.050	mg/l	5.0	6010B	11/02/10 1643	ESC	1

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MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-23 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 13:25

ESC Sample # : L485755-28

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/29/10 0707	LJN	1
Chromium	BDL	0.050	mg/l	5.0	6010B	11/02/10 1801	ESC	1
Lead	0.11	0.050	mg/l	5.0	6010B	11/02/10 1801	ESC	1

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MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-23 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 13:30

ESC Sample # : L485755-29

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/29/10 0707	LJN	1
Chromium	BDL	0.050	mg/l	5.0	6010B	11/02/10 1639	ESC	1
Lead	BDL	0.050	mg/l	5.0	6010B	11/02/10 1639	ESC	1

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MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-28 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/07/10 08:35

ESC Sample # : L485755-30

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/29/10 0707	AJN	1
Chromium	1.4	0.050	mg/l	5.0	6010B	10/30/10 1823	ICO	1
Lead	BDL	0.050	mg/l	5.0	6010B	10/30/10 1823	ICO	1

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MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-28 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/07/10 08:40

ESC Sample # : L485755-31

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/29/10 0707	AJN	1
Chromium	1.5	0.050	mg/l	5.0	6010B	10/30/10 1826	ICO	1
Lead	BDL	0.050	mg/l	5.0	6010B	10/30/10 1826	ICO	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

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MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-28 5-10 FT

Collected By : Michael J. Caudill  
Collection Date : 10/07/10 08:45

ESC Sample # : L485755-32

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/29/10 0707	AJN	1
Chromium	3.9	0.050	mg/l	5.0	6010B	10/30/10 1829	ICO	1
Lead	BDL	0.050	mg/l	5.0	6010B	10/30/10 1829	ICO	1

BDL - Below Detection Limit

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REPORT OF ANALYSIS

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MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-29 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/06/10 10:20

ESC Sample # : L485755-33

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/29/10 0707	AJN	1
Chromium	0.77	0.050	mg/l	5.0	6010B	10/30/10 1833	ICO	1
Lead	BDL	0.050	mg/l	5.0	6010B	10/30/10 1833	ICO	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

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REPORT OF ANALYSIS

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MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-29 2-5 FT

Collected By : Michael J. Caudill  
Collection Date : 10/06/10 12:05

ESC Sample # : L485755-34

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/29/10 0707	AJN	1
Chromium	2.8	0.050	mg/l	5.0	6010B	10/30/10 1836	ICO	1
Lead	BDL	0.050	mg/l	5.0	6010B	10/30/10 1836	ICO	1

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Det. Limit - Estimated Quantitation Limit(EQL)

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REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04, 2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-30 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/06/10 10:35

ESC Sample # : L485755-35

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/29/10 0707	AJN	1
Chromium	BDL	0.050	mg/l	5.0	6010B	10/30/10 1839	ICO	1
Lead	BDL	0.050	mg/l	5.0	6010B	10/30/10 1839	ICO	1

BDL - Below Detection Limit

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REPORT OF ANALYSIS

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MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY  
Sample ID : SB-32 0-2 FT  
Collected By : Michael J. Caudill  
Collection Date : 10/06/10 14:00

ESC Sample # : L485755-36

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/29/10 0707	AJN	1
Chromium	0.084	0.050	mg/l	5.0	6010B	10/30/10 1842	ICO	1
Lead	BDL	0.050	mg/l	5.0	6010B	10/30/10 1842	ICO	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Limit - Maximum Contaminant Level as established by the US EPA

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

.

Reported: 11/04/10 09:49 Printed: 11/04/10 09:50



12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
(615) 758-5858  
1-800-767-5859  
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : SB-36 0-2 FT

Collected By : Michael J. Caudill  
Collection Date : 10/07/10 09:50

ESC Sample # : L485755-37

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/29/10 0707	AJN	1
Chromium	BDL	0.050	mg/l	5.0	6010B	10/30/10 1845	ICO	1
Lead	BDL	0.050	mg/l	5.0	6010B	10/30/10 1845	ICO	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Limit - Maximum Contaminant Level as established by the US EPA

Note:

The reported analytical results relate only to the sample submitted.

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Est. 1970

# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : DUP-2

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 00:00

ESC Sample # : L485755-38

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/29/10 0707	LJN	1
Chromium	0.52	0.050	mg/l	5.0	6010B	11/02/10 1636	ESC	1
Lead	BDL	0.050	mg/l	5.0	6010B	11/02/10 1636	ESC	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Limit - Maximum Contaminant Level as established by the US EPA

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 11/04/10 09:49 Printed: 11/04/10 09:50





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Est. 1970

REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

November 04,2010

Date Received : October 08, 2010  
Description : RBTC-500 VAC - Louisville, KY

Sample ID : DUP-3

Collected By : Michael J. Caudill  
Collection Date : 10/05/10 00:00

ESC Sample # : L485755-39

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/29/10 0707	LJN	1
Chromium	BDL	0.050	mg/l	5.0	6010B	11/03/10 1247	LRL	1
Lead	BDL	0.050	mg/l	5.0	6010B	11/03/10 1247	LRL	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Limit - Maximum Contaminant Level as established by the US EPA

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 11/04/10 09:49 Printed: 11/04/10 09:50

Attachment A  
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L485755-04	WG505748	SAMP	Lead	R1447810	O
L485755-24	WG505842	SAMP	Chromium	R1454109	P1

Attachment B  
Explanation of QC Qualifier Codes

Qualifier	Meaning
0	(ESC) Sample diluted due to matrix interferences that impaired the ability to make an accurate analytical determination. The detection limit is elevated in order to reflect the necessary dilution.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

[illegible]



**YOUR LAB OF CHOICE**

MACTEC - Louisville, KY  
Mr. Scott Kelly  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

Quality Assurance Report  
Level II

L485755

12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
(615) 758-5858  
1-800-767-5859  
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

November 04, 2010

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Chromium	< .05	mg/l			WG505748	10/28/10 23:08
Lead	< .05	mg/l			WG505748	10/28/10 23:08
Chromium	< .05	mg/l			WG505927	10/30/10 17:45
Lead	< .05	mg/l			WG505927	10/30/10 17:45
Chromium	< .05	mg/l			WG505842	11/02/10 14:44
Lead	< .05	mg/l			WG505842	11/02/10 14:44

Analyte	Units	Duplicate		RPD	Limit	Ref Samp	Batch
		Result	Duplicate				
Chromium	mg/l	0	0	0	20	L485895-01	WG505748
Lead	mg/l	0.400	0.380	5.13	20	L485895-01	WG505748
Chromium	mg/l	0	0	0	20	L486107-01	WG505927
Lead	mg/l	0	0	0	20	L486107-01	WG505927
Chromium	mg/l	0.0560	0.0700	21.9*	20	L485755-24	WG505842
Lead	mg/l	0	0	0	20	L485755-24	WG505842

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Chromium	mg/l	1.13	1.15	102.	85-115	WG505748
Lead	mg/l	1.13	1.20	106.	85-115	WG505748
Chromium	mg/l	1.13	1.07	94.7	85-115	WG505927
Lead	mg/l	1.13	1.07	94.7	85-115	WG505927
Chromium	mg/l	1.13	1.05	92.9	85-115	WG505842
Lead	mg/l	1.13	1.08	95.6	85-115	WG505842

Analyte	Units	Matrix Spike			% Rec	Limit	Ref Samp	Batch
		MS Res	Ref Res	TV				
Chromium	mg/l	1.15	0	1.13	102.	75-125	L485895-01	WG505748
Lead	mg/l	1.58	0.380	1.13	106.	75-125	L485895-01	WG505748
Chromium	mg/l	1.03	0	1.13	91.2	75-125	L486107-01	WG505927
Lead	mg/l	1.01	0	1.13	89.4	75-125	L486107-01	WG505927
Chromium	mg/l	1.23	0.0700	1.13	103.	75-125	L485755-24	WG505842
Lead	mg/l	1.19	0	1.13	105.	75-125	L485755-24	WG505842

Analyte	Units	Matrix Spike Duplicate			Limit	RPD	Limit	Ref Samp	Batch
		MSD	Ref	%Rec					
Chromium	mg/l	1.16	1.15	103.	75-125	0.866	20	L485895-01	WG505748
Lead	mg/l	1.61	1.58	109.	75-125	1.88	20	L485895-01	WG505748

\* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

MACTEC - Louisville, KY  
Mr. Scott Kelly  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

Quality Assurance Report  
Level II

L485755

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1-800-767-5859  
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

November 04, 2010

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Chromium	mg/l	1.04	1.03	92.0	75-125	0.966	20	L486107-01	WG505927
Lead	mg/l	0.965	1.01	85.4	75-125	4.56	20	L486107-01	WG505927
Chromium	mg/l	1.15	1.23	95.6	75-125	6.72	20	L485755-24	WG505842
Lead	mg/l	1.11	1.19	98.2	75-125	6.96	20	L485755-24	WG505842

Batch number /Run number / Sample number cross reference

WG505450: R1446913: L485755-01 02 03 04 05 06 07 08 09 10 11  
WG505748: R1447810: L485755-01 02 03 04 05 06 07 08 09 10 11  
WG505612: R1448689: L485755-12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 38 39  
WG505676: R1448690: L485755-30 31 32 33 34 35 36 37  
WG505927: R1449611: L485755-30 31 32 33 34 35 36 37  
WG505842: R1454109: L485755-12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 38  
WG506260: R1455870: L485755-39

\* \* Calculations are performed prior to rounding of reported values .  
\* Performance of this Analyte is outside of established criteria.  
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



**YOUR LAB OF CHOICE**

MACTEC - Louisville, KY  
Mr. Scott Kelly  
13425 Eastpoint Center Dr. Ste. 122

Louisville, KY 40223

Quality Assurance Report  
Level II

L485755

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Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

November 04, 2010

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

# MACTEC - Louisville, KY

13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

## Billing Information:

MACTEC  
AP Processing  
1105 Lakewood, Ste. 300  
Alpharetta, GA 30009

## Analysis/Container/Preservative

F103

Chain of Custody

Page 1 of 1



12065 Lebanon Road  
ML Juliet, TN 37122

Phone: (800) 767-5859  
Phone: (615) 758-5858  
Fax: (615) 758-5859

## Report to:

Mr. Scott Kelly

## Email:

tskelly@mactec.com

## Project Description:

RBTC-500 VAC - Louisville, KY

## City/State Collected:

Louisville, Ky

Phone: (502) 253-2500

FAX: (502) 253-2501

## Client Project #:

6680-08-9635

## Lab Project #:

MACTECLOU-RBTC500

## Collected by (print):

Michael J. Caudill

## Site/Facility ID#:

## P.O.#:

201013638 9/30

## Collected by (signature):

Michael J. Caudill

## Rush? (Lab MUST Be Notified)

Same Day ..... 200%

Next Day ..... 100%

Two Day ..... 50%

Three Day ..... 25%

## Date Results Needed

Email? ☐ No ☒ Yes

FAX? ☐ No ☒ Yes

No. of Cntrs

## Sample ID

## Comp/Grab

## Matrix\*

## Depth

## Date

## Time

## No. of Cntrs

CR6 250mlHDPE-NoPres

Pb, Cr 500mlHDPE-HNO3

Pb, Cr6, CR6SS+ARCHIVE 8ozCir-NoPres

(Signature)

## Account:

MACTECLOU (lab use only)

## Template/Prelogin:

T67470 P334302

## Cooler #:

9/30/10

## Shipped Via:

FedEX Standard

## Remarks/Contaminant

## Sample # (lab only)

1485755 - 1482930 - 01

02

02 03

04

05

06

03 07

04 08

04

\*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks: Samples to be HELD for 90 DAYS after analysis.

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Relinquished by: (Signature) Michael J. Caudill	Date: 10/1/10 Time: 1:50	Received by: (Signature) [Signature]	Samples returned via: <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> UPS <input type="checkbox"/> Courier	Condition: OK (lab use only)
Relinquished by: (Signature)	Date: _____ Time: _____	Received by: (Signature)	Temp: Amb 14/10 Bottles Received: 14/10	COC Seal Intact: Y N NA
Relinquished by: (Signature)	Date: _____ Time: _____	Received for lab by: (Signature) [Signature]	Date: 10/8/10 Time: 0900	pH Checked: NCF: NO



# MACTEC - Louisville, KY

13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

## Billing information:

MACTEC  
AP Processing  
1105 Lakewood, Ste. 300  
Alpharetta, GA 30009

## Analysis/Container/Preservative

Chain of Custody

Page \_\_\_ of \_\_\_



12065 Lebanon Road  
Mt. Juliet, TN 37122

Phone: (800) 767-5859  
Phone: (615) 758-5858  
Fax: (615) 758-5859

Report to:

Mr. Scott Kelly

Email:

tskelly@mactec.com

Project

Description:

RBTC-500 VAC - Louisville, KY

City/State  
Collected

Louisville, KY

Phone: (502) 253-2500

FAX: (502) 253-2501

Client Project #:

6680-08-9635

Lab Project #

MACTECLOU-RBTC500

Collected by (print):

Michael J. Caudill

Site/Facility ID#

P.O.#

201013638 9/30

Collected by (signature):

Michael J. Caudill

Rush? (Lab MUST Be Notified)

Same Day ..... 200%

Next Day ..... 100%

Two Day ..... 50%

Three Day ..... 25%

Date Results Needed

Email? \_\_\_ No \_\_\_ Yes

FAX? \_\_\_ No \_\_\_ Yes

No. of Cntrs

CR6 250mLHDPE-NoPres

Pb, Cr 500mLHDPE-HNO3

Pb, Cr, Cd, CR6SS+ARCHIVE 8ozClr-NoPres

*[Handwritten signature]*

Account: MACTECLOU (lab use only)

Template/Prelogin T67470 P334302

Cooler #: 9/30/10 MJA

Shipped Via: FedEx Standard

Remarks/Contaminant Sample # (lab only)

482930-49

20

485755-05

21

-06

22

-07

23

-08

24

25

26

27

Sample ID

Comp/Grab

Matrix\*

Depth

Date

Time

No. of Cntrs

SB-7(0-2)  
SB-7(2-5)  
SB-7(5-10)  
SB-8(0-2)  
SB-8(2-5)  
SB-8(5-10)  
SB-8(10-20)  
SB-9(0-2)  
SB-9(2-5)

C

SS

0-2

10/4/10

1305

1

X

X

X

SS

2-5

1310

1

X

X

X

SS

5-10

1315

1

X

X

X

SS

0-2

1333

1

X

X

X

SS

2-5

1335

1

X

X

X

SS

5-10

1340

1

X

X

X

SS

10-20

1345

1

X

X

X

SS

0-2

1400

1

X

X

X

SS

2-5

1405

1

X

X

X

\*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks: Samples to be HELD for 90 DAYS after analysis.

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Relinquished by (Signature)

Relinquished by (Signature)

Relinquished by (Signature)

Date

Time

Received by (Signature)

Date

Time

Received by (Signature)

Date

Time

Received for lab by (Signature)

4355 5308 3760

Samples returned via: ☐ UPS

☒ FedEx ☐ Courier

Temp: Amb

Date: 10/8/10

Time: 0900

Condition: OK (lab use only)

COC Seal Intact: Y N NA

pH Checked: NCF: NO

# MACTEC - Louisville, KY

13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

## Billing information:

MACTEC  
AP Processing  
1105 Lakewood, Ste. 300  
Alpharetta, GA 30009

## Analysis/Container/Preservative

Chain of Custody

Page \_\_\_ of \_\_\_



12065 Lebanon Road  
Mt. Juliet, TN 37122

Phone: (800) 767-5859  
Phone: (615) 758-5858  
Fax: (615) 758-5859

Report to:

Mr. Scott Kelly

Email:

tskelly@mactec.com

Project Description:

RBTC-500 VAC - Leitchfield, KY

City/State  
Collect At

Louisville, KY

Phone: (502) 253-2500

FAX: (502) 253-2501

Client Project #:

6680-08-9635

Lab Project #

MACTECLOU-RBTC500

Collected by (print)

Site/Facility ID#:

P.O.#:

201013638 9/30

Collected by (signature)

Rush? (Lab MUST Be Notified)

Same Day ..... 200%

Next Day ..... 100%

Two Day ..... 50%

Three Day ..... 25%

Date Results Needed

Email? ☐ No ☒ Yes

FAX? ☐ No ☐ Yes

No.  
of  
Cntrs

CR6 250mlHDPE-NoPres

Pb, Cr 500mlHDPE-HNO3

Pb,C6,CR6SS+ARCHIVE 8ozClr-NoPres

*[Handwritten signature]*

Account: MACTECLOU (lab use only)

Template/Prelogin T67470 P334302

Cooler #: 9/30/10 W2

Shipped Via: FedEx Standard

Remarks/Contaminant Sample # (lab only)

L482990-118-112

113-119

114-120

115-121

122

123

L485755-37 116-124

117-125

118-126

JCH

\*Matrix: SS - Soil GW - Groundwater WW - Wastewater DW - Drinking Water OT - Other

Remarks: Samples to be HELD for 90 DAYS after analysis.

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Relinquished by: (Signature) <i>Michael J. Caudill</i>	Date: 10/10	Time: 1720	Received by: (Signature)	Samples returned via <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> UPS <input type="checkbox"/> Courier	Condition: (lab use only) OK
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: Amb Bottles Received: 140	COC Seal Intact: Y N NA
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>Kanner</i>	Date: 10/8/10 Time: 0900	pH Checked: NCF: NO

# MACTEC - Louisville, KY

13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

## Billing information:

MACTEC  
AP Processing  
1105 Lakewood, Ste. 300  
Alpharetta, GA 30009

## Analysis/Container/Preservative

Chain of Custody

Page \_\_\_\_ of \_\_\_\_



L.A.B. S.C.I.E.N.C.E.S

12065 Lebanon Road  
Mt. Juliet, TN 37122

Phone: (800) 767-5859

Phone: (615) 758-5858

Fax: (615) 758-5859

## Report to:

Mr. Scott Kelly

## Email:

tskelly@mactec.com

## Project Description:

RBTC-500 VAC - Leitchfield, KY

## City/State Collected:

Louisville, Ky

Phone: (502) 253-2500

FAX: (502) 253-2501

## Client Project #:

6680-08-9635

## Lab Project #:

MACTECLOU-RBTC500

## Collected by (print):

Michael J. Caudill

## Site/Facility ID#:

## P.O.#:

201013638 9/30

## Collected by (signature):

Michael J. Caudill

## Rush? (Lab MUST Be Notified)

Same Day ..... 200%

Next Day ..... 100%

Two Day ..... 50%

Three Day ..... 25%

## Date Results Needed

Email? ☐ No ☒ Yes

FAX? ☐ No ☒ Yes

No of Cntrs

Immediately

Packed on Ice ☒ N ☐ Y

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No of Cntrs	CR6-250mlHDPE-NoPres	Pb, Cr-500mlHDPE-INO3	Pb, Cr, Cu, Ni, Cd, Zn, Mn, Fe, Co, Ni, Mo, Se, V, W, Bi, Sb, Sn, Tl, Pb, As, Hg, Ba, Be, B, Br, Ca, Cl, F, Ga, Ge, In, K, Li, Mg, Na, N, O, P, S, Si, Sr, Ta, Te, Th, U, Zn, Zr	Chromium	Hex-Chromium	Lead
EB-3 EB-1	G	GW		10/4/10	1645	2	X	X		X	X	X
EB-4 EB-2		GW		10/5/10	1300	2	X	X		X	X	X
EB-5 EB-3		GW		10/6/10	1645	2	X	X		X	X	X
EB-6 EB-4		GW		10/7/10	1130	2	X	X		X	X	X
EB-7 Dup-1	BC	GWSS		10/5/10		2	X	X		X	X	X
EB-8 Dup-2		GW		10/5/10		2	X	X		X	X	X
EB-9 Dup-3		GW		10/5/10		2	X	X		X	X	X
Dup-4				10/6/10		1						
Dup-5				10/7/10		1						

Account: MACTECLOU (lab use only)

Template/Prelogin T67470 P334302

Cooler #: 9/30/10 W/O

Shipped Via: FedEx Standard

Remarks/Contaminant Sample # (lab only)

6482 930-127 119

-120 120-128

-121 129

-122 130

-123 131

6485755-28 -124 132

39 -125 133

-126 134

-127 135

\*Matrix: SS - Soil GW - Groundwater WW - Wastewater DW - Drinking Water OT - Other

Remarks: Samples to be HELD for 90 DAYS after analysis.

SCU SB-27 0-2

SS 0-2 10/6/10 1010

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

-128 136

scu

Relinquished by: (Signature) Michael J. Caudill	Date 10/1/10	Time 1700	Received by: (Signature)	Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier	Condition: OLC (lab use only)
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Temp: Amb Bottles Received: 140	COC Seal Intact: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N
Relinquished by: (Signature)	Date	Time	Received for lab by: (Signature) Kenna W. Dean	Date: 10/8/10 Time: 0900	pH Checked: NCF: <input checked="" type="checkbox"/> NO

Jonah Huckabay

C485755

**From:** Terrie Fudge  
**Sent:** Tuesday, October 26, 2010 1:44 PM  
**To:** Terrie Fudge; Sample Storage; Login  
**Cc:** Jim Burns; TCLP; Metals  
**Subject:** RE: MACTECKTN - L482930

Sorry this should be MACTECLOU

---

**From:** Terrie Fudge  
**Sent:** Tuesday, October 26, 2010 1:37 PM  
**To:** Sample Storage; Login  
**Cc:** Jim Burns; TCLP; Metals; Terrie Fudge  
**Subject:** MACTECKTN - L482930

Please find the following samples and take to login

Login - please log these as TCLP Lead & Chromium w/ a normal tat

L482930-01, 03, 07 08, -21, -22, -23, -24, -32, -34, -35, -36, -41, -42, -44, -45, -46, -124, -50, -51, -52, -54, -66, -67, -68, -70, -73, -74, -125, -76, -77, -88, -89, -90, -91, -92, -94, -100 & -116

Thank you,

Terrie Fudge

*ESC Lab Sciences*

Technical Service Rep.

Direct: 615-773-9674

Toll Free: 800-767-5859 + ext (9674)

Email: tfudge@esclabsciences.com

# MACTEC - Louisville, KY

13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

## Billing information:

MACTEC  
AP Processing  
1105 Lakewood, Ste. 300  
Alpharetta, GA 30009

## Analysis/Container/Preservative

## Chain of Custody

Page \_\_\_\_ of \_\_\_\_



12065 Lebanon Road  
Mt. Juliet, TN 37122

Phone: (800) 767-5859  
Phone: (615) 758-5858  
Fax: (615) 758-5859

## Report to:

Mr. Scott Kelly

## Email:

tskelly@mactec.com

## Project

Description: RBTC-500 VAC - *Louisville*  
*Leitchfield, KY*

City/State  
Collected *Louisville, KY*

Phone: (502) 253-2500

FAX: (502) 253-2501

Client Project #:

6680-08-9635

Lab Project #

MACTECLOU-RBTC500

Collected by (print):

*Michael J. Caudill*

Site/Facility ID#:

P.O. #:

201013638 9/30

Collected by (signature):

*Michael J. Caudill*

Rush? (Lab MUST Be Notified)

Same Day ..... 200%

Next Day ..... 100%

Two Day ..... 50%

Three Day ..... 25%

Date Results Needed

Email? ☐ No ☒ Yes

FAX? ☐ No ☐ Yes

No.  
of  
Cntrs

CR6 250mlHDPE-NoPres

Pb, Cr 500mlHDPE-HNO3

Pb, Cr6, CR6SS+ARCHIVE 8ozCr-NoPres

Account: MACTECLOU (lab use only)

Template/Prelogin T67470 P334302

Cooler # 9/30/10 NAB

Shipped Via: FedEx Standard

Remarks/Contaminant Sample # (lab only)

*L482930-28*

*29*

*30*

*31*

*32*

*L485755-09*

*33*

*time = 1513 per label - 10-34*

*34*

*35*

*36*

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs
<i>SB-9 (5-10)</i>	<i>C</i>	<i>SS</i>	<i>5-10</i>	<i>10/4/10</i>	<i>1410</i>	<i>1</i>
<i>SB-9 (10-20)</i>	<i>C</i>	<i>SS</i>	<i>10-20</i>	<i>10/4/10</i>	<i>1415</i>	<i>1</i>
<i>SB-10 (0-2)</i>	<i>C</i>	<i>SS</i>	<i>0-2</i>	<i>10/4/10</i>	<i>1435</i>	<i>1</i>
<i>SB-10 (2-5)</i>	<i>C</i>	<i>SS</i>	<i>2-5</i>	<i>10/4/10</i>	<i>1440</i>	<i>1</i>
<i>SB-10 (5-10)</i>	<i>C</i>	<i>SS</i>	<i>5-10</i>	<i>10/4/10</i>	<i>1445</i>	<i>1</i>
<i>SB-10 (10-20)</i>	<i>C</i>	<i>SS</i>	<i>10-20</i>	<i>10/4/10</i>	<i>1450</i>	<i>1</i>
<i>SB-11 (0-2)</i>	<i>C</i>	<i>SS</i>	<i>0-2</i>	<i>10/4/10</i>	<i>1505</i>	<i>1</i>
<i>SB-11 (2-5)</i>	<i>C</i>	<i>SS</i>	<i>2-5</i>	<i>10/4/10</i>	<i>1515</i>	<i>1</i>
<i>SB-11 (5-10)</i>	<i>C</i>	<i>SS</i>	<i>5-10</i>	<i>10/4/10</i>	<i>1520</i>	<i>1</i>

\*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks: Samples to be HELD for 90 DAYS after analysis.

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Relinquished by: (Signature) <i>Michael J. Caudill</i>	Date <i>10/7/10</i>	Time <i>4500</i>	Received by: (Signature) <i>[Signature]</i>	Samples returned via: <input checked="" type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier	Condition: (lab use only) <i>OK</i>
Relinquished by: (Signature) <i>[Signature]</i>	Date	Time	Received by: (Signature) <i>[Signature]</i>	Temp: <i>Amb</i> Bottles Received: <i>14/6</i>	COC Seal Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> NA
Relinquished by: (Signature) <i>[Signature]</i>	Date	Time	Received for lab by: (Signature) <i>[Signature]</i>	Date: <i>10/8/10</i> Time: <i>0900</i>	pH Checked: <input checked="" type="checkbox"/> NCF: <i>NO</i>

# MACTEC - Louisville, KY

13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

## Billing information:

MACTEC  
AP Processing  
1105 Lakewood, Ste. 300  
Alpharetta, GA 30009

## Analysis/Container/Preservative

Chain of Custody

Page \_\_\_ of \_\_\_



L A B S C I E N C E S

12065 Lebanon Road  
Mt. Juliet, TN 37122

Phone: (800) 767-5859  
Phone: (615) 758-5858  
Fax: (615) 758-5859

Report to:

Mr. Scott Kelly

Email:

tskelly@mactec.com

Project

Description: RBTC-500 VAC -- Leitchfield, KY

City/State

Collected: Louisville, Ky

Phone: (502) 253-2500

FAX: (502) 253-2501

Client Project #:

6680-08-9635

Lab Project #:

MACTECLOU-RBTC500

Collected by (print):

Michael S. Caudin

Site/Facility ID#:

P.O. #:

201013638 9/30

Collected by (signature):

Michael S. Caudin

Rush? (Lab MUST Be Notified)

Same Day ..... 200%

Next Day ..... 100%

Two Day ..... 50%

Three Day ..... 25%

Date Results Needed

Email? \_\_\_ No \_\_\_ Yes

FAX? \_\_\_ No \_\_\_ Yes

No. of Cntrs

CR6 250mlHDPE-NoPres

Pb, Cr 500mlHDPE-HNO3

Pb, Cr6, CR6SS+ARCHIVE 8ozClr-NoPres

Account: MACTECLOU (lab use only)

Template/Prelogin: T67470/P334302

Cooler #: 9/30/10 M2

Shipped Via: FedEx Standard

Remarks/Contaminant Sample # (lab only)

L482930-37

36

39

40

L485755-13

41

14 42

15 43

16 44

16 45

Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks: Samples to be HELD for 90 DAYS after analysis.

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Relinquished by (Signature): <i>Michael S. Caudin</i>	Date: <i>10/10/10</i>	Time: <i>1200</i>	Received by (Signature):	Samples returned via: <input type="checkbox"/> UPS	Condition: (lab use only)
Relinquished by (Signature):	Date:	Time:	Received by (Signature):	<input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/>	ok
Relinquished by (Signature):	Date:	Time:	Received for lab by (Signature): <i>Kenna W. Dean</i>	Temp: <i>Amb</i> Bottles Received: <i>140</i>	COC Seal Intact: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N
				Date: <i>10/8/10</i> Time: <i>0900</i>	pH Checked: <input checked="" type="checkbox"/> NCF: <input checked="" type="checkbox"/> NO

# MACTEC - Louisville, KY

13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

## Billing information:

MACTEC  
AP Processing  
1105 Lakewood, Ste. 300  
Alpharetta, GA 30009

## Analysis/Container/Preservative

Chain of Custody

Page \_\_\_\_ of \_\_\_\_



L A B S C I E N C E S

12065 Lebanon Road  
Mt. Juliet, TN 37122

Phone: (800) 767-5859

Phone: (615) 758-5858

Fax: (615) 758-5859

Report to:

Mr. Scott Kelly

Email:

tskelly@mactec.com

Project

Description: RBTC-500 VAC - Leitchfield, KY

City/State

Collected: Louisville, Ky

Phone: (502) 253-2500

FAX: (502) 253-2501

Client Project #:

6680-08-9635

Lab Project #

MACTECLOU-RBTC500

Collected by (print):

Michael J. Caudill

Site/Facility ID#:

P.O.#:

201013638 9/30

Collected by (signature):

Michael J. Caudill

Rush? (Lab MUST Be Notified)

Same Day ..... 200%

Next Day ..... 100%

Two Day ..... 50%

Three Day ..... 25%

Date Results Needed

Email? ☐ No ☒ Yes

FAX? ☐ No ☐ Yes

No.  
of  
Cntrs

CR6 250mIHDPE-NoPres

Pb, Cr 500mIHDPE-HNO3

Pb, Cr6, CR6SS+ARCHIVE 8ozClr-NoPres

*(Signature)*

Account: MACTECLOU (lab use only)

Template/Prelogin: T67470 P334302

Cooler #: 9/30/10 MB

Shipped Via: FedEx Standard

Remarks/Contaminant Sample # (lab only)

1485755-17 1482430-46

47

48

49

-18

-19

-20

51 52 53 54

54

\*Matrix SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks: Samples to be HELD for 90 DAYS after analysis.

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Relinquished by: (Signature) <i>Michael J. Caudill</i>	Date: 10/10/10	Time: 1200	Received by: (Signature)	Samples returned via: <input type="checkbox"/> UPS	Condition: (lab use only)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	<input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier	ok
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>Kennan Wale</i>	Temp: Amb Bottles Received: 140	COC Seal Intact: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N
	Date:	Time:		Date: 10/8/10 Time: 0900	pH Checked: NCF: <input checked="" type="checkbox"/> NO

# MACTEC - Louisville, KY

13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

## Billing information:

MACTEC  
AP Processing  
1105 Lakewood, Ste. 300  
Alpharetta, GA 30009

## Analysis/Container/Preservative

## Chain of Custody

Page \_\_\_ of \_\_\_



12065 Lebanon Road  
Mt. Juliet, TN 37122

Phone: (800) 767-5859  
Phone: (615) 758-5858  
Fax: (615) 758-5859

## Report to:

Mr. Scott Kelly

## Email:

tskelly@mactec.com

## Project

Description RBTC-500 VAC - Leitchfield, KY

City/State  
Collected

Louisville, Ky

Phone: (502) 253-2500

FAX: (502) 253-2501

Client Project #:

6680-08-9635

Lab Project #

MACTECLOU-RBTC500

Collected by (print):

Michael J. Caudill

Site/Facility ID#:

P.O.#:

201013638 9/30

Collected by (signature):

Michael J. Caudill

Rush? (Lab MUST Be Notified)

Same Day ..... 200%

Next Day ..... 100%

Two Day ..... 50%

Three Day ..... 25%

Date Results Needed

Email? No ☒ Yes

FAX? No ☐ Yes

No.  
of  
Cntrs

Immediately

Packed on ice N ☐ Y ☐

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	CR6 250mlHDPE-NoPres	Pb, Cr 500mlHDPE-HNO3	Pb,C6,CR6SS-ARCHIVE 8ozClr-NoPres										
SB-16(2-5 M9D)	C	SS	2-5	10/5/10	0915	1	X	X	X										
SB-17(2-5)		SS	0-2		0940	1			X										
SB-17(2-5)		SS	2-5		0945	1			X										
SB-17(5-10)		SS	5-10		0950	1			X										
SB-17(10-20)		SS	10-20		0955	1			X										
SB-18(0-2)		SS	0-2		1015	1			X										
SB-18(2-5)		SS	2-5		1020	1			X										
SB-18(5-10)		SS	5-10		1025	1			X										
SB-18(10-20)	V	SS	10-20	V	1030	1	V	V	X										

Account: MACTECLOU (lab use only)

Template/Prelogin T67470 P334302

Cooler #: 9/30/10 MS

Shipped Via: FedEx Standard

Remarks/Contaminant Sample # (lab only)

6482930-5951

LV85755-21 54 56

55 57

56 58

57 59

58 60

59 61

60 62

61 63

\*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks: Samples to be HELD for 90 DAYS after analysis.

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Relinquished by: (Signature) Michael J. Caudill	Date: 10/16/10	Time: 1200	Received by: (Signature)	Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier	Condition: (lab use only)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: Amb 140	Bottles Received: OK
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) Kern Watson	Date: 10/8/10	Time: 0900
				COC Seal Intact: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	pH Checked: NCF: NO





# MACTEC - Louisville, KY

13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

## Billing information:

MACTEC  
AP Processing  
1105 Lakewood, Ste. 300  
Alpharetta, GA 30009

## Analysis/Container/Preservative

Chain of Custody

Page \_\_\_ of \_\_\_



12065 Lebanon Road  
Mt. Juliet, TN 37122

Phone: (800) 767-5859  
Phone: (615) 758-5858  
Fax: (615) 758-5859

## Report to:

Mr. Scott Kelly

## Email:

tskelly@mactec.com

## Project

Description: RBTC-500 VAC - Leitchfield, KY

City/State  
Collected

Louisville, Ky

Phone: (502) 253-2500

FAX: (502) 253-2501

Client Project #:

6680-08-9635

Lab Project #

MACTECLOU-RBTC500

Collected by (print):

Michael J. Caudill

Site/Facility ID#:

P.O.#:

201013638 9/30

Collected by (signature):

Michael J. Caudill

Rush? (Lab MUST Be Notified)

Same Day ..... 200%

Next Day ..... 100%

Two Day ..... 50%

Three Day ..... 25%

Date Results Needed

Email? ☐ No ☒ Yes

FAX? ☐ No ☐ Yes

No.  
of  
Cntrs

CR6 250mlHDPE-NoPres

Pb, Cr 500mlHDPE-HNO3

Pb, Cr, C6, CR6SS+ARCHIVE 8ozClr-NoPres

Accinum: MACTECLOU (lab use only)

Template/Prelogin T67470/P334302

Cooler #: 9/30/10

Shipped Via: FedEx Standard

Remarks/Contaminant Sample # (lab only)

L482930-73-74

72-74

L485755-26-73-75

27-74-75

75-77

28-76-78

29-77-78

77-78-80

77-81

\*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks: Samples to be HELD for 90 DAYS after analysis.

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Relinquished by (Signature): Michael J. Caudill	Date: 10/1/10	Time: 1720	Received by (Signature):	Samples returned via: <input type="checkbox"/> UPS	Condition: (lab use only)
Relinquished by (Signature):	Date:	Time:	Received by (Signature):	<input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/>	OK
Relinquished by (Signature):	Date:	Time:	Received for lab by (Signature): Kum W. Allen	Temp: Amb	Bottles Received: 14/8
				Date: 10/8/10	Time: 0900
				COC Seal Intact: Y N <input checked="" type="checkbox"/> NA	
				pH Checked:	NCF: <input checked="" type="checkbox"/> NO



# MACTEC - Louisville, KY

13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

## Billing information:

MACTEC  
AP Processing  
1105 Lakewood, Ste. 300  
Alpharetta, GA 30009

## Analysis/Container/Preservative

Chain of Custody

Page \_\_\_ of \_\_\_



12065 Lebanon Road  
Mt. Juliet, TN 37122

Phone: (800) 767-5859  
Phone: (615) 758-5858  
Fax: (615) 758-5859

## Report to:

Mr. Scott Kelly

## Email:

tskelly@mactec.com

## Project

Description: RBTC-500 VAC - Leitchfield, KY

## City/State

Collected: Louisville, Ky

Phone: (502) 253-2500

## Client Project #:

6680-08-9635

## Lab Project #

MACTECLOU-RBTC500

FAX: (502) 253-2501

## Collected by (print):

## Facility ID#:

## P.O.#:

201013638 9/30

## Collected by (signature):

Michael J. Caudle

## Rush? (Lab MUST Be Notified)

Same Day ..... 200%

Next Day ..... 100%

Two Day ..... 50%

Three Day ..... 25%

## Date Results Needed

Email? ☐ No ☒ Yes

FAX? ☐ No ☐ Yes

No.  
of  
Cntrs

CR6 250mlHDPE-NoPres

Pb, Cr 500mlHDPE-HNO3

Pb, Cr, Cd, Cr6SS+ARCHIVE 8ozClr-NoPres

Account: MACTECLOU (lab use only)

Template/Prelogin: T67470 P334302

Cooler #: 9/30/10 NO

Shipped Via: FedEx Standard

Remarks/Contaminant Sample # (lab only)

L482430-100-95

101

96-102

97-103

98-104

99-105

L485755-36 100-106

101-107

102-108

\*Matrix: ☒ SS - Soil ☐ GW - Groundwater ☐ WW - WasteWater ☐ DW - Drinking Water ☐ OT - Other

Remarks: Samples to be HELD for 90 DAYS after analysis.

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Relinquished by: (Signature) Michael J. Caudle	Date: 10/10/10	Time: 11:20	Received by: (Signature) [Signature]	Samples returned via: <input checked="" type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier	Condition: OK (lab use only)
Relinquished by: (Signature) [Signature]	Date: [Date]	Time: [Time]	Received by: (Signature) [Signature]	Temp: Amb Bottles Received: 140	COC Seal Intact: Y N NA
Relinquished by: (Signature) [Signature]	Date: [Date]	Time: [Time]	Received for lab by: (Signature) Kuma W. [Signature]	Date: 10/18/10 Time: 0900	pH Checked: NCF: NO

## **APPENDIX E**

### **LABORATORY REPORTS WASTE CHARACTERIZATION SAMPLES**



12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
(615) 758-5858  
1-800-767-5859  
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

### Report Summary

Monday October 25, 2010

Report Number: L484359

Samples Received: 10/16/10

Client Project: 6680-08-9635

Description: RBTC-500 VAC

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

T. Alan Harvill , ESC Representative

### Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487  
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140  
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233  
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,  
TX - T104704245, OK-9915

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

This report may not be reproduced, except in full, without written approval from ESC Lab Sciences. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
(615) 758-5858  
1-800-767-5859  
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

# REPORT OF ANALYSIS

October 25, 2010

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

Date Received : October 16, 2010  
Description : RBTC-500 VAC Louisville KY

Sample ID : INSIDE FLOOR PILE

Collected By : Scott Kelly  
Collection Date : 10/15/10 12:25

ESC Sample # : L484359-01

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/20/10 0715	MVE	1
Mercury	BDL	0.0010	mg/l	0.20	7470A	10/21/10 1005	WC	1
Arsenic	BDL	0.050	mg/l	5.0	6010B	10/23/10 1147	ICO	1
Barium	0.22	0.15	mg/l	100	6010B	10/23/10 1147	ICO	1
Cadmium	BDL	0.050	mg/l	1.0	6010B	10/23/10 1147	ICO	1
Chromium	0.084	0.050	mg/l	5.0	6010B	10/23/10 1147	ICO	1
Lead	BDL	0.050	mg/l	5.0	6010B	10/23/10 1147	ICO	1
Selenium	0.074	0.050	mg/l	1.0	6010B	10/23/10 1147	ICO	1
Silver	BDL	0.050	mg/l	5.0	6010B	10/23/10 1147	ICO	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Limit - Maximum Contaminant Level as established by the US EPA

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

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Reported: 10/25/10 09:46 Printed: 10/25/10 11:00



12065 Lebanon Rd.  
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Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 25, 2010

Date Received : October 16, 2010  
Description : RBTC-500 VAC Louisville KY

Sample ID : OUTSIDE CONCRETE PILE

Collected By : Scott Kelly  
Collection Date : 10/15/10 12:35

ESC Sample # : L484359-02

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/20/10 0715	MVE	1
Mercury	BDL	0.0010	mg/l	0.20	7470A	10/21/10 1038	WC	1
Arsenic	BDL	0.25	mg/l	5.0	6010B	10/23/10 1428	ICO	5
Barium	0.55	0.37	mg/l	100	6010B	10/23/10 1014	ICO	1
Cadmium	BDL	0.050	mg/l	1.0	6010B	10/23/10 1014	ICO	1
Chromium	0.65	0.050	mg/l	5.0	6010B	10/23/10 1014	ICO	1
Lead	BDL	0.25	mg/l	5.0	6010B	10/23/10 1428	ICO	5
Selenium	BDL	0.050	mg/l	1.0	6010B	10/24/10 2214	ICO	1
Silver	BDL	0.050	mg/l	5.0	6010B	10/23/10 1014	ICO	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Limit - Maximum Contaminant Level as established by the US EPA

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 10/25/10 09:46 Printed: 10/25/10 11:00



Attachment A  
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L484359-02	WG504438	SAMP	Arsenic	R1440829	O
	WG504438	SAMP	Barium	R1440829	B2
	WG504438	SAMP	Lead	R1440829	O

Attachment B  
Explanation of QC Qualifier Codes

Qualifier	Meaning
B2	(ESC) - The detection limit has been elevated due to blank contamination.
0	(ESC) Sample diluted due to matrix interferences that impaired the ability to make an accurate analytical determination. The detection limit is elevated in order to reflect the necessary dilution.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.



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Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Mercury	< .0002	mg/l			WG504328	10/21/10 10:32
Mercury	< .0002	mg/l			WG504329	10/21/10 09:07
Arsenic	< .05	mg/l			WG504410	10/23/10 14:11
Barium	< .15	mg/l			WG504410	10/23/10 14:11
Cadmium	< .05	mg/l			WG504410	10/23/10 14:11
Chromium	< .05	mg/l			WG504410	10/23/10 14:11
Lead	< .05	mg/l			WG504410	10/23/10 14:11
Selenium	< .05	mg/l			WG504410	10/23/10 14:11
Silver	< .05	mg/l			WG504410	10/23/10 14:11
Arsenic	< .05	mg/l			WG504438	10/23/10 09:41
Barium	< .37	mg/l			WG504438	10/23/10 09:41
Cadmium	< .05	mg/l			WG504438	10/23/10 09:41
Chromium	< .05	mg/l			WG504438	10/23/10 09:41
Lead	< .05	mg/l			WG504438	10/23/10 09:41
Silver	< .05	mg/l			WG504438	10/23/10 09:41
Selenium	< .05	mg/l			WG504438	10/24/10 21:44

Analyte	Units	Result	Duplicate		RPD	Limit	Ref Samp	Batch
			Duplicate					
Mercury	mg/l	0	0		0	20	L484019-16	WG504329
Mercury	mg/l	0	0		0	20	L484359-02	WG504328
Barium	mg/l	0.550	0.570		3.39	20	L484154-28	WG504438
Cadmium	mg/l	0	0		0	20	L484154-28	WG504438
Chromium	mg/l	0	0		0	20	L484154-28	WG504438
Silver	mg/l	0	0		0	20	L484154-28	WG504438
Arsenic	mg/l	0.600	0.581		4.05	20	L484489-31	WG504410
Barium	mg/l	0	0.0433		NA	20	L484489-31	WG504410
Cadmium	mg/l	0	0		0	20	L484489-31	WG504410
Chromium	mg/l	0	0.00240		NA	20	L484489-31	WG504410
Lead	mg/l	0	0		0	20	L484489-31	WG504410
Selenium	mg/l	0.100	0.0950		10.0	20	L484489-31	WG504410
Silver	mg/l	0	0		0	20	L484489-31	WG504410
Arsenic	mg/l	0	0		0	20	L484154-28	WG504438
Lead	mg/l	0	0		0	20	L484154-28	WG504438
Selenium	mg/l	0	0		0	20	L484154-28	WG504438

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Mercury	mg/l	.003	0.00283	94.3	85-115	WG504328
Mercury	mg/l	.003	0.00263	87.7	85-115	WG504329

\* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Arsenic	mg/l	1.13	1.03	91.2	85-115	WG504438
Barium	mg/l	1.13	1.21	107.	85-115	WG504438
Cadmium	mg/l	1.13	1.07	94.7	85-115	WG504438
Chromium	mg/l	1.13	1.09	96.5	85-115	WG504438
Lead	mg/l	1.13	1.10	97.3	85-115	WG504438
Silver	mg/l	1.13	1.08	95.6	85-115	WG504438
Arsenic	mg/l	1.13	1.01	89.4	85-115	WG504410
Barium	mg/l	1.13	1.09	96.5	85-115	WG504410
Cadmium	mg/l	1.13	1.11	98.2	85-115	WG504410
Chromium	mg/l	1.13	1.08	95.6	85-115	WG504410
Lead	mg/l	1.13	1.13	100.	85-115	WG504410
Selenium	mg/l	1.13	1.12	99.1	85-115	WG504410
Silver	mg/l	1.13	1.14	101.	85-115	WG504410
Selenium	mg/l	1.13	1.11	98.2	85-115	WG504438

Analyte	Units	Matrix Spike			% Rec	Limit	Ref Samp	Batch
		MS Res	Ref Res	TV				
Mercury	mg/l	0.00282	0	.003	94.0	70-130	L484019-16	WG504329
Mercury	mg/l	0.00286	0	.003	95.3	70-130	L484359-02	WG504328
Mercury	mg/l	0.00281	0	.003	93.7	70-130	L484151-01	WG504328
Barium	mg/l	1.60	0.570	1.13	91.2	75-125	L484154-28	WG504438
Cadmium	mg/l	1.08	0	1.13	95.6	75-125	L484154-28	WG504438
Chromium	mg/l	1.12	0	1.13	99.1	75-125	L484154-28	WG504438
Silver	mg/l	1.09	0	1.13	96.5	75-125	L484154-28	WG504438
Arsenic	mg/l	1.02	0	1.13	90.3	75-125	L484352-03	WG504410
Barium	mg/l	1.10	0	1.13	97.3	75-125	L484352-03	WG504410
Cadmium	mg/l	1.09	0	1.13	96.5	75-125	L484352-03	WG504410
Chromium	mg/l	1.09	0	1.13	96.5	75-125	L484352-03	WG504410
Lead	mg/l	1.11	0	1.13	98.2	75-125	L484352-03	WG504410
Selenium	mg/l	1.05	0	1.13	92.9	75-125	L484352-03	WG504410
Silver	mg/l	0.405	0	1.13	35.8*	75-125	L484352-03	WG504410
Arsenic	mg/l	1.60	0.581	1.13	90.2	75-125	L484489-31	WG504410
Barium	mg/l	1.07	0.0433	1.13	90.8	75-125	L484489-31	WG504410
Cadmium	mg/l	1.05	0	1.13	92.9	75-125	L484489-31	WG504410
Chromium	mg/l	1.00	0.00240	1.13	88.3	75-125	L484489-31	WG504410
Lead	mg/l	1.05	0	1.13	92.9	75-125	L484489-31	WG504410
Selenium	mg/l	1.10	0.0950	1.13	88.9	75-125	L484489-31	WG504410
Silver	mg/l	0.924	0	1.13	81.8	75-125	L484489-31	WG504410
Arsenic	mg/l	0.940	0	.226	83.2	75-125	L484154-28	WG504438
Lead	mg/l	1.19	0	.226	105.	75-125	L484154-28	WG504438
Selenium	mg/l	1.17	0	1.13	104.	75-125	L484154-28	WG504438

\* Performance of this Analyte is outside of established criteria.  
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Mercury	mg/l	0.00271	0.00282	90.3	70-130	3.98	20	L484019-16	WG504329
Mercury	mg/l	0.00285	0.00286	95.0	70-130	0.350	20	L484359-02	WG504328
Mercury	mg/l	0.00290	0.00281	96.7	70-130	3.15	20	L484151-01	WG504328
Arsenic	mg/l	1.05	1.02	92.9	75-125	2.90	20	L484352-03	WG504410
Barium	mg/l	1.11	1.10	98.2	75-125	0.905	20	L484352-03	WG504410
Cadmium	mg/l	1.09	1.09	96.5	75-125	0	20	L484352-03	WG504410
Chromium	mg/l	1.12	1.09	99.1	75-125	2.71	20	L484352-03	WG504410
Lead	mg/l	1.13	1.11	100.	75-125	1.79	20	L484352-03	WG504410
Selenium	mg/l	1.07	1.05	94.7	75-125	1.89	20	L484352-03	WG504410
Silver	mg/l	0.408	0.405	36.1*	75-125	0.738	20	L484352-03	WG504410
Arsenic	mg/l	1.71	1.60	99.9	75-125	6.65	20	L484489-31	WG504410
Barium	mg/l	1.13	1.07	96.2	75-125	5.45	20	L484489-31	WG504410
Cadmium	mg/l	1.12	1.05	99.1	75-125	6.45	20	L484489-31	WG504410
Chromium	mg/l	1.08	1.00	95.4	75-125	7.69	20	L484489-31	WG504410
Lead	mg/l	1.14	1.05	101.	75-125	8.22	20	L484489-31	WG504410
Selenium	mg/l	1.17	1.10	95.1	75-125	6.17	20	L484489-31	WG504410
Silver	mg/l	1.11	0.924	98.2	75-125	18.3	20	L484489-31	WG504410
Barium	mg/l	1.64	1.60	94.7	75-125	2.47	20	L484154-28	WG504438
Cadmium	mg/l	1.11	1.08	98.2	75-125	2.74	20	L484154-28	WG504438
Chromium	mg/l	1.12	1.12	99.1	75-125	0	20	L484154-28	WG504438
Silver	mg/l	1.14	1.09	101.	75-125	4.48	20	L484154-28	WG504438
Arsenic	mg/l	0.876	0.940	77.5	75-125	7.05	20	L484154-28	WG504438
Lead	mg/l	1.17	1.19	104.	75-125	1.69	20	L484154-28	WG504438
Selenium	mg/l	1.20	1.17	106.	75-125	2.53	20	L484154-28	WG504438

Batch number /Run number / Sample number cross reference

WG504116: R1436949: L484359-01 02  
WG504329: R1438489: L484359-01  
WG504328: R1438492: L484359-02  
WG504438: R1440829: L484359-02  
WG504410: R1440831: L484359-01

\* \* Calculations are performed prior to rounding of reported values .  
\* Performance of this Analyte is outside of established criteria.  
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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October 25, 2010

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.





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Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

## Report Summary

Tuesday October 12, 2010

Report Number: L481739

Samples Received: 10/01/10

Client Project: 6680-08-9635

Description: RBTC 500 VAC Louisville

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Leslie Newton , ESC Representative

### Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487  
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140  
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233  
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,  
TX - T104704245, OK-9915

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Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

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# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 12, 2010

Date Received : October 01, 2010  
Description : RBTC 500 VAC Louisville

ESC Sample # : L481739-01

Sample ID : DRUM 1

Site ID :

Collected By : Scott Kelly  
Collection Date : 09/30/10 13:15

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/03/10 0808	MVE	1
Mercury	BDL	0.0010	mg/l	0.20	7470A	10/05/10 1937	WC	1
Arsenic	BDL	0.050	mg/l	5.0	6010B	10/04/10 0122	ALT	1
Barium	3.4	0.15	mg/l	100	6010B	10/04/10 0122	ALT	1
Cadmium	BDL	0.050	mg/l	1.0	6010B	10/04/10 0122	ALT	1
Chromium	BDL	0.050	mg/l	5.0	6010B	10/04/10 0122	ALT	1
Lead	BDL	0.050	mg/l	5.0	6010B	10/04/10 0122	ALT	1
Selenium	0.45	0.050	mg/l	1.0	6010B	10/04/10 0122	ALT	1
Silver	BDL	0.050	mg/l	5.0	6010B	10/04/10 0122	ALT	1
TCLP ZHE Extraction	-				1311	10/05/10 0910	LJN	1
TCLP Volatiles								
Benzene	BDL	0.050	mg/l	0.50	8260B	10/06/10 0535	DP	1
Carbon tetrachloride	BDL	0.050	mg/l	0.50	8260B	10/06/10 0535	DP	1
Chlorobenzene	BDL	0.050	mg/l	100	8260B	10/06/10 0535	DP	1
Chloroform	BDL	0.25	mg/l	6.0	8260B	10/06/10 0535	DP	1
1,2-Dichloroethane	BDL	0.050	mg/l	0.50	8260B	10/06/10 0535	DP	1
1,1-Dichloroethene	BDL	0.050	mg/l	0.70	8260B	10/06/10 0535	DP	1
2-Butanone (MEK)	BDL	0.50	mg/l	200	8260B	10/06/10 0535	DP	1
Tetrachloroethene	BDL	0.050	mg/l	0.70	8260B	10/06/10 0535	DP	1
Trichloroethene	BDL	0.050	mg/l	0.50	8260B	10/06/10 0535	DP	1
Vinyl chloride	BDL	0.050	mg/l	0.20	8260B	10/06/10 0535	DP	1
Surrogate Recovery								
Toluene-d8	106.		% Rec.	114.	8260B	10/06/10 0535	DP	1
Dibromofluoromethane	101.		% Rec.	125.	8260B	10/06/10 0535	DP	1
a,a,a-Trifluorotoluene	102.		% Rec.	114.	8260B	10/06/10 0535	DP	1
4-Bromofluorobenzene	95.6		% Rec.	128.	8260B	10/06/10 0535	DP	1
TCLP Semi-Volatiles								
1,4-Dichlorobenzene	BDL	0.10	mg/l	7.5	8270C	10/08/10 1906	JAB	1
2,4-Dinitrotoluene	BDL	0.10	mg/l	0.13	8270C	10/08/10 1906	JAB	1
Hexachlorobenzene	BDL	0.10	mg/l	0.13	8270C	10/08/10 1906	JAB	1
Hexachloro-1,3-butadiene	BDL	0.10	mg/l	0.50	8270C	10/08/10 1906	JAB	1
Hexachloroethane	BDL	0.10	mg/l	3.0	8270C	10/08/10 1906	JAB	1
Nitrobenzene	BDL	0.10	mg/l	2.0	8270C	10/08/10 1906	JAB	1
Pyridine	BDL	0.10	mg/l	5.0	8270C	10/08/10 1906	JAB	1
3&4-Methyl Phenol	BDL	0.10	mg/l	400	8270C	10/08/10 1906	JAB	1
2-Methylphenol	BDL	0.10	mg/l	200	8270C	10/08/10 1906	JAB	1
Pentachlorophenol	BDL	0.10	mg/l	100	8270C	10/08/10 1906	JAB	1
2,4,5-Trichlorophenol	BDL	0.10	mg/l	400	8270C	10/08/10 1906	JAB	1

L481739-01 (SV8270TCLP) - Previous run also had low IS/SURR recovery. Matrix effect.



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October 12, 2010

Date Received : October 01, 2010  
Description : RBTC 500 VAC Louisville

Sample ID : DRUM 1

Collected By : Scott Kelly  
Collection Date : 09/30/10 13:15

ESC Sample # : L481739-01

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
2,4,6-Trichlorophenol	BDL	0.10	mg/l	2.0	8270C	10/08/10 1906	JAB	1
Surrogate Recovery								
2-Fluorophenol	0.550		% Rec.	87.0	8270C	10/08/10 1906	JAB	1
Phenol-d5	0.710		% Rec.	67.0	8270C	10/08/10 1906	JAB	1
Nitrobenzene-d5	34.4		% Rec.	120.	8270C	10/08/10 1906	JAB	1
2-Fluorobiphenyl	79.2		% Rec.	122.	8270C	10/08/10 1906	JAB	1
2,4,6-Tribromophenol	25.2		% Rec.	148.	8270C	10/08/10 1906	JAB	1
p-Terphenyl-d14	106.		% Rec.	149.	8270C	10/08/10 1906	JAB	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Limit - Maximum Contaminant Level as established by the US EPA

Note:

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Reported: 10/11/10 17:30 Revised: 10/12/10 09:52

L481739-01 (SV8270TCLP) - Previous run also had low IS/SURR recovery. Matrix effect.



12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
(615) 758-5858  
1-800-767-5859  
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 12, 2010

Date Received : October 01, 2010  
Description : RBTC 500 VAC Louisville

Sample ID : EAST SHOP SUMP

Collected By : Scott Kelly  
Collection Date : 09/30/10 14:40

ESC Sample # : L481739-02

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Mercury	0.18	0.0053	0.020	mg/kg		7471	10/05/10	1
Arsenic	13.	0.32	1.0	mg/kg		6010B	10/04/10	1
Barium	1400	0.25	1.3	mg/kg		6010B	10/04/10	5
Cadmium	34.	0.040	0.25	mg/kg		6010B	10/04/10	1
Chromium	860	0.42	2.5	mg/kg		6010B	10/04/10	5
Lead	700	0.45	1.3	mg/kg		6010B	10/04/10	5
Selenium	140	1.6	5.0	mg/kg		6010B	10/04/10	5
Silver	98.	0.82	2.5	mg/kg		6010B	10/04/10	5
Volatile Organics								
Acetone	U	0.52	2.5	mg/kg		8260B	10/05/10	50
Acrylonitrile	U	0.13	0.50	mg/kg		8260B	10/05/10	50
Benzene	U	0.021	0.050	mg/kg		8260B	10/05/10	50
Bromobenzene	U	0.015	0.050	mg/kg		8260B	10/05/10	50
Bromodichloromethane	U	0.017	0.050	mg/kg		8260B	10/05/10	50
Bromoform	U	0.016	0.050	mg/kg		8260B	10/05/10	50
Bromomethane	U	0.078	0.25	mg/kg		8260B	10/05/10	50
n-Butylbenzene	0.11	0.017	0.050	mg/kg		8260B	10/05/10	50
sec-Butylbenzene	0.052	0.015	0.050	mg/kg		8260B	10/05/10	50
tert-Butylbenzene	U	0.014	0.050	mg/kg		8260B	10/05/10	50
Carbon tetrachloride	U	0.021	0.050	mg/kg		8260B	10/05/10	50
Chlorobenzene	U	0.017	0.050	mg/kg		8260B	10/05/10	50
Chlorodibromomethane	U	0.015	0.050	mg/kg		8260B	10/05/10	50
Chloroethane	U	0.098	0.25	mg/kg		8260B	10/05/10	50
2-Chloroethyl vinyl ether	U	0.91	2.5	mg/kg		8260B	10/05/10	50
Chloroform	U	0.022	0.25	mg/kg		8260B	10/05/10	50
Chloromethane	U	0.052	0.13	mg/kg		8260B	10/05/10	50
2-Chlorotoluene	U	0.016	0.050	mg/kg		8260B	10/05/10	50
4-Chlorotoluene	U	0.015	0.050	mg/kg		8260B	10/05/10	50
1,2-Dibromo-3-Chloropropane	U	0.053	0.25	mg/kg		8260B	10/05/10	50
1,2-Dibromoethane	U	0.015	0.050	mg/kg		8260B	10/05/10	50
Dibromomethane	U	0.023	0.050	mg/kg		8260B	10/05/10	50
1,2-Dichlorobenzene	0.079	0.016	0.050	mg/kg		8260B	10/05/10	50
1,3-Dichlorobenzene	U	0.014	0.050	mg/kg		8260B	10/05/10	50
1,4-Dichlorobenzene	U	0.018	0.050	mg/kg		8260B	10/05/10	50
Dichlorodifluoromethane	U	0.021	0.25	mg/kg		8260B	10/05/10	50
1,1-Dichloroethane	U	0.021	0.050	mg/kg		8260B	10/05/10	50
1,2-Dichloroethane	U	0.019	0.050	mg/kg		8260B	10/05/10	50
1,1-Dichloroethene	U	0.026	0.050	mg/kg		8260B	10/05/10	50
cis-1,2-Dichloroethene	U	0.026	0.050	mg/kg		8260B	10/05/10	50
trans-1,2-Dichloroethene	U	0.021	0.050	mg/kg		8260B	10/05/10	50
1,2-Dichloropropane	U	0.030	0.050	mg/kg		8260B	10/05/10	50

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Reported: 10/11/10 17:30 Revised: 10/12/10 09:52  
L481739-02 (SV8270BNA) - Diluted due to matrix



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Mt. Juliet, TN 37122  
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Est. 1970

# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 12, 2010

Date Received : October 01, 2010  
Description : RBTC 500 VAC Louisville

ESC Sample # : L481739-02

Sample ID : EAST SHOP SUMP

Site ID :

Collected By : Scott Kelly  
Collection Date : 09/30/10 14:40

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1,1-Dichloropropene	U	0.017	0.050	mg/kg		8260B	10/05/10	50
1,3-Dichloropropane	U	0.019	0.050	mg/kg		8260B	10/05/10	50
cis-1,3-Dichloropropene	U	0.015	0.050	mg/kg		8260B	10/05/10	50
trans-1,3-Dichloropropene	U	0.020	0.050	mg/kg		8260B	10/05/10	50
2,2-Dichloropropane	U	0.018	0.050	mg/kg		8260B	10/05/10	50
Di-isopropyl ether	U	0.018	0.050	mg/kg		8260B	10/05/10	50
Ethylbenzene	0.036	0.016	0.050	mg/kg	J	8260B	10/05/10	50
Hexachloro-1,3-butadiene	U	0.017	0.050	mg/kg		8260B	10/05/10	50
Isopropylbenzene	0.023	0.017	0.050	mg/kg	J	8260B	10/05/10	50
p-Isopropyltoluene	0.068	0.016	0.050	mg/kg		8260B	10/05/10	50
2-Butanone (MEK)	U	0.22	0.50	mg/kg		8260B	10/05/10	50
Methylene Chloride	0.025	0.024	0.25	mg/kg	J	8260B	10/05/10	50
4-Methyl-2-pentanone (MIBK)	U	0.11	0.50	mg/kg		8260B	10/05/10	50
Methyl tert-butyl ether	U	0.018	0.050	mg/kg		8260B	10/05/10	50
Naphthalene	2.2	0.014	0.25	mg/kg		8260B	10/05/10	50
n-Propylbenzene	0.073	0.016	0.050	mg/kg		8260B	10/05/10	50
Styrene	U	0.012	0.050	mg/kg		8260B	10/05/10	50
1,1,1,2-Tetrachloroethane	U	0.020	0.050	mg/kg		8260B	10/05/10	50
1,1,2,2-Tetrachloroethane	U	0.014	0.050	mg/kg		8260B	10/05/10	50
1,1,2-Trichloro-1,2,2-trifluoro	U	0.043	0.050	mg/kg		8260B	10/05/10	50
Tetrachloroethene	U	0.022	0.050	mg/kg		8260B	10/05/10	50
Toluene	0.092	0.017	0.25	mg/kg	J	8260B	10/05/10	50
1,2,3-Trichlorobenzene	U	0.015	0.050	mg/kg		8260B	10/05/10	50
1,2,4-Trichlorobenzene	U	0.019	0.050	mg/kg		8260B	10/05/10	50
1,1,1-Trichloroethane	U	0.023	0.050	mg/kg		8260B	10/05/10	50
1,1,2-Trichloroethane	U	0.027	0.050	mg/kg		8260B	10/05/10	50
Trichloroethene	U	0.017	0.050	mg/kg		8260B	10/05/10	50
Trichlorofluoromethane	U	0.035	0.25	mg/kg		8260B	10/05/10	50
1,2,3-Trichloropropane	U	0.034	0.050	mg/kg		8260B	10/05/10	50
1,2,4-Trimethylbenzene	0.52	0.017	0.050	mg/kg		8260B	10/05/10	50
1,2,3-Trimethylbenzene	0.29	0.016	0.050	mg/kg		8260B	10/05/10	50
1,3,5-Trimethylbenzene	0.18	0.015	0.050	mg/kg		8260B	10/05/10	50
Vinyl chloride	U	0.026	0.050	mg/kg		8260B	10/05/10	50
Xylenes, Total	0.17	0.023	0.15	mg/kg		8260B	10/05/10	50
Surrogate Recovery								
Toluene-d8	101.			% Rec.		8260B	10/05/10	50
Dibromofluoromethane	113.			% Rec.		8260B	10/05/10	50
4-Bromofluorobenzene	112.			% Rec.		8260B	10/05/10	50
Base/Neutral Extractables								
Acenaphthene	U	24.	33.	mg/kg	O	8270C	10/06/10	1000
Acenaphthylene	U	8.7	33.	mg/kg	O	8270C	10/06/10	1000
Anthracene	U	7.4	33.	mg/kg	O	8270C	10/06/10	1000

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L481739-02 (SV8270BNA) - Diluted due to matrix



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Est. 1970

# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 12, 2010

Date Received : October 01, 2010  
Description : RBTC 500 VAC Louisville

ESC Sample # : L481739-02

Sample ID : EAST SHOP SUMP

Site ID :

Collected By : Scott Kelly  
Collection Date : 09/30/10 14:40

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Benzidine	U	46.	330	mg/kg	J30	8270C	10/06/10	1000
Benzo(a)anthracene	U	9.3	33.	mg/kg	0	8270C	10/06/10	1000
Benzo(b)fluoranthene	U	9.8	33.	mg/kg	0	8270C	10/06/10	1000
Benzo(k)fluoranthene	U	8.9	33.	mg/kg	0	8270C	10/06/10	1000
Benzo(g,h,i)perylene	U	9.0	33.	mg/kg	0	8270C	10/06/10	1000
Benzo(a)pyrene	U	8.5	33.	mg/kg	0	8270C	10/06/10	1000
Bis(2-chlorethoxy)methane	U	7.7	330	mg/kg	0	8270C	10/06/10	1000
Bis(2-chloroethyl)ether	U	12.	330	mg/kg	0	8270C	10/06/10	1000
Bis(2-chloroisopropyl)ether	U	8.7	330	mg/kg	0	8270C	10/06/10	1000
4-Bromophenyl-phenylether	U	9.2	330	mg/kg	0	8270C	10/06/10	1000
2-Chloronaphthalene	U	7.2	33.	mg/kg	0	8270C	10/06/10	1000
4-Chlorophenyl-phenylether	U	6.9	330	mg/kg	0	8270C	10/06/10	1000
Chrysene	U	13.	33.	mg/kg	0	8270C	10/06/10	1000
Dibenz(a,h)anthracene	U	6.8	33.	mg/kg	0	8270C	10/06/10	1000
3,3-Dichlorobenzidine	U	38.	330	mg/kg	0	8270C	10/06/10	1000
2,4-Dinitrotoluene	U	10.	330	mg/kg	0	8270C	10/06/10	1000
2,6-Dinitrotoluene	U	8.8	330	mg/kg	0	8270C	10/06/10	1000
Fluoranthene	U	11.	33.	mg/kg	0	8270C	10/06/10	1000
Fluorene	U	7.8	33.	mg/kg	0	8270C	10/06/10	1000
Hexachlorobenzene	U	8.3	330	mg/kg	0	8270C	10/06/10	1000
Hexachloro-1,3-butadiene	U	7.6	330	mg/kg	0	8270C	10/06/10	1000
Hexachlorocyclopentadiene	U	37.	330	mg/kg	0	8270C	10/06/10	1000
Hexachloroethane	U	7.4	330	mg/kg	J40	8270C	10/06/10	1000
Indeno(1,2,3-cd)pyrene	U	7.3	33.	mg/kg	0	8270C	10/06/10	1000
Isophorone	U	6.0	330	mg/kg	0	8270C	10/06/10	1000
Naphthalene	U	7.2	33.	mg/kg	0	8270C	10/06/10	1000
Nitrobenzene	U	7.4	330	mg/kg	0	8270C	10/06/10	1000
n-Nitrosodimethylamine	U	100	330	mg/kg	0	8270C	10/06/10	1000
n-Nitrosodiphenylamine	U	8.7	330	mg/kg	0	8270C	10/06/10	1000
n-Nitrosodi-n-propylamine	U	8.7	330	mg/kg	0	8270C	10/06/10	1000
Phenanthrene	U	8.5	33.	mg/kg	0	8270C	10/06/10	1000
Benzylbutyl phthalate	U	23.	330	mg/kg	0	8270C	10/06/10	1000
Bis(2-ethylhexyl)phthalate	U	72.	330	mg/kg	0	8270C	10/06/10	1000
Di-n-butyl phthalate	U	18.	330	mg/kg	0	8270C	10/06/10	1000
Diethyl phthalate	U	6.8	330	mg/kg	0	8270C	10/06/10	1000
Dimethyl phthalate	U	6.8	330	mg/kg	0	8270C	10/06/10	1000
Di-n-octyl phthalate	U	23.	330	mg/kg	0	8270C	10/06/10	1000
Pyrene	U	10.	33.	mg/kg	0	8270C	10/06/10	1000
1,2,4-Trichlorobenzene	U	6.6	330	mg/kg	0	8270C	10/06/10	1000
Acid Extractables								
4-Chloro-3-methylphenol	U	9.2	330	mg/kg	0	8270C	10/06/10	1000
2-Chlorophenol	U	6.4	330	mg/kg	J40	8270C	10/06/10	1000
2,4-Dichlorophenol	U	7.4	330	mg/kg	0	8270C	10/06/10	1000

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MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 12, 2010

Date Received : October 01, 2010  
Description : RBTC 500 VAC Louisville

Sample ID : EAST SHOP SUMP

Collected By : Scott Kelly  
Collection Date : 09/30/10 14:40

ESC Sample # : L481739-02

Site ID :

Project # : 6680-08-9635

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
2,4-Dimethylphenol	U	62.	330	mg/kg	O	8270C	10/06/10	1000
4,6-Dinitro-2-methylphenol	U	65.	330	mg/kg	O	8270C	10/06/10	1000
2,4-Dinitrophenol	U	69.	330	mg/kg	O	8270C	10/06/10	1000
2-Nitrophenol	U	12.	330	mg/kg	O	8270C	10/06/10	1000
4-Nitrophenol	U	64.	330	mg/kg	O	8270C	10/06/10	1000
Pentachlorophenol	U	48.	330	mg/kg	O	8270C	10/06/10	1000
Phenol	U	6.3	330	mg/kg	O	8270C	10/06/10	1000
2,4,6-Trichlorophenol	U	8.9	330	mg/kg	O	8270C	10/06/10	1000
Surrogate Recovery								
2-Fluorophenol	0.00			% Rec.	J7	8270C	10/06/10	1000
Phenol-d5	0.00			% Rec.	J7	8270C	10/06/10	1000
Nitrobenzene-d5	0.00			% Rec.	J7	8270C	10/06/10	1000
2-Fluorobiphenyl	0.00			% Rec.	J7	8270C	10/06/10	1000
2,4,6-Tribromophenol	0.00			% Rec.	J7	8270C	10/06/10	1000
p-Terphenyl-d14	0.00			% Rec.	J7	8270C	10/06/10	1000

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L481739-02 (SV8270BNA) - Diluted due to matrix

Attachment A  
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L481739-01	WG502030	SAMP	2-Fluorophenol	R1419251	J2
	WG502030	SAMP	Phenol-d5	R1419251	J2
L481739-02	WG501535	SAMP	Ethylbenzene	R1409488	J
	WG501535	SAMP	Isopropylbenzene	R1409488	J
	WG501535	SAMP	Methylene Chloride	R1409488	J
	WG501535	SAMP	Toluene	R1409488	J
	WG501407	SAMP	Acenaphthene	R1413168	O
	WG501407	SAMP	Acenaphthylene	R1413168	O
	WG501407	SAMP	Anthracene	R1413168	O
	WG501407	SAMP	Benzidine	R1413168	J30
	WG501407	SAMP	Benzo(a)anthracene	R1413168	O
	WG501407	SAMP	Benzo(b)fluoranthene	R1413168	O
	WG501407	SAMP	Benzo(k)fluoranthene	R1413168	O
	WG501407	SAMP	Benzo(g,h,i)perylene	R1413168	O
	WG501407	SAMP	Benzo(a)pyrene	R1413168	O
	WG501407	SAMP	Bis(2-chloroethoxy)methane	R1413168	O
	WG501407	SAMP	Bis(2-chloroethyl)ether	R1413168	O
	WG501407	SAMP	Bis(2-chloroisopropyl)ether	R1413168	O
	WG501407	SAMP	4-Bromophenyl-phenylether	R1413168	O
	WG501407	SAMP	2-Chloronaphthalene	R1413168	O
	WG501407	SAMP	4-Chlorophenyl-phenylether	R1413168	O
	WG501407	SAMP	Chrysene	R1413168	O
	WG501407	SAMP	Dibenz(a,h)anthracene	R1413168	O
	WG501407	SAMP	3,3-Dichlorobenzidine	R1413168	O
	WG501407	SAMP	2,4-Dinitrotoluene	R1413168	O
	WG501407	SAMP	2,6-Dinitrotoluene	R1413168	O
	WG501407	SAMP	Fluoranthene	R1413168	O
	WG501407	SAMP	Fluorene	R1413168	O
	WG501407	SAMP	Hexachlorobenzene	R1413168	O
	WG501407	SAMP	Hexachloro-1,3-butadiene	R1413168	O
	WG501407	SAMP	Hexachlorocyclopentadiene	R1413168	O
	WG501407	SAMP	Hexachloroethane	R1413168	J40
	WG501407	SAMP	Indeno(1,2,3-cd)pyrene	R1413168	O
	WG501407	SAMP	Isophorone	R1413168	O
	WG501407	SAMP	Naphthalene	R1413168	O
	WG501407	SAMP	Nitrobenzene	R1413168	O
	WG501407	SAMP	n-Nitrosodimethylamine	R1413168	O
	WG501407	SAMP	n-Nitrosodiphenylamine	R1413168	O
	WG501407	SAMP	n-Nitrosodi-n-propylamine	R1413168	O
	WG501407	SAMP	Phenanthrene	R1413168	O
	WG501407	SAMP	Benzylbutyl phthalate	R1413168	O
	WG501407	SAMP	Bis(2-ethylhexyl)phthalate	R1413168	O
	WG501407	SAMP	Di-n-butyl phthalate	R1413168	O
	WG501407	SAMP	Diethyl phthalate	R1413168	O
	WG501407	SAMP	Dimethyl phthalate	R1413168	O
	WG501407	SAMP	Di-n-octyl phthalate	R1413168	O
	WG501407	SAMP	Pyrene	R1413168	O
	WG501407	SAMP	1,2,4-Trichlorobenzene	R1413168	O
	WG501407	SAMP	4-Chloro-3-methylphenol	R1413168	O
	WG501407	SAMP	2-Chlorophenol	R1413168	J40
	WG501407	SAMP	2,4-Dichlorophenol	R1413168	O
	WG501407	SAMP	2,4-Dimethylphenol	R1413168	O
	WG501407	SAMP	4,6-Dinitro-2-methylphenol	R1413168	O
	WG501407	SAMP	2,4-Dinitrophenol	R1413168	O
	WG501407	SAMP	2-Nitrophenol	R1413168	O
	WG501407	SAMP	4-Nitrophenol	R1413168	O
	WG501407	SAMP	Pentachlorophenol	R1413168	O
	WG501407	SAMP	Phenol	R1413168	O
	WG501407	SAMP	2,4,6-Trichlorophenol	R1413168	O
	WG501407	SAMP	2-Fluorophenol	R1413168	J7
	WG501407	SAMP	Phenol-d5	R1413168	J7
	WG501407	SAMP	Nitrobenzene-d5	R1413168	J7
	WG501407	SAMP	2-Fluorobiphenyl	R1413168	J7
	WG501407	SAMP	2,4,6-Tribromophenol	R1413168	J7
	WG501407	SAMP	p-Terphenyl-d14	R1413168	J7

Attachment B  
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits
O	(ESC) Sample diluted due to matrix interferences that impaired the ability to make an accurate analytical determination. The detection limit is elevated in order to reflect the necessary dilution.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J7	Surrogate recovery limits cannot be evaluated; surrogates were diluted out

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy** - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision** - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate** - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC** - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.



Summary of Remarks For Samples Printed  
10/12/10 at 09:52:58

TSR Signing Reports: 044  
R5 - Desired TAT

Alison's direct dial 859-566-3729

Sample: L481739-01 Account: MACTECLOU Received: 10/01/10 09:00 Due Date: 10/08/10 00:00 RPT Date: 10/11/10 17:30  
UNINV 554333. ln 10/11/10;REINV 554333. ln 10/12/10  
Sample: L481739-02 Account: MACTECLOU Received: 10/01/10 09:00 Due Date: 10/07/10 00:00 RPT Date: 10/11/10 17:30



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1-800-767-5859  
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

October 12, 2010

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Arsenic	< .05	mg/l			WG501428	10/04/10 00:19
Barium	< .15	mg/l			WG501428	10/04/10 00:19
Cadmium	< .05	mg/l			WG501428	10/04/10 00:19
Chromium	< .05	mg/l			WG501428	10/04/10 00:19
Lead	< .05	mg/l			WG501428	10/04/10 00:19
Selenium	< .05	mg/l			WG501428	10/04/10 00:19
Silver	< .05	mg/l			WG501428	10/04/10 00:19
1,1,1,2-Tetrachloroethane	< .001	mg/kg			WG501535	10/05/10 01:11
1,1,1-Trichloroethane	< .001	mg/kg			WG501535	10/05/10 01:11
1,1,2,2-Tetrachloroethane	< .001	mg/kg			WG501535	10/05/10 01:11
1,1,2-Trichloroethane	< .001	mg/kg			WG501535	10/05/10 01:11
1,1,2-Trichloro-1,2,2-trifluoroethane	< .001	mg/kg			WG501535	10/05/10 01:11
1,1-Dichloroethane	< .001	mg/kg			WG501535	10/05/10 01:11
1,1-Dichloroethene	< .001	mg/kg			WG501535	10/05/10 01:11
1,1-Dichloropropene	< .001	mg/kg			WG501535	10/05/10 01:11
1,2,3-Trichlorobenzene	< .001	mg/kg			WG501535	10/05/10 01:11
1,2,3-Trichloropropane	< .001	mg/kg			WG501535	10/05/10 01:11
1,2,3-Trimethylbenzene	< .001	mg/kg			WG501535	10/05/10 01:11
1,2,4-Trichlorobenzene	< .001	mg/kg			WG501535	10/05/10 01:11
1,2,4-Trimethylbenzene	< .001	mg/kg			WG501535	10/05/10 01:11
1,2-Dibromo-3-Chloropropane	< .005	mg/kg			WG501535	10/05/10 01:11
1,2-Dibromoethane	< .001	mg/kg			WG501535	10/05/10 01:11
1,2-Dichlorobenzene	< .001	mg/kg			WG501535	10/05/10 01:11
1,2-Dichloroethane	< .001	mg/kg			WG501535	10/05/10 01:11
1,2-Dichloropropane	< .001	mg/kg			WG501535	10/05/10 01:11
1,3,5-Trimethylbenzene	< .001	mg/kg			WG501535	10/05/10 01:11
1,3-Dichlorobenzene	< .001	mg/kg			WG501535	10/05/10 01:11
1,3-Dichloropropane	< .001	mg/kg			WG501535	10/05/10 01:11
1,4-Dichlorobenzene	< .001	mg/kg			WG501535	10/05/10 01:11
2,2-Dichloropropane	< .001	mg/kg			WG501535	10/05/10 01:11
2-Butanone (MEK)	< .01	mg/kg			WG501535	10/05/10 01:11
2-Chloroethyl vinyl ether	< .001	mg/kg			WG501535	10/05/10 01:11
2-Chlorotoluene	< .001	mg/kg			WG501535	10/05/10 01:11
4-Chlorotoluene	< .001	mg/kg			WG501535	10/05/10 01:11
4-Methyl-2-pentanone (MIBK)	< .01	mg/kg			WG501535	10/05/10 01:11
Acetone	< .05	mg/kg			WG501535	10/05/10 01:11
Acrylonitrile	< .01	mg/kg			WG501535	10/05/10 01:11
Benzene	< .001	mg/kg			WG501535	10/05/10 01:11
Bromobenzene	< .001	mg/kg			WG501535	10/05/10 01:11
Bromodichloromethane	< .001	mg/kg			WG501535	10/05/10 01:11
Bromoform	< .001	mg/kg			WG501535	10/05/10 01:11
Bromomethane	< .005	mg/kg			WG501535	10/05/10 01:11
Carbon tetrachloride	< .001	mg/kg			WG501535	10/05/10 01:11
Chlorobenzene	< .001	mg/kg			WG501535	10/05/10 01:11
Chlorodibromomethane	< .001	mg/kg			WG501535	10/05/10 01:11
Chloroethane	< .005	mg/kg			WG501535	10/05/10 01:11
Chloroform	< .005	mg/kg			WG501535	10/05/10 01:11
Chloromethane	< .0025	mg/kg			WG501535	10/05/10 01:11
cis-1,2-Dichloroethene	< .001	mg/kg			WG501535	10/05/10 01:11
cis-1,3-Dichloropropene	< .001	mg/kg			WG501535	10/05/10 01:11
Di-isopropyl ether	< .001	mg/kg			WG501535	10/05/10 01:11
Dibromomethane	< .001	mg/kg			WG501535	10/05/10 01:11
Dichlorodifluoromethane	< .005	mg/kg			WG501535	10/05/10 01:11
Ethylbenzene	< .001	mg/kg			WG501535	10/05/10 01:11
Hexachloro-1,3-butadiene	< .001	mg/kg			WG501535	10/05/10 01:11
Isopropylbenzene	< .001	mg/kg			WG501535	10/05/10 01:11
Methyl tert-butyl ether	< .001	mg/kg			WG501535	10/05/10 01:11

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Est. 1970

October 12, 2010

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Methylene Chloride	< .005	mg/kg			WG501535	10/05/10 01:11
n-Butylbenzene	< .001	mg/kg			WG501535	10/05/10 01:11
n-Propylbenzene	< .001	mg/kg			WG501535	10/05/10 01:11
Naphthalene	< .005	mg/kg			WG501535	10/05/10 01:11
p-Isopropyltoluene	< .001	mg/kg			WG501535	10/05/10 01:11
sec-Butylbenzene	< .001	mg/kg			WG501535	10/05/10 01:11
Styrene	< .001	mg/kg			WG501535	10/05/10 01:11
tert-Butylbenzene	< .001	mg/kg			WG501535	10/05/10 01:11
Tetrachloroethene	< .001	mg/kg			WG501535	10/05/10 01:11
Toluene	< .005	mg/kg			WG501535	10/05/10 01:11
trans-1,2-Dichloroethene	< .001	mg/kg			WG501535	10/05/10 01:11
trans-1,3-Dichloropropene	< .001	mg/kg			WG501535	10/05/10 01:11
Trichloroethene	< .001	mg/kg			WG501535	10/05/10 01:11
Trichlorofluoromethane	< .005	mg/kg			WG501535	10/05/10 01:11
Vinyl chloride	< .001	mg/kg			WG501535	10/05/10 01:11
Xylenes, Total	< .003	mg/kg			WG501535	10/05/10 01:11
4-Bromofluorobenzene		% Rec.	99.00	59-140	WG501535	10/05/10 01:11
Dibromofluoromethane		% Rec.	110.1	63-139	WG501535	10/05/10 01:11
Toluene-d8		% Rec.	99.71	84-116	WG501535	10/05/10 01:11
Arsenic	< 1	mg/kg			WG501220	10/04/10 17:17
Barium	< .25	mg/kg			WG501220	10/04/10 17:17
Cadmium	< .25	mg/kg			WG501220	10/04/10 17:17
Chromium	< .5	mg/kg			WG501220	10/04/10 17:17
Lead	< .25	mg/kg			WG501220	10/04/10 17:17
Selenium	< 1	mg/kg			WG501220	10/04/10 17:17
Silver	< .5	mg/kg			WG501220	10/04/10 17:17
Mercury	< .02	mg/kg			WG501286	10/05/10 16:51
Mercury	< .0002	mg/l			WG501461	10/05/10 18:52
1,2,4-Trichlorobenzene	< .333	mg/kg			WG501407	10/06/10 11:40
2,4,6-Trichlorophenol	< .333	mg/kg			WG501407	10/06/10 11:40
2,4-Dichlorophenol	< .333	mg/kg			WG501407	10/06/10 11:40
2,4-Dimethylphenol	< .333	mg/kg			WG501407	10/06/10 11:40
2,4-Dinitrophenol	< .333	mg/kg			WG501407	10/06/10 11:40
2,4-Dinitrotoluene	< .333	mg/kg			WG501407	10/06/10 11:40
2,6-Dinitrotoluene	< .333	mg/kg			WG501407	10/06/10 11:40
2-Chloronaphthalene	< .033	mg/kg			WG501407	10/06/10 11:40
2-Chlorophenol	< .333	mg/kg			WG501407	10/06/10 11:40
2-Nitrophenol	< .333	mg/kg			WG501407	10/06/10 11:40
3,3-Dichlorobenzidine	< .333	mg/kg			WG501407	10/06/10 11:40
4,6-Dinitro-2-methylphenol	< .333	mg/kg			WG501407	10/06/10 11:40
4-Bromophenyl-phenylether	< .333	mg/kg			WG501407	10/06/10 11:40
4-Chloro-3-methylphenol	< .333	mg/kg			WG501407	10/06/10 11:40
4-Chlorophenyl-phenylether	< .333	mg/kg			WG501407	10/06/10 11:40
4-Nitrophenol	< .333	mg/kg			WG501407	10/06/10 11:40
Acenaphthene	< .033	mg/kg			WG501407	10/06/10 11:40
Acenaphthylene	< .033	mg/kg			WG501407	10/06/10 11:40
Anthracene	< .033	mg/kg			WG501407	10/06/10 11:40
Benzidine	< .333	mg/kg			WG501407	10/06/10 11:40
Benzo(a)anthracene	< .033	mg/kg			WG501407	10/06/10 11:40
Benzo(a)pyrene	< .033	mg/kg			WG501407	10/06/10 11:40
Benzo(b)fluoranthene	< .033	mg/kg			WG501407	10/06/10 11:40

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Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Benzo(g,h,i)perylene	< .033	mg/kg			WG501407	10/06/10 11:40
Benzo(k)fluoranthene	< .033	mg/kg			WG501407	10/06/10 11:40
Benzylbutyl phthalate	< .333	mg/kg			WG501407	10/06/10 11:40
Bis(2-chlorethoxy)methane	< .333	mg/kg			WG501407	10/06/10 11:40
Bis(2-chloroethyl)ether	< .333	mg/kg			WG501407	10/06/10 11:40
Bis(2-chloroisopropyl)ether	< .333	mg/kg			WG501407	10/06/10 11:40
Bis(2-ethylhexyl)phthalate	< .333	mg/kg			WG501407	10/06/10 11:40
Chrysene	< .033	mg/kg			WG501407	10/06/10 11:40
Di-n-butyl phthalate	< .333	mg/kg			WG501407	10/06/10 11:40
Di-n-octyl phthalate	< .333	mg/kg			WG501407	10/06/10 11:40
Dibenz(a,h)anthracene	< .033	mg/kg			WG501407	10/06/10 11:40
Diethyl phthalate	< .333	mg/kg			WG501407	10/06/10 11:40
Dimethyl phthalate	< .333	mg/kg			WG501407	10/06/10 11:40
Fluoranthene	< .033	mg/kg			WG501407	10/06/10 11:40
Fluorene	< .033	mg/kg			WG501407	10/06/10 11:40
Hexachloro-1,3-butadiene	< .333	mg/kg			WG501407	10/06/10 11:40
Hexachlorobenzene	< .333	mg/kg			WG501407	10/06/10 11:40
Hexachlorocyclopentadiene	< .333	mg/kg			WG501407	10/06/10 11:40
Hexachloroethane	< .333	mg/kg			WG501407	10/06/10 11:40
Indeno(1,2,3-cd)pyrene	< .033	mg/kg			WG501407	10/06/10 11:40
Isophorone	< .333	mg/kg			WG501407	10/06/10 11:40
n-Nitrosodi-n-propylamine	< .333	mg/kg			WG501407	10/06/10 11:40
n-Nitrosodimethylamine	< .333	mg/kg			WG501407	10/06/10 11:40
n-Nitrosodiphenylamine	< .333	mg/kg			WG501407	10/06/10 11:40
Naphthalene	< .033	mg/kg			WG501407	10/06/10 11:40
Nitrobenzene	< .333	mg/kg			WG501407	10/06/10 11:40
Pentachlorophenol	< .333	mg/kg			WG501407	10/06/10 11:40
Phenanthrene	< .033	mg/kg			WG501407	10/06/10 11:40
Phenol	< .333	mg/kg			WG501407	10/06/10 11:40
Pyrene	< .033	mg/kg			WG501407	10/06/10 11:40
2,4,6-Tribromophenol		mg/kg	71.89	25-137	WG501407	10/06/10 11:40
2-Fluorobiphenyl		mg/kg	64.10	30-120	WG501407	10/06/10 11:40
2-Fluorophenol		mg/kg	45.91	26-130	WG501407	10/06/10 11:40
Nitrobenzene-d5		mg/kg	43.08	18-119	WG501407	10/06/10 11:40
Phenol-d5		mg/kg	55.38	37-141	WG501407	10/06/10 11:40
p-Terphenyl-d14		mg/kg	103.0	23-143	WG501407	10/06/10 11:40
1,1-Dichloroethene	< .05	mg/l			WG501769	10/06/10 01:16
1,2-Dichloroethane	< .05	mg/l			WG501769	10/06/10 01:16
2-Butanone (MEK)	< .5	mg/l			WG501769	10/06/10 01:16
Benzene	< .05	mg/l			WG501769	10/06/10 01:16
Carbon tetrachloride	< .05	mg/l			WG501769	10/06/10 01:16
Chlorobenzene	< .05	mg/l			WG501769	10/06/10 01:16
Chloroform	< .25	mg/l			WG501769	10/06/10 01:16
Tetrachloroethene	< .05	mg/l			WG501769	10/06/10 01:16
Trichloroethene	< .08	mg/l			WG501769	10/06/10 01:16
Vinyl chloride	< .08	mg/l			WG501769	10/06/10 01:16
4-Bromofluorobenzene		% Rec.	98.86	75-128	WG501769	10/06/10 01:16
Dibromofluoromethane		% Rec.	100.6	79-125	WG501769	10/06/10 01:16
Toluene-d8		% Rec.	107.6	87-114	WG501769	10/06/10 01:16
a,a,a-Trifluorotoluene		% Rec.	104.5	84-114	WG501769	10/06/10 01:16
1,4-Dichlorobenzene	< .1	ppm			WG502030	10/08/10 14:34
2,4,5-Trichlorophenol	< .1	ppm			WG502030	10/08/10 14:34
2,4,6-Trichlorophenol	< .1	ppm			WG502030	10/08/10 14:34
2,4-Dinitrotoluene	< .1	ppm			WG502030	10/08/10 14:34
2-Methylphenol	< .1	ppm			WG502030	10/08/10 14:34

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Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
3&4-Methyl Phenol	< .1	ppm			WG502030	10/08/10 14:34
Hexachloro-1,3-butadiene	< .1	ppm			WG502030	10/08/10 14:34
Hexachlorobenzene	< .1	ppm			WG502030	10/08/10 14:34
Hexachloroethane	< .1	ppm			WG502030	10/08/10 14:34
Nitrobenzene	< .1	ppm			WG502030	10/08/10 14:34
Pentachlorophenol	< .1	ppm			WG502030	10/08/10 14:34
Pyridine	< .1	ppm			WG502030	10/08/10 14:34
2,4,6-Tribromophenol		ppm	85.55	10-148	WG502030	10/08/10 14:34
2-Fluorobiphenyl		ppm	83.73	26-122	WG502030	10/08/10 14:34
2-Fluorophenol		ppm	34.44	10-87	WG502030	10/08/10 14:34
Nitrobenzene-d5		ppm	71.29	12-120	WG502030	10/08/10 14:34
Phenol-d5		ppm	31.68	10-67	WG502030	10/08/10 14:34
p-Terphenyl-d14		ppm	95.03	34-149	WG502030	10/08/10 14:34

Analyte	Units	Result	Duplicate		Limit	Ref Samp	Batch
			Duplicate	RPD			
Arsenic	mg/l	0	0.000800	NA	20	L481752-04	WG501428
Barium	mg/l	0.290	0.284	2.78	20	L481752-04	WG501428
Cadmium	mg/l	0	0.000400	NA	20	L481752-04	WG501428
Chromium	mg/l	0	0.00190	NA	20	L481752-04	WG501428
Lead	mg/l	0.290	0.280	3.16	20	L481752-04	WG501428
Selenium	mg/l	0	0	0	20	L481752-04	WG501428
Silver	mg/l	0	0	0	20	L481752-04	WG501428
Arsenic	mg/kg	7.90	9.10	13.9	20	L481606-02	WG501220
Barium	mg/kg	120.	110.	5.31	20	L481606-02	WG501220
Cadmium	mg/kg	0.530	0.480	9.15	20	L481606-02	WG501220
Chromium	mg/kg	20.0	20.0	0.499	20	L481606-02	WG501220
Lead	mg/kg	6.80	5.70	17.2	20	L481606-02	WG501220
Selenium	mg/kg	3.20	3.00	7.07	20	L481606-02	WG501220
Silver	mg/kg	0	0	0	20	L481606-02	WG501220
Mercury	mg/kg	0.0190	0.0170	11.1	20	L482033-06	WG501286
Mercury	mg/l	0	0	0	20	L481701-01	WG501461

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Arsenic	mg/l	1.13	1.20	106.	85-115	WG501428
Barium	mg/l	1.13	1.07	94.7	85-115	WG501428
Cadmium	mg/l	1.13	1.14	101.	85-115	WG501428
Chromium	mg/l	1.13	1.12	99.1	85-115	WG501428
Lead	mg/l	1.13	1.18	104.	85-115	WG501428
Selenium	mg/l	1.13	1.18	104.	85-115	WG501428
Silver	mg/l	1.13	1.09	96.5	85-115	WG501428
1,1,1,2-Tetrachloroethane	mg/kg	.025	0.0221	88.5	73-134	WG501535
1,1,1-Trichloroethane	mg/kg	.025	0.0230	92.1	62-135	WG501535
1,1,2,2-Tetrachloroethane	mg/kg	.025	0.0265	106.	74-129	WG501535
1,1,2-Trichloroethane	mg/kg	.025	0.0245	97.8	77-124	WG501535
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	.025	0.0167	67.0	49-155	WG501535
1,1-Dichloroethane	mg/kg	.025	0.0232	92.8	61-134	WG501535
1,1-Dichloroethene	mg/kg	.025	0.0144	57.5	53-136	WG501535

\* Performance of this Analyte is outside of established criteria.

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Level II

L481739

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Mt. Juliet, TN 37122  
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Tax I.D. 62-0814289

Est. 1970

October 12, 2010

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
1,1-Dichloropropene	mg/kg	.025	0.0197	78.7	63-132	WG501535
1,2,3-Trichlorobenzene	mg/kg	.025	0.0207	82.7	62-146	WG501535
1,2,3-Trichloropropane	mg/kg	.025	0.0249	99.7	70-133	WG501535
1,2,3-Trimethylbenzene	mg/kg	.025	0.0254	102.	73-126	WG501535
1,2,4-Trichlorobenzene	mg/kg	.025	0.0202	80.7	61-148	WG501535
1,2,4-Trimethylbenzene	mg/kg	.025	0.0242	96.7	68-135	WG501535
1,2-Dibromo-3-Chloropropane	mg/kg	.025	0.0192	76.9	61-134	WG501535
1,2-Dibromoethane	mg/kg	.025	0.0229	91.5	76-127	WG501535
1,2-Dichlorobenzene	mg/kg	.025	0.0238	95.3	77-123	WG501535
1,2-Dichloroethane	mg/kg	.025	0.0256	102.	58-141	WG501535
1,2-Dichloropropane	mg/kg	.025	0.0243	97.3	71-128	WG501535
1,3,5-Trimethylbenzene	mg/kg	.025	0.0236	94.4	71-133	WG501535
1,3-Dichlorobenzene	mg/kg	.025	0.0221	88.3	71-132	WG501535
1,3-Dichloropropane	mg/kg	.025	0.0238	95.0	76-120	WG501535
1,4-Dichlorobenzene	mg/kg	.025	0.0232	92.7	72-123	WG501535
2,2-Dichloropropane	mg/kg	.025	0.0233	93.3	50-147	WG501535
2-Butanone (MEK)	mg/kg	.125	0.120	95.9	51-131	WG501535
2-Chloroethyl vinyl ether	mg/kg	.125	0.115	91.7	0-188	WG501535
2-Chlorotoluene	mg/kg	.025	0.0248	99.4	73-128	WG501535
4-Chlorotoluene	mg/kg	.025	0.0242	96.6	72-129	WG501535
4-Methyl-2-pentanone (MIBK)	mg/kg	.125	0.140	112.	61-143	WG501535
Acetone	mg/kg	.125	0.108	86.0	44-140	WG501535
Acrylonitrile	mg/kg	.125	0.120	95.9	55-143	WG501535
Benzene	mg/kg	.025	0.0210	83.9	65-128	WG501535
Bromobenzene	mg/kg	.025	0.0246	98.6	75-123	WG501535
Bromodichloromethane	mg/kg	.025	0.0256	102.	66-126	WG501535
Bromoform	mg/kg	.025	0.0191	76.3	64-139	WG501535
Bromomethane	mg/kg	.025	0.0269	108.	41-175	WG501535
Carbon tetrachloride	mg/kg	.025	0.0188	75.0	60-140	WG501535
Chlorobenzene	mg/kg	.025	0.0227	90.9	75-125	WG501535
Chlorodibromomethane	mg/kg	.025	0.0217	87.0	72-137	WG501535
Chloroethane	mg/kg	.025	0.0174	69.8	44-159	WG501535
Chloroform	mg/kg	.025	0.0253	101.	63-123	WG501535
Chloromethane	mg/kg	.025	0.0154	61.6	42-149	WG501535
cis-1,2-Dichloroethene	mg/kg	.025	0.0219	87.5	71-129	WG501535
cis-1,3-Dichloropropene	mg/kg	.025	0.0235	94.2	73-132	WG501535
Di-isopropyl ether	mg/kg	.025	0.0255	102.	59-143	WG501535
Dibromomethane	mg/kg	.025	0.0237	94.9	70-130	WG501535
Dichlorodifluoromethane	mg/kg	.025	0.0200	79.8	26-186	WG501535
Ethylbenzene	mg/kg	.025	0.0220	87.9	74-128	WG501535
Hexachloro-1,3-butadiene	mg/kg	.025	0.0213	85.2	65-137	WG501535
Isopropylbenzene	mg/kg	.025	0.0216	86.3	73-130	WG501535
Methyl tert-butyl ether	mg/kg	.025	0.0240	96.0	44-148	WG501535
Methylene Chloride	mg/kg	.025	0.0190	75.9	57-129	WG501535
n-Butylbenzene	mg/kg	.025	0.0247	99.0	60-145	WG501535
n-Propylbenzene	mg/kg	.025	0.0239	95.4	71-132	WG501535
Naphthalene	mg/kg	.025	0.0210	84.1	61-142	WG501535
p-Isopropyltoluene	mg/kg	.025	0.0226	90.2	67-138	WG501535
sec-Butylbenzene	mg/kg	.025	0.0236	94.6	71-134	WG501535
Styrene	mg/kg	.025	0.0273	109.	76-133	WG501535
tert-Butylbenzene	mg/kg	.025	0.0231	92.4	72-132	WG501535
Tetrachloroethene	mg/kg	.025	0.0186	74.6	65-135	WG501535
Toluene	mg/kg	.025	0.0210	84.0	70-120	WG501535
trans-1,2-Dichloroethene	mg/kg	.025	0.0161	64.6	61-133	WG501535
trans-1,3-Dichloropropene	mg/kg	.025	0.0244	97.5	70-135	WG501535
Trichloroethene	mg/kg	.025	0.0194	77.4	71-126	WG501535
Trichlorofluoromethane	mg/kg	.025	0.0238	95.4	52-147	WG501535
Vinyl chloride	mg/kg	.025	0.0156	62.5	50-151	WG501535
Xylenes, Total	mg/kg	.075	0.0669	89.2	74-127	WG501535

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Analyte	Units	Laboratory Control Known Val	Sample Result	% Rec	Limit	Batch
4-Bromofluorobenzene				99.82	59-140	
Dibromofluoromethane				111.2	63-139	
Toluene-d8				104.3	84-116	
Arsenic	mg/kg	192	176.	91.7	78.6-120.8	WG501220
Barium	mg/kg	420	402.	95.7	78.8-121.4	WG501220
Cadmium	mg/kg	70.1	66.3	94.6	78.5-121.5	WG501220
Chromium	mg/kg	168	165.	98.2	80.4-120.2	WG501220
Lead	mg/kg	113	106.	93.8	77.3-122.1	WG501220
Selenium	mg/kg	176	175.	99.4	75.6-125.0	WG501220
Silver	mg/kg	115	102.	88.7	66-133.9	WG501220
Mercury	mg/kg	8.77	9.21	105.	71.6-127.7	WG501286
Mercury	mg/l	.003	0.00284	94.7	85-115	WG501461
1,2,4-Trichlorobenzene	mg/kg	.333	0.199	59.8	46-99	WG501407
2,4,6-Trichlorophenol	mg/kg	.333	0.258	77.4	56-109	WG501407
2,4-Dichlorophenol	mg/kg	.333	0.263	78.9	54-107	WG501407
2,4-Dimethylphenol	mg/kg	.333	0.276	82.9	58-119	WG501407
2,4-Dinitrophenol	mg/kg	.333	0.223	66.9	16-130	WG501407
2,4-Dinitrotoluene	mg/kg	.333	0.264	79.4	53-120	WG501407
2,6-Dinitrotoluene	mg/kg	.333	0.261	78.3	56-113	WG501407
2-Chloronaphthalene	mg/kg	.333	0.235	70.7	55-103	WG501407
2-Chlorophenol	mg/kg	.333	0.195	58.6	52-108	WG501407
2-Nitrophenol	mg/kg	.333	0.239	71.7	38-110	WG501407
3,3-Dichlorobenzidine	mg/kg	.333	0.207	62.3	24-123	WG501407
4,6-Dinitro-2-methylphenol	mg/kg	.333	0.221	66.3	34-111	WG501407
4-Bromophenyl-phenylether	mg/kg	.333	0.295	88.4	47-98	WG501407
4-Chloro-3-methylphenol	mg/kg	.333	0.274	82.4	54-116	WG501407
4-Chlorophenyl-phenylether	mg/kg	.333	0.260	77.9	55-106	WG501407
4-Nitrophenol	mg/kg	.333	0.268	80.4	34-123	WG501407
Acenaphthene	mg/kg	.333	0.237	71.1	54-102	WG501407
Acenaphthylene	mg/kg	.333	0.260	78.0	56-104	WG501407
Anthracene	mg/kg	.333	0.258	77.4	57-112	WG501407
Benzidine	mg/kg	.333	0.00672	2.02	0-13	WG501407
Benzo(a)anthracene	mg/kg	.333	0.251	75.5	55-105	WG501407
Benzo(a)pyrene	mg/kg	.333	0.245	73.6	59-114	WG501407
Benzo(b)fluoranthene	mg/kg	.333	0.242	72.7	44-116	WG501407
Benzo(g,h,i)perylene	mg/kg	.333	0.267	80.3	41-127	WG501407
Benzo(k)fluoranthene	mg/kg	.333	0.253	76.1	36-119	WG501407
Benzylbutyl phthalate	mg/kg	.333	0.255	76.6	57-130	WG501407
Bis(2-chlorethoxy)methane	mg/kg	.333	0.256	76.9	52-107	WG501407
Bis(2-chloroethyl)ether	mg/kg	.333	0.189	56.7	38-115	WG501407
Bis(2-chloroisopropyl)ether	mg/kg	.333	0.197	59.3	49-106	WG501407
Bis(2-ethylhexyl)phthalate	mg/kg	.333	0.247	74.3	50-130	WG501407
Chrysene	mg/kg	.333	0.252	75.6	54-103	WG501407
Di-n-butyl phthalate	mg/kg	.333	0.271	81.4	56-121	WG501407
Di-n-octyl phthalate	mg/kg	.333	0.235	70.4	50-128	WG501407
Dibenz(a,h)anthracene	mg/kg	.333	0.265	79.4	42-128	WG501407
Diethyl phthalate	mg/kg	.333	0.278	83.6	57-110	WG501407
Dimethyl phthalate	mg/kg	.333	0.282	84.7	57-108	WG501407
Fluoranthene	mg/kg	.333	0.273	81.8	51-109	WG501407
Fluorene	mg/kg	.333	0.257	77.0	53-106	WG501407
Hexachloro-1,3-butadiene	mg/kg	.333	0.227	68.2	46-110	WG501407
Hexachlorobenzene	mg/kg	.333	0.285	85.7	51-117	WG501407
Hexachlorocyclopentadiene	mg/kg	.333	0.215	64.4	21-127	WG501407

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Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Hexachloroethane	mg/kg	.333	0.160	48.0	43-104	WG501407
Indeno(1,2,3-cd)pyrene	mg/kg	.333	0.271	81.4	42-127	WG501407
Isophorone	mg/kg	.333	0.251	75.3	56-116	WG501407
n-Nitrosodi-n-propylamine	mg/kg	.333	0.241	72.3	54-113	WG501407
n-Nitrosodimethylamine	mg/kg	.333	0.166	49.8	35-111	WG501407
n-Nitrosodiphenylamine	mg/kg	.333	0.236	70.7	66-126	WG501407
Naphthalene	mg/kg	.333	0.212	63.7	46-97	WG501407
Nitrobenzene	mg/kg	.333	0.218	65.4	46-102	WG501407
Pentachlorophenol	mg/kg	.333	0.158	47.5	37-118	WG501407
Phenanthrene	mg/kg	.333	0.247	74.1	56-102	WG501407
Phenol	mg/kg	.333	0.242	72.5	55-115	WG501407
Pyrene	mg/kg	.333	0.237	71.3	53-111	WG501407
2,4,6-Tribromophenol				83.46	25-137	WG501407
2-Fluorobiphenyl				73.66	30-120	WG501407
2-Fluorophenol				57.89	26-130	WG501407
Nitrobenzene-d5				64.07	18-119	WG501407
Phenol-d5				72.64	37-141	WG501407
p-Terphenyl-d14				87.61	23-143	WG501407
1,1-Dichloroethene	mg/l	.025	0.0265	106.	60-130	WG501769
1,2-Dichloroethane	mg/l	.025	0.0243	97.4	63-137	WG501769
2-Butanone (MEK)	mg/l	.125	0.133	106.	53-132	WG501769
Benzene	mg/l	.025	0.0267	107.	67-126	WG501769
Carbon tetrachloride	mg/l	.025	0.0270	108.	64-141	WG501769
Chlorobenzene	mg/l	.025	0.0237	94.6	77-125	WG501769
Chloroform	mg/l	.025	0.0249	99.5	66-126	WG501769
Tetrachloroethene	mg/l	.025	0.0226	90.5	67-135	WG501769
Trichloroethene	mg/l	.025	0.0242	96.7	74-126	WG501769
Vinyl chloride	mg/l	.025	0.0259	104.	55-153	WG501769
4-Bromofluorobenzene				102.1	75-128	WG501769
Dibromofluoromethane				110.6	79-125	WG501769
Toluene-d8				103.5	87-114	WG501769
a,a,a-Trifluorotoluene				96.65	84-114	WG501769
1,4-Dichlorobenzene	ppm	.01	0.00660	66.0	19-103	WG502030
2,4,5-Trichlorophenol	ppm	.01	0.00748	74.8	48-120	WG502030
2,4,6-Trichlorophenol	ppm	.01	0.00758	75.8	49-118	WG502030
2,4-Dinitrotoluene	ppm	.01	0.00875	87.5	56-128	WG502030
2-Methylphenol	ppm	.01	0.00631	63.1	42-99	WG502030
3&4-Methyl Phenol	ppm	.01	0.00713	71.3	36-102	WG502030
Hexachloro-1,3-butadiene	ppm	.01	0.00832	83.2	21-116	WG502030
Hexachlorobenzene	ppm	.01	0.00926	92.6	51-121	WG502030
Hexachloroethane	ppm	.01	0.00635	63.5	15-109	WG502030
Nitrobenzene	ppm	.01	0.00738	73.8	31-105	WG502030
Pentachlorophenol	ppm	.01	0.00367	36.7	20-122	WG502030
Pyridine	ppm	.01	0.00369	36.9	7-48	WG502030
2,4,6-Tribromophenol				85.27	10-148	WG502030
2-Fluorobiphenyl				86.95	26-122	WG502030
2-Fluorophenol				48.74	10-87	WG502030
Nitrobenzene-d5				77.85	12-120	WG502030
Phenol-d5				37.07	10-67	WG502030
p-Terphenyl-d14				101.3	34-149	WG502030

Analyte	Units	Laboratory Control Sample Duplicate		%Rec	Limit	RPD	Limit	Batch
		Result	Ref					
1,1,1,2-Tetrachloroethane	mg/kg	0.0212	0.0221	85.0	73-134	4.20	20	WG501535
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Analyte	Laboratory Control		Sample Duplicate		Limit	RPD	Limit	Batch
	Units	Result	Ref	%Rec				
1,1,1-Trichloroethane	mg/kg	0.0222	0.0230	89.0	62-135	3.79	20	WG501535
1,1,2,2-Tetrachloroethane	mg/kg	0.0258	0.0265	103.	74-129	2.52	20	WG501535
1,1,2-Trichloroethane	mg/kg	0.0238	0.0245	95.0	77-124	2.56	20	WG501535
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	0.0166	0.0167	66.0	49-155	1.08	20	WG501535
1,1-Dichloroethane	mg/kg	0.0223	0.0232	89.0	61-134	3.85	20	WG501535
1,1-Dichloroethene	mg/kg	0.0140	0.0144	56.0	53-136	2.50	20	WG501535
1,1-Dichloropropene	mg/kg	0.0188	0.0197	75.0	63-132	4.46	20	WG501535
1,2,3-Trichlorobenzene	mg/kg	0.0194	0.0207	77.0	62-146	6.54	20	WG501535
1,2,3-Trichloropropane	mg/kg	0.0246	0.0249	98.0	70-133	1.36	20	WG501535
1,2,3-Trimethylbenzene	mg/kg	0.0264	0.0254	106.	73-126	3.69	20	WG501535
1,2,4-Trichlorobenzene	mg/kg	0.0194	0.0202	77.0	61-148	4.04	20	WG501535
1,2,4-Trimethylbenzene	mg/kg	0.0220	0.0242	88.0	68-135	9.16	20	WG501535
1,2-Dibromo-3-Chloropropane	mg/kg	0.0214	0.0192	86.0	61-134	10.9	21	WG501535
1,2-Dibromoethane	mg/kg	0.0220	0.0229	88.0	76-127	4.04	20	WG501535
1,2-Dichlorobenzene	mg/kg	0.0246	0.0238	98.0	77-123	3.07	20	WG501535
1,2-Dichloroethane	mg/kg	0.0255	0.0256	102.	58-141	0.170	20	WG501535
1,2-Dichloropropane	mg/kg	0.0243	0.0243	97.0	71-128	0.110	20	WG501535
1,3,5-Trimethylbenzene	mg/kg	0.0218	0.0236	87.0	71-133	8.11	20	WG501535
1,3-Dichlorobenzene	mg/kg	0.0201	0.0221	80.0	71-132	9.10	20	WG501535
1,3-Dichloropropane	mg/kg	0.0228	0.0238	91.0	76-120	4.16	20	WG501535
1,4-Dichlorobenzene	mg/kg	0.0233	0.0232	93.0	72-123	0.780	20	WG501535
2,2-Dichloropropane	mg/kg	0.0218	0.0233	87.0	50-147	6.96	20	WG501535
2-Butanone (MEK)	mg/kg	0.120	0.120	96.0	51-131	0.390	25	WG501535
2-Chloroethyl vinyl ether	mg/kg	0.117	0.115	94.0	0-188	2.40	39	WG501535
2-Chlorotoluene	mg/kg	0.0232	0.0248	93.0	73-128	6.94	20	WG501535
4-Chlorotoluene	mg/kg	0.0221	0.0242	88.0	72-129	9.13	20	WG501535
4-Methyl-2-pentanone (MIBK)	mg/kg	0.145	0.140	116.	61-143	3.90	23	WG501535
Acetone	mg/kg	0.111	0.108	89.0	44-140	3.09	25	WG501535
Acrylonitrile	mg/kg	0.124	0.120	99.0	55-143	3.04	20	WG501535
Benzene	mg/kg	0.0201	0.0210	80.0	65-128	4.07	20	WG501535
Bromobenzene	mg/kg	0.0232	0.0246	93.0	75-123	5.80	20	WG501535
Bromodichloromethane	mg/kg	0.0254	0.0256	102.	66-126	0.750	20	WG501535
Bromoform	mg/kg	0.0187	0.0191	75.0	64-139	2.14	20	WG501535
Bromomethane	mg/kg	0.0256	0.0269	102.	41-175	4.98	20	WG501535
Carbon tetrachloride	mg/kg	0.0184	0.0188	74.0	60-140	1.90	20	WG501535
Chlorobenzene	mg/kg	0.0211	0.0227	84.0	75-125	7.31	20	WG501535
Chlorodibromomethane	mg/kg	0.0219	0.0217	88.0	72-137	0.690	20	WG501535
Chloroethane	mg/kg	0.0175	0.0174	70.0	44-159	0.390	20	WG501535
Chloroform	mg/kg	0.0247	0.0253	99.0	63-123	2.34	20	WG501535
Chloromethane	mg/kg	0.0148	0.0154	59.0	42-149	4.13	20	WG501535
cis-1,2-Dichloroethene	mg/kg	0.0208	0.0219	83.0	71-129	5.12	20	WG501535
cis-1,3-Dichloropropene	mg/kg	0.0238	0.0235	95.0	73-132	1.03	20	WG501535
Di-isopropyl ether	mg/kg	0.0251	0.0255	100.	59-143	1.25	20	WG501535
Dibromomethane	mg/kg	0.0232	0.0237	93.0	70-130	2.16	20	WG501535
Dichlorodifluoromethane	mg/kg	0.0191	0.0200	76.0	26-186	4.26	22	WG501535
Ethylbenzene	mg/kg	0.0206	0.0220	82.0	74-128	6.54	20	WG501535
Hexachloro-1,3-butadiene	mg/kg	0.0196	0.0213	78.0	65-137	8.29	20	WG501535
Isopropylbenzene	mg/kg	0.0202	0.0216	81.0	73-130	6.61	20	WG501535
Methyl tert-butyl ether	mg/kg	0.0242	0.0240	97.0	44-148	0.760	20	WG501535
Methylene Chloride	mg/kg	0.0183	0.0190	73.0	57-129	3.38	20	WG501535
n-Butylbenzene	mg/kg	0.0251	0.0247	100.	60-145	1.36	20	WG501535
n-Propylbenzene	mg/kg	0.0219	0.0239	87.0	71-132	8.70	20	WG501535
Naphthalene	mg/kg	0.0204	0.0210	81.0	61-142	3.22	20	WG501535
p-Isopropyltoluene	mg/kg	0.0202	0.0226	81.0	67-138	11.2	20	WG501535
sec-Butylbenzene	mg/kg	0.0218	0.0236	87.0	71-134	8.02	20	WG501535
Styrene	mg/kg	0.0260	0.0273	104.	76-133	4.76	20	WG501535
tert-Butylbenzene	mg/kg	0.0213	0.0231	85.0	72-132	8.25	20	WG501535
Tetrachloroethene	mg/kg	0.0170	0.0186	68.0	65-135	9.42	20	WG501535
Toluene	mg/kg	0.0204	0.0210	81.0	70-120	3.07	20	WG501535

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Mt. Juliet, TN 37122  
(615) 758-5858  
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Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

October 12, 2010

Analyte	Laboratory Control		Sample Duplicate		Limit	RPD	Limit	Batch
	Units	Result	Ref	%Rec				
trans-1,2-Dichloroethene	mg/kg	0.0154	0.0161	62.0	61-133	4.78	20	WG501535
trans-1,3-Dichloropropene	mg/kg	0.0246	0.0244	98.0	70-135	0.770	20	WG501535
Trichloroethene	mg/kg	0.0187	0.0194	75.0	71-126	3.57	20	WG501535
Trichlorofluoromethane	mg/kg	0.0228	0.0238	91.0	52-147	4.66	20	WG501535
Vinyl chloride	mg/kg	0.0153	0.0156	61.0	50-151	2.12	20	WG501535
Xylenes, Total	mg/kg	0.0623	0.0669	83.0	74-127	7.10	20	WG501535
4-Bromofluorobenzene				94.14	59-140			WG501535
Dibromofluoromethane				110.1	63-139			WG501535
Toluene-d8				102.4	84-116			WG501535
1,2,4-Trichlorobenzene	mg/kg	0.170	0.199	51.0	46-99	15.7	24	WG501407
2,4,6-Trichlorophenol	mg/kg	0.273	0.258	82.0	56-109	5.63	20	WG501407
2,4-Dichlorophenol	mg/kg	0.265	0.263	80.0	54-107	0.849	21	WG501407
2,4-Dimethylphenol	mg/kg	0.271	0.276	81.0	58-119	1.79	23	WG501407
2,4-Dinitrophenol	mg/kg	0.193	0.223	58.0	16-130	14.4	45	WG501407
2,4-Dinitrotoluene	mg/kg	0.273	0.264	82.0	53-120	3.13	23	WG501407
2,6-Dinitrotoluene	mg/kg	0.281	0.261	84.0	56-113	7.36	22	WG501407
2-Chloronaphthalene	mg/kg	0.241	0.235	72.0	55-103	2.43	20	WG501407
2-Chlorophenol	mg/kg	0.167	0.195	50*	52-108	15.5	24	WG501407
2-Nitrophenol	mg/kg	0.231	0.239	69.0	38-110	3.15	24	WG501407
3,3-Dichlorobenzidine	mg/kg	0.207	0.207	62.0	24-123	0.0723	35	WG501407
4,6-Dinitro-2-methylphenol	mg/kg	0.218	0.221	66.0	34-111	1.11	33	WG501407
4-Bromophenyl-phenylether	mg/kg	0.321	0.295	96.0	47-98	8.54	23	WG501407
4-Chloro-3-methylphenol	mg/kg	0.283	0.274	85.0	54-116	3.20	23	WG501407
4-Chlorophenyl-phenylether	mg/kg	0.276	0.260	83.0	55-106	6.14	22	WG501407
4-Nitrophenol	mg/kg	0.258	0.268	78.0	34-123	3.60	36	WG501407
Acenaphthene	mg/kg	0.248	0.237	74.0	54-102	4.45	20	WG501407
Acenaphthylene	mg/kg	0.272	0.260	82.0	56-104	4.66	20	WG501407
Anthracene	mg/kg	0.277	0.258	83.0	57-112	7.20	21	WG501407
Benziidine	mg/kg	0.00225	0.00672	1.00	0-13	99.7*	50	WG501407
Benzo(a)anthracene	mg/kg	0.274	0.251	82.0	55-105	8.74	21	WG501407
Benzo(a)pyrene	mg/kg	0.250	0.245	75.0	59-114	1.99	22	WG501407
Benzo(b)fluoranthene	mg/kg	0.254	0.242	76.0	44-116	4.86	33	WG501407
Benzo(g,h,i)perylene	mg/kg	0.259	0.267	78.0	41-127	3.26	29	WG501407
Benzo(k)fluoranthene	mg/kg	0.261	0.253	78.0	36-119	3.05	37	WG501407
Benzybutyl phthalate	mg/kg	0.293	0.255	88.0	57-130	13.9	27	WG501407
Bis(2-chlorethoxy)methane	mg/kg	0.251	0.256	75.0	52-107	2.03	21	WG501407
Bis(2-chloroethyl)ether	mg/kg	0.161	0.189	48.0	38-115	16.0	28	WG501407
Bis(2-chloroisopropyl)ether	mg/kg	0.167	0.197	50.0	49-106	16.8	25	WG501407
Bis(2-ethylhexyl)phthalate	mg/kg	0.297	0.247	89.0	50-130	18.2	29	WG501407
Chrysene	mg/kg	0.266	0.252	80.0	54-103	5.63	23	WG501407
Di-n-butyl phthalate	mg/kg	0.304	0.271	91.0	56-121	11.4	22	WG501407
Di-n-octyl phthalate	mg/kg	0.281	0.235	84.0	50-128	18.1	26	WG501407
Dibenz(a,h)anthracene	mg/kg	0.240	0.265	72.0	42-128	9.56	28	WG501407
Diethyl phthalate	mg/kg	0.298	0.278	90.0	57-110	6.81	20	WG501407
Dimethyl phthalate	mg/kg	0.296	0.282	89.0	57-108	5.02	20	WG501407
Fluoranthene	mg/kg	0.262	0.273	79.0	51-109	3.90	26	WG501407
Fluorene	mg/kg	0.273	0.257	82.0	53-106	6.27	20	WG501407
Hexachloro-1,3-butadiene	mg/kg	0.190	0.227	57.0	46-110	17.9	25	WG501407
Hexachlorobenzene	mg/kg	0.328	0.285	98.0	51-117	13.8	24	WG501407
Hexachlorocyclopentadiene	mg/kg	0.209	0.215	63.0	21-127	2.45	40	WG501407
Hexachloroethane	mg/kg	0.123	0.160	37*	43-104	26.0	27	WG501407
Indeno(1,2,3-cd)pyrene	mg/kg	0.254	0.271	76.0	42-127	6.49	28	WG501407
Isophorone	mg/kg	0.254	0.251	76.0	56-116	1.46	21	WG501407
n-Nitrosodi-n-propylamine	mg/kg	0.245	0.241	74.0	54-113	1.67	21	WG501407
n-Nitrosodimethylamine	mg/kg	0.129	0.166	39.0	35-111	24.7	35	WG501407
n-Nitrosodiphenylamine	mg/kg	0.268	0.236	80.0	66-126	12.8	22	WG501407
Naphthalene	mg/kg	0.193	0.212	58.0	46-97	9.67	23	WG501407

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Est. 1970

October 12, 2010

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Nitrobenzene	mg/kg	0.196	0.218	59.0	46-102	10.5	23	WG501407
Pentachlorophenol	mg/kg	0.166	0.158	50.0	37-118	4.51	28	WG501407
Phenanthrene	mg/kg	0.263	0.247	79.0	56-102	6.35	20	WG501407
Phenol	mg/kg	0.209	0.242	63.0	55-115	14.4	22	WG501407
Pyrene	mg/kg	0.273	0.237	82.0	53-111	14.1	26	WG501407
2,4,6-Tribromophenol				92.50	25-137			WG501407
2-Fluorobiphenyl				74.96	30-120			WG501407
2-Fluorophenol				44.70	26-130			WG501407
Nitrobenzene-d5				55.96	18-119			WG501407
Phenol-d5				64.91	37-141			WG501407
p-Terphenyl-d14				91.06	23-143			WG501407
1,1-Dichloroethene	mg/l	0.0277	0.0265	111.	60-130	4.16	20	WG501769
1,2-Dichloroethane	mg/l	0.0252	0.0243	101.	63-137	3.63	20	WG501769
2-Butanone (MEK)	mg/l	0.129	0.133	103.	53-132	2.96	20	WG501769
Benzene	mg/l	0.0284	0.0267	113.	67-126	5.89	20	WG501769
Carbon tetrachloride	mg/l	0.0287	0.0270	115.	64-141	6.26	20	WG501769
Chlorobenzene	mg/l	0.0258	0.0237	103.	77-125	8.53	20	WG501769
Chloroform	mg/l	0.0264	0.0249	106.	66-126	5.98	20	WG501769
Tetrachloroethene	mg/l	0.0241	0.0226	96.0	67-135	6.41	20	WG501769
Trichloroethene	mg/l	0.0257	0.0242	103.	74-126	6.14	20	WG501769
Vinyl chloride	mg/l	0.0278	0.0259	111.	55-153	6.80	20	WG501769
4-Bromofluorobenzene				104.8	75-128			WG501769
Dibromofluoromethane				111.4	79-125			WG501769
Toluene-d8				107.9	87-114			WG501769
a,a,a-Trifluorotoluene				99.23	84-114			WG501769
1,4-Dichlorobenzene	ppm	0.00686	0.00660	68.0	19-103	3.89	50	WG502030
2,4,5-Trichlorophenol	ppm	0.00740	0.00748	74.0	48-120	1.11	29	WG502030
2,4,6-Trichlorophenol	ppm	0.00725	0.00758	72.0	49-118	4.46	28	WG502030
2,4-Dinitrotoluene	ppm	0.00848	0.00875	85.0	56-128	3.15	24	WG502030
2-Methylphenol	ppm	0.00617	0.00631	62.0	42-99	2.18	26	WG502030
3&4-Methyl Phenol	ppm	0.00667	0.00713	67.0	36-102	6.69	31	WG502030
Hexachloro-1,3-butadiene	ppm	0.00861	0.00832	86.0	21-116	3.35	50	WG502030
Hexachlorobenzene	ppm	0.00907	0.00926	91.0	51-121	2.16	23	WG502030
Hexachloroethane	ppm	0.00649	0.00635	65.0	15-109	2.30	50	WG502030
Nitrobenzene	ppm	0.00737	0.00738	74.0	31-105	0.0830	43	WG502030
Pentachlorophenol	ppm	0.00428	0.00367	43.0	20-122	15.5	50	WG502030
Pyridine	ppm	0.00346	0.00369	34.0	7-48	6.52	50	WG502030
2,4,6-Tribromophenol				82.64	10-148			WG502030
2-Fluorobiphenyl				83.61	26-122			WG502030
2-Fluorophenol				48.33	10-87			WG502030
Nitrobenzene-d5				78.68	12-120			WG502030
Phenol-d5				35.57	10-67			WG502030
p-Terphenyl-d14				105.4	34-149			WG502030

Analyte	Units	Matrix Spike			% Rec	Limit	Ref Samp	Batch
		MS Res	Ref Res	TV				
Arsenic	mg/l	1.17	0.000800	1.13	103.	75-125	L481752-04	WG501428
Barium	mg/l	1.34	0.284	1.13	93.4	75-125	L481752-04	WG501428
Cadmium	mg/l	1.11	0.000400	1.13	98.2	75-125	L481752-04	WG501428
Chromium	mg/l	1.10	0.00190	1.13	97.2	75-125	L481752-04	WG501428
Lead	mg/l	1.41	0.280	1.13	100.	75-125	L481752-04	WG501428
Selenium	mg/l	1.12	0	1.13	99.1	75-125	L481752-04	WG501428
Silver	mg/l	1.08	0	1.13	95.6	75-125	L481752-04	WG501428

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Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
1,1,1,2-Tetrachloroethane	mg/kg	1.36	0	.025	104.	29-145	L481606-01	WG501535
1,1,1-Trichloroethane	mg/kg	1.68	0	.025	128.	23-147	L481606-01	WG501535
1,1,2,2-Tetrachloroethane	mg/kg	1.34	0	.025	102.	18-150	L481606-01	WG501535
1,1,2-Trichloroethane	mg/kg	1.39	0	.025	106.	35-140	L481606-01	WG501535
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	1.80	0	.025	137.	10-145	L481606-01	WG501535
1,1-Dichloroethane	mg/kg	1.72	0	.025	131.	24-148	L481606-01	WG501535
1,1-Dichloroethene	mg/kg	1.66	0	.025	127.	10-149	L481606-01	WG501535
1,1-Dichloropropene	mg/kg	1.71	0	.025	130.	10-141	L481606-01	WG501535
1,2,3-Trichlorobenzene	mg/kg	1.49	0	.025	114.	10-129	L481606-01	WG501535
1,2,3-Trichloropropane	mg/kg	1.34	0	.025	102.	30-148	L481606-01	WG501535
1,2,3-Trimethylbenzene	mg/kg	1.64	0	.025	125.	10-137	L481606-01	WG501535
1,2,4-Trichlorobenzene	mg/kg	1.57	0	.025	120.*	10-119	L481606-01	WG501535
1,2,4-Trimethylbenzene	mg/kg	1.53	0	.025	116.	10-145	L481606-01	WG501535
1,2-Dibromo-3-Chloropropane	mg/kg	1.13	0	.025	86.1	19-145	L481606-01	WG501535
1,2-Dibromoethane	mg/kg	1.38	0	.025	105.	24-145	L481606-01	WG501535
1,2-Dichlorobenzene	mg/kg	1.54	0	.025	117.	12-130	L481606-01	WG501535
1,2-Dichloroethane	mg/kg	1.66	0	.025	126.	21-155	L481606-01	WG501535
1,2-Dichloropropane	mg/kg	1.54	0	.025	118.	28-144	L481606-01	WG501535
1,3,5-Trimethylbenzene	mg/kg	1.54	0	.025	117.	10-135	L481606-01	WG501535
1,3-Dichlorobenzene	mg/kg	1.43	0	.025	109.	10-129	L481606-01	WG501535
1,3-Dichloropropane	mg/kg	1.41	0	.025	108.	31-137	L481606-01	WG501535
1,4-Dichlorobenzene	mg/kg	1.50	0	.025	114.	10-121	L481606-01	WG501535
2,2-Dichloropropane	mg/kg	1.73	0	.025	132.	18-144	L481606-01	WG501535
2-Butanone (MEK)	mg/kg	6.79	0	.125	103.	21-143	L481606-01	WG501535
2-Chloroethyl vinyl ether	mg/kg	6.82	0	.125	104.	0-176	L481606-01	WG501535
2-Chlorotoluene	mg/kg	1.58	0	.025	120.	10-132	L481606-01	WG501535
4-Chlorotoluene	mg/kg	1.51	0	.025	115.	10-129	L481606-01	WG501535
4-Methyl-2-pentanone (MIBK)	mg/kg	6.36	0	.125	97.0	31-151	L481606-01	WG501535
Acetone	mg/kg	6.25	0	.125	95.2	13-158	L481606-01	WG501535
Acrylonitrile	mg/kg	6.98	0	.125	106.	20-154	L481606-01	WG501535
Benzene	mg/kg	1.63	0	.025	124.	16-143	L481606-01	WG501535
Bromobenzene	mg/kg	1.53	0	.025	116.	14-135	L481606-01	WG501535
Bromodichloromethane	mg/kg	1.45	0	.025	110.	27-139	L481606-01	WG501535
Bromoform	mg/kg	1.01	0	.025	76.6	21-144	L481606-01	WG501535
Bromomethane	mg/kg	1.31	0	.025	99.7	0-180	L481606-01	WG501535
Carbon tetrachloride	mg/kg	1.45	0	.025	111.	12-149	L481606-01	WG501535
Chlorobenzene	mg/kg	1.46	0	.025	111.	17-134	L481606-01	WG501535
Chlorodibromomethane	mg/kg	1.24	0	.025	94.7	28-147	L481606-01	WG501535
Chloroethane	mg/kg	0.316	0	.025	24.1	0-172	L481606-01	WG501535
Chloroform	mg/kg	1.75	0	.025	133.	28-138	L481606-01	WG501535
Chloromethane	mg/kg	1.57	0	.025	119.	10-158	L481606-01	WG501535
cis-1,2-Dichloroethene	mg/kg	1.61	0	.025	123.	21-147	L481606-01	WG501535
cis-1,3-Dichloropropene	mg/kg	1.44	0	.025	110.	17-145	L481606-01	WG501535
Di-isopropyl ether	mg/kg	1.64	0	.025	125.	31-153	L481606-01	WG501535
Dibromomethane	mg/kg	1.45	0	.025	110.	24-147	L481606-01	WG501535
Dichlorodifluoromethane	mg/kg	1.70	0	.025	129.	0-192	L481606-01	WG501535
Ethylbenzene	mg/kg	1.46	0	.025	112.	12-137	L481606-01	WG501535
Hexachloro-1,3-butadiene	mg/kg	1.52	0	.025	116.	10-123	L481606-01	WG501535
Isopropylbenzene	mg/kg	1.53	0	.025	116.	14-134	L481606-01	WG501535
Methyl tert-butyl ether	mg/kg	1.58	0	.025	120.	21-157	L481606-01	WG501535
Methylene Chloride	mg/kg	1.51	0	.025	115.	12-149	L481606-01	WG501535
n-Butylbenzene	mg/kg	1.76	0	.025	134.*	10-130	L481606-01	WG501535
n-Propylbenzene	mg/kg	1.57	0	.025	120.	10-130	L481606-01	WG501535
Naphthalene	mg/kg	1.42	0.0760	.025	102.	0-146	L481606-01	WG501535
p-Isopropyltoluene	mg/kg	1.53	0	.025	116.	10-131	L481606-01	WG501535
sec-Butylbenzene	mg/kg	1.56	0	.025	119.	10-134	L481606-01	WG501535
Styrene	mg/kg	1.39	0	.025	106.	10-140	L481606-01	WG501535
tert-Butylbenzene	mg/kg	1.52	0	.025	116.	11-137	L481606-01	WG501535

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Quality Assurance Report  
Level II

L481739

12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
(615) 758-5858  
1-800-767-5859  
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

October 12, 2010

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Tetrachloroethene	mg/kg	1.42	0	.025	108.	10-131	L481606-01	WG501535
Toluene	mg/kg	1.48	0	.025	113.	12-136	L481606-01	WG501535
trans-1,2-Dichloroethene	mg/kg	1.60	0	.025	122.	10-143	L481606-01	WG501535
trans-1,3-Dichloropropene	mg/kg	1.41	0	.025	107.	16-147	L481606-01	WG501535
Trichloroethene	mg/kg	1.52	0	.025	116.	10-155	L481606-01	WG501535
Trichlorofluoromethane	mg/kg	1.63	0	.025	124.	10-154	L481606-01	WG501535
Vinyl chloride	mg/kg	2.00	0	.025	152.	10-159	L481606-01	WG501535
Xylenes, Total	mg/kg	4.43	0	.075	112.	10-138	L481606-01	WG501535
4-Bromofluorobenzene					94.40	59-140		WG501535
Dibromofluoromethane					109.1	63-139		WG501535
Toluene-d8					100.3	84-116		WG501535
Arsenic	mg/kg	51.0	9.10	50	83.8	75-125	L481606-02	WG501220
Barium	mg/kg	157.	110.	50	94.0	75-125	L481606-02	WG501220
Cadmium	mg/kg	43.7	0.480	50	86.4	75-125	L481606-02	WG501220
Chromium	mg/kg	64.6	20.0	50	89.2	75-125	L481606-02	WG501220
Lead	mg/kg	48.9	5.70	50	86.4	75-125	L481606-02	WG501220
Selenium	mg/kg	43.3	3.00	50	80.6	75-125	L481606-02	WG501220
Silver	mg/kg	44.4	0	50	88.8	75-125	L481606-02	WG501220
Mercury	mg/kg	0.250	0.0170	.25	93.2	70-130	L482033-06	WG501286
Mercury	mg/l	0.00288	0	.003	96.0	70-130	L481701-01	WG501461
Mercury	mg/l	0.00236	0	.003	78.7	70-130	L481705-01	WG501461
1,1-Dichloroethene	mg/l	1.11	0	1.25	88.7	10-162	L481701-01	WG501769
1,2-Dichloroethane	mg/l	1.26	0	1.25	101.	29-167	L481701-01	WG501769
2-Butanone (MEK)	mg/l	6.44	0	6.25	103.	32-151	L481701-01	WG501769
Benzene	mg/l	1.35	0	1.25	108.	16-158	L481701-01	WG501769
Carbon tetrachloride	mg/l	1.35	0	1.25	108.	22-168	L481701-01	WG501769
Chlorobenzene	mg/l	1.24	0	1.25	99.0	33-148	L481701-01	WG501769
Chloroform	mg/l	1.24	0	1.25	99.4	37-147	L481701-01	WG501769
Tetrachloroethene	mg/l	1.12	0	1.25	89.2	13-157	L481701-01	WG501769
Trichloroethene	mg/l	1.23	0	1.25	98.6	18-163	L481701-01	WG501769
Vinyl chloride	mg/l	1.29	0	1.25	103.	0-179	L481701-01	WG501769
4-Bromofluorobenzene					100.4	75-128		WG501769
Dibromofluoromethane					110.1	79-125		WG501769
Toluene-d8					108.1	87-114		WG501769
a,a,a-Trifluorotoluene					103.5	84-114		WG501769
1,1-Dichloroethene	mg/l	0.999	0	1.25	79.9	10-162	L481705-01	WG501769
1,2-Dichloroethane	mg/l	1.13	0	1.25	90.3	29-167	L481705-01	WG501769
2-Butanone (MEK)	mg/l	5.98	0	6.25	95.7	32-151	L481705-01	WG501769
Benzene	mg/l	1.21	0	1.25	96.7	16-158	L481705-01	WG501769
Carbon tetrachloride	mg/l	1.22	0	1.25	97.4	22-168	L481705-01	WG501769
Chlorobenzene	mg/l	1.17	0	1.25	93.5	33-148	L481705-01	WG501769
Chloroform	mg/l	1.14	0	1.25	91.0	37-147	L481705-01	WG501769
Tetrachloroethene	mg/l	1.05	0	1.25	84.2	13-157	L481705-01	WG501769
Trichloroethene	mg/l	1.18	0	1.25	94.6	18-163	L481705-01	WG501769
Vinyl chloride	mg/l	1.17	0	1.25	93.3	0-179	L481705-01	WG501769
4-Bromofluorobenzene					101.0	75-128		WG501769
Dibromofluoromethane					101.9	79-125		WG501769
Toluene-d8					108.0	87-114		WG501769
a,a,a-Trifluorotoluene					106.5	84-114		WG501769

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Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
1,2,4-Trichlorobenzene	mg/kg	0.159	0	.333	47.6	37-104	L481606-02	WG501407
2,4,6-Trichlorophenol	mg/kg	0.250	0	.333	75.1	27-128	L481606-02	WG501407
2,4-Dichlorophenol	mg/kg	0.228	0	.333	68.4	39-116	L481606-02	WG501407
2,4-Dimethylphenol	mg/kg	0.235	0	.333	70.6	50-119	L481606-02	WG501407
2,4-Dinitrophenol	mg/kg	0.0360	0	.333	10.8	10-123	L481606-02	WG501407
2,4-Dinitrotoluene	mg/kg	0.255	0	.333	76.7	52-121	L481606-02	WG501407
2,6-Dinitrotoluene	mg/kg	0.252	0	.333	75.6	53-114	L481606-02	WG501407
2-Chloronaphthalene	mg/kg	0.230	0	.333	69.1	52-101	L481606-02	WG501407
2-Chlorophenol	mg/kg	0.153	0	.333	46.0	41-112	L481606-02	WG501407
2-Nitrophenol	mg/kg	0.192	0	.333	57.6	23-117	L481606-02	WG501407
3,3-Dichlorobenzidine	mg/kg	0.185	0	.333	55.4	10-133	L481606-02	WG501407
4,6-Dinitro-2-methylphenol	mg/kg	0.122	0	.333	36.6	10-124	L481606-02	WG501407
4-Bromophenyl-phenylether	mg/kg	0.282	0	.333	84.7	37-103	L481606-02	WG501407
4-Chloro-3-methylphenol	mg/kg	0.274	0	.333	82.3	52-119	L481606-02	WG501407
4-Chlorophenyl-phenylether	mg/kg	0.257	0	.333	77.2	53-105	L481606-02	WG501407
4-Nitrophenol	mg/kg	0.226	0	.333	67.8	15-140	L481606-02	WG501407
Acenaphthene	mg/kg	0.242	0	.333	72.7	52-102	L481606-02	WG501407
Acenaphthylene	mg/kg	0.257	0	.333	77.0	54-103	L481606-02	WG501407
Anthracene	mg/kg	0.266	0	.333	79.8	55-114	L481606-02	WG501407
Benzidine	mg/kg	0.000124	0	.333	0.0370	0-45	L481606-02	WG501407
Benzo(a)anthracene	mg/kg	0.240	0	.333	72.0	37-124	L481606-02	WG501407
Benzo(a)pyrene	mg/kg	0.247	0	.333	74.3	44-129	L481606-02	WG501407
Benzo(b)fluoranthene	mg/kg	0.242	0	.333	72.8	28-135	L481606-02	WG501407
Benzo(g,h,i)perylene	mg/kg	0.169	0	.333	50.6	25-123	L481606-02	WG501407
Benzo(k)fluoranthene	mg/kg	0.260	0	.333	78.0	41-116	L481606-02	WG501407
Benzylbutyl phthalate	mg/kg	0.334	0	.333	100.	45-143	L481606-02	WG501407
Bis(2-chlorethoxy)methane	mg/kg	0.211	0	.333	63.4	48-108	L481606-02	WG501407
Bis(2-chloroethyl)ether	mg/kg	0.175	0	.333	52.4	36-115	L481606-02	WG501407
Bis(2-chloroisopropyl)ether	mg/kg	0.166	0	.333	49.9	44-109	L481606-02	WG501407
Bis(2-ethylhexyl)phthalate	mg/kg	0.329	0	.333	98.8	40-128	L481606-02	WG501407
Chrysene	mg/kg	0.243	0	.333	73.0	39-119	L481606-02	WG501407
Di-n-butyl phthalate	mg/kg	0.322	0	.333	96.6	49-121	L481606-02	WG501407
Di-n-octyl phthalate	mg/kg	0.312	0	.333	93.8	40-132	L481606-02	WG501407
Dibenz(a,h)anthracene	mg/kg	0.200	0	.333	59.9	29-123	L481606-02	WG501407
Diethyl phthalate	mg/kg	0.288	0	.333	86.6	51-113	L481606-02	WG501407
Dimethyl phthalate	mg/kg	0.277	0	.333	83.3	54-108	L481606-02	WG501407
Fluoranthene	mg/kg	0.268	0	.333	80.3	23-143	L481606-02	WG501407
Fluorene	mg/kg	0.257	0	.333	77.2	53-107	L481606-02	WG501407
Hexachloro-1,3-butadiene	mg/kg	0.174	0	.333	52.4	39-113	L481606-02	WG501407
Hexachlorobenzene	mg/kg	0.267	0	.333	80.1	49-108	L481606-02	WG501407
Hexachlorocyclopentadiene	mg/kg	0.0719	0	.333	21.6	10-131	L481606-02	WG501407
Hexachloroethane	mg/kg	0.128	0	.333	38.5	25-118	L481606-02	WG501407
Indeno(1,2,3-cd)pyrene	mg/kg	0.196	0	.333	58.9	28-125	L481606-02	WG501407
Isophorone	mg/kg	0.208	0	.333	62.3	51-115	L481606-02	WG501407
n-Nitrosodi-n-propylamine	mg/kg	0.196	0	.333	58.8	54-110	L481606-02	WG501407
n-Nitrosodimethylamine	mg/kg	0.144	0	.333	43.3	20-116	L481606-02	WG501407
n-Nitrosodiphenylamine	mg/kg	0.232	0	.333	69.8	54-138	L481606-02	WG501407
Naphthalene	mg/kg	0.178	0	.333	53.4	41-100	L481606-02	WG501407
Nitrobenzene	mg/kg	0.167	0	.333	50.0	40-102	L481606-02	WG501407
Pentachlorophenol	mg/kg	0.168	0	.333	50.5	10-146	L481606-02	WG501407
Phenanthrene	mg/kg	0.261	0	.333	78.3	37-125	L481606-02	WG501407
Phenol	mg/kg	0.168	0	.333	50.6*	52-111	L481606-02	WG501407
Pyrene	mg/kg	0.256	0	.333	76.8	22-151	L481606-02	WG501407
2,4,6-Tribromophenol					83.75	25-137		WG501407
2-Fluorobiphenyl					72.54	30-120		WG501407
2-Fluorophenol					44.13	26-130		WG501407
Nitrobenzene-d5					50.46	18-119		WG501407
Phenol-d5					57.80	37-141		WG501407
p-Terphenyl-d14					89.96	23-143		WG501407

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Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
1,4-Dichlorobenzene	ppm	0.0660	0	.1	66.0	10-108	L481776-01	WG502030
2,4,5-Trichlorophenol	ppm	0.0709	0	.1	70.9	10-136	L481776-01	WG502030
2,4,6-Trichlorophenol	ppm	0.0772	0	.1	77.2	10-137	L481776-01	WG502030
2,4-Dinitrotoluene	ppm	0.0838	0	.1	83.8	32-137	L481776-01	WG502030
2-Methylphenol	ppm	0.0911	0	.1	91.1	13-110	L481776-01	WG502030
3&4-Methyl Phenol	ppm	0.236	0.100	.1	136.*	10-56	L481776-01	WG502030
Hexachloro-1,3-butadiene	ppm	0.0764	0	.1	76.4	16-118	L481776-01	WG502030
Hexachlorobenzene	ppm	0.0747	0	.1	74.7	41-114	L481776-01	WG502030
Hexachloroethane	ppm	0.137	0	.1	137.*	10-125	L481776-01	WG502030
Nitrobenzene	ppm	0.0704	0	.1	70.4	14-122	L481776-01	WG502030
Pentachlorophenol	ppm	0.0675	0	.1	67.5	0-137	L481776-01	WG502030
Pyridine	ppm	0.0477	0	.1	47.7	0-70	L481776-01	WG502030
2,4,6-Tribromophenol					79.85	10-148		WG502030
2-Fluorobiphenyl					75.67	26-122		WG502030
2-Fluorophenol					52.53	10-87		WG502030
Nitrobenzene-d5					82.04	12-120		WG502030
Phenol-d5					39.10	10-67		WG502030
p-Terphenyl-d14					86.86	34-149		WG502030

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Arsenic	mg/l	1.18	1.17	104.	75-125	0.851	20	L481752-04	WG501428
Barium	mg/l	1.35	1.34	94.3	75-125	0.743	20	L481752-04	WG501428
Cadmium	mg/l	1.13	1.11	100.	75-125	1.79	20	L481752-04	WG501428
Chromium	mg/l	1.12	1.10	98.9	75-125	1.80	20	L481752-04	WG501428
Lead	mg/l	1.43	1.41	102.	75-125	1.41	20	L481752-04	WG501428
Selenium	mg/l	1.17	1.12	104.	75-125	4.37	20	L481752-04	WG501428
Silver	mg/l	1.11	1.08	98.2	75-125	2.74	20	L481752-04	WG501428
1,1,1,2-Tetrachloroethane	mg/kg	1.18	1.36	89.7	29-145	14.3	31	L481606-01	WG501535
1,1,1-Trichloroethane	mg/kg	1.41	1.68	107.	23-147	17.5	32	L481606-01	WG501535
1,1,2,2-Tetrachloroethane	mg/kg	1.24	1.34	94.2	18-150	8.11	33	L481606-01	WG501535
1,1,2-Trichloroethane	mg/kg	1.27	1.39	96.5	35-140	9.25	29	L481606-01	WG501535
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	1.48	1.80	113.	10-145	19.3	35	L481606-01	WG501535
1,1-Dichloroethane	mg/kg	1.47	1.72	112.	24-148	15.8	31	L481606-01	WG501535
1,1-Dichloroethene	mg/kg	1.41	1.66	107.	10-149	16.5	34	L481606-01	WG501535
1,1-Dichloropropene	mg/kg	1.44	1.71	110.	10-141	16.8	34	L481606-01	WG501535
1,2,3-Trichlorobenzene	mg/kg	1.27	1.49	96.9	10-129	15.8	43	L481606-01	WG501535
1,2,3-Trichloropropane	mg/kg	1.26	1.34	95.8	30-148	6.21	32	L481606-01	WG501535
1,2,3-Trimethylbenzene	mg/kg	1.40	1.64	107.	10-137	15.8	36	L481606-01	WG501535
1,2,4-Trichlorobenzene	mg/kg	1.31	1.57	99.9	10-119	18.0	44	L481606-01	WG501535
1,2,4-Trimethylbenzene	mg/kg	1.34	1.53	102.	10-145	13.2	41	L481606-01	WG501535
1,2-Dibromo-3-Chloropropane	mg/kg	0.977	1.13	74.4	19-145	14.6	35	L481606-01	WG501535
1,2-Dibromoethane	mg/kg	1.28	1.38	97.9	24-145	7.34	31	L481606-01	WG501535
1,2-Dichlorobenzene	mg/kg	1.35	1.54	103.	12-130	12.8	35	L481606-01	WG501535
1,2-Dichloroethane	mg/kg	1.49	1.66	114.	21-155	10.6	29	L481606-01	WG501535
1,2-Dichloropropane	mg/kg	1.37	1.54	104.	28-144	12.2	30	L481606-01	WG501535
1,3,5-Trimethylbenzene	mg/kg	1.34	1.54	102.	10-135	13.8	39	L481606-01	WG501535
1,3-Dichlorobenzene	mg/kg	1.25	1.43	95.2	10-129	13.3	38	L481606-01	WG501535
1,3-Dichloropropane	mg/kg	1.29	1.41	98.3	31-137	9.14	29	L481606-01	WG501535
1,4-Dichlorobenzene	mg/kg	1.32	1.50	100.	10-121	13.1	36	L481606-01	WG501535
2,2-Dichloropropane	mg/kg	1.41	1.73	107.	18-144	20.8	32	L481606-01	WG501535
2-Butanone (MEK)	mg/kg	6.28	6.79	95.7	21-143	7.86	37	L481606-01	WG501535
2-Chloroethyl vinyl ether	mg/kg	6.45	6.82	98.3	0-176	5.58	50	L481606-01	WG501535
2-Chlorotoluene	mg/kg	1.39	1.58	106.	10-132	12.6	37	L481606-01	WG501535
4-Chlorotoluene	mg/kg	1.34	1.51	102.	10-129	11.6	38	L481606-01	WG501535
4-Methyl-2-pentanone (MIBK)	mg/kg	6.34	6.36	96.6	31-151	0.390	36	L481606-01	WG501535

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Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Acetone	mg/kg	5.80	6.25	88.4	13-158	7.39	34	L481606-01	WG501535
Acrylonitrile	mg/kg	6.48	6.98	98.8	20-154	7.39	35	L481606-01	WG501535
Benzene	mg/kg	1.41	1.63	108.	16-143	14.1	31	L481606-01	WG501535
Bromobenzene	mg/kg	1.37	1.53	104.	14-135	10.7	39	L481606-01	WG501535
Bromodichloromethane	mg/kg	1.28	1.45	97.7	27-139	12.3	30	L481606-01	WG501535
Bromoform	mg/kg	0.924	1.01	70.4	21-144	8.41	34	L481606-01	WG501535
Bromomethane	mg/kg	0.997	1.31	75.9	0-180	27.0	41	L481606-01	WG501535
Carbon tetrachloride	mg/kg	1.24	1.45	94.3	12-149	16.1	34	L481606-01	WG501535
Chlorobenzene	mg/kg	1.31	1.46	100.	17-134	10.8	34	L481606-01	WG501535
Chlorodibromomethane	mg/kg	1.12	1.24	85.3	28-147	10.4	32	L481606-01	WG501535
Chloroethane	mg/kg	0.244	0.316	18.6	0-172	25.8	38	L481606-01	WG501535
Chloroform	mg/kg	1.52	1.75	116.	28-138	13.6	30	L481606-01	WG501535
Chloromethane	mg/kg	1.32	1.57	101.	10-158	17.0	35	L481606-01	WG501535
cis-1,2-Dichloroethene	mg/kg	1.42	1.61	108.	21-147	12.5	31	L481606-01	WG501535
cis-1,3-Dichloropropene	mg/kg	1.29	1.44	98.4	17-145	11.1	32	L481606-01	WG501535
Di-isopropyl ether	mg/kg	1.48	1.64	112.	31-153	10.2	29	L481606-01	WG501535
Dibromomethane	mg/kg	1.31	1.45	100.	24-147	9.88	30	L481606-01	WG501535
Dichlorodifluoromethane	mg/kg	1.37	1.70	104.	0-192	21.2	38	L481606-01	WG501535
Ethylbenzene	mg/kg	1.31	1.46	99.8	12-137	11.1	36	L481606-01	WG501535
Hexachloro-1,3-butadiene	mg/kg	1.28	1.52	97.6	10-123	16.9	50	L481606-01	WG501535
Isopropylbenzene	mg/kg	1.35	1.53	103.	14-134	12.5	37	L481606-01	WG501535
Methyl tert-butyl ether	mg/kg	1.44	1.58	110.	21-157	9.29	31	L481606-01	WG501535
Methylene Chloride	mg/kg	1.34	1.51	102.	12-149	11.8	31	L481606-01	WG501535
n-Butylbenzene	mg/kg	1.46	1.76	112.	10-130	18.1	48	L481606-01	WG501535
n-Propylbenzene	mg/kg	1.37	1.57	104.	10-130	13.9	40	L481606-01	WG501535
Naphthalene	mg/kg	1.23	1.42	87.6	0-146	14.4	43	L481606-01	WG501535
p-Isopropyltoluene	mg/kg	1.31	1.53	99.8	10-131	15.3	43	L481606-01	WG501535
sec-Butylbenzene	mg/kg	1.34	1.56	102.	10-134	15.5	43	L481606-01	WG501535
Styrene	mg/kg	1.25	1.39	95.3	10-140	10.5	35	L481606-01	WG501535
tert-Butylbenzene	mg/kg	1.30	1.52	99.2	11-137	15.3	39	L481606-01	WG501535
Tetrachloroethene	mg/kg	1.23	1.42	93.5	10-131	14.6	35	L481606-01	WG501535
Toluene	mg/kg	1.32	1.48	100.	12-136	11.6	32	L481606-01	WG501535
trans-1,2-Dichloroethene	mg/kg	1.37	1.60	104.	10-143	15.5	33	L481606-01	WG501535
trans-1,3-Dichloropropene	mg/kg	1.30	1.41	99.3	16-147	7.57	32	L481606-01	WG501535
Trichloroethene	mg/kg	1.26	1.52	96.2	10-155	18.4	33	L481606-01	WG501535
Trichlorofluoromethane	mg/kg	1.20	1.63	91.1	10-154	30.5	32	L481606-01	WG501535
Vinyl chloride	mg/kg	1.63	2.00	124.	10-159	20.3	36	L481606-01	WG501535
Xylenes, Total	mg/kg	3.92	4.43	99.6	10-138	12.1	36	L481606-01	WG501535
4-Bromofluorobenzene				98.19	59-140				WG501535
Dibromofluoromethane				107.2	63-139				WG501535
Toluene-d8				101.8	84-116				WG501535
Arsenic	mg/kg	50.4	51.0	82.6	75-125	1.18	20	L481606-02	WG501220
Barium	mg/kg	156.	157.	92.0	75-125	0.639	20	L481606-02	WG501220
Cadmium	mg/kg	41.8	43.7	82.6	75-125	4.44	20	L481606-02	WG501220
Chromium	mg/kg	64.2	64.6	88.4	75-125	0.621	20	L481606-02	WG501220
Lead	mg/kg	47.6	48.9	83.8	75-125	2.69	20	L481606-02	WG501220
Selenium	mg/kg	44.1	43.3	82.2	75-125	1.83	20	L481606-02	WG501220
Silver	mg/kg	42.7	44.4	85.4	75-125	3.90	20	L481606-02	WG501220
Mercury	mg/kg	0.263	0.250	98.4	70-130	5.07	20	L482033-06	WG501286
Mercury	mg/l	0.00287	0.00288	95.7	70-130	0.348	20	L481701-01	WG501461
Mercury	mg/l	0.00243	0.00236	81.0	70-130	2.92	20	L481705-01	WG501461

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Analyte	Units	MSD	Matrix Spike	Duplicate	Limit	RPD	Limit	Ref	Samp	Batch
			Ref	%Rec						
1,1-Dichloroethene	mg/l	1.12	1.11	89.3	10-162	0.640	23	L481701-01		WG501769
1,2-Dichloroethane	mg/l	1.27	1.26	102.	29-167	0.860	21	L481701-01		WG501769
2-Butanone (MEK)	mg/l	6.37	6.44	102.	32-151	1.18	26	L481701-01		WG501769
Benzene	mg/l	1.36	1.35	108.	16-158	0.610	21	L481701-01		WG501769
Carbon tetrachloride	mg/l	1.37	1.35	109.	22-168	1.44	24	L481701-01		WG501769
Chlorobenzene	mg/l	1.32	1.24	106.	33-148	6.80	22	L481701-01		WG501769
Chloroform	mg/l	1.24	1.24	99.4	37-147	0.0600	21	L481701-01		WG501769
Tetrachloroethene	mg/l	1.14	1.12	91.6	13-157	2.59	24	L481701-01		WG501769
Trichloroethene	mg/l	1.20	1.23	96.0	18-163	2.64	21	L481701-01		WG501769
Vinyl chloride	mg/l	1.19	1.29	95.3	0-179	7.82	26	L481701-01		WG501769
4-Bromofluorobenzene				101.3	75-128					WG501769
Dibromofluoromethane				108.1	79-125					WG501769
Toluene-d8				105.9	87-114					WG501769
a,a,a-Trifluorotoluene				99.13	84-114					WG501769
1,1-Dichloroethene	mg/l	1.05	0.999	84.2	10-162	5.30	23	L481705-01		WG501769
1,2-Dichloroethane	mg/l	1.23	1.13	98.0	29-167	8.24	21	L481705-01		WG501769
2-Butanone (MEK)	mg/l	6.40	5.98	102.	32-151	6.82	26	L481705-01		WG501769
Benzene	mg/l	1.28	1.21	102.	16-158	5.74	21	L481705-01		WG501769
Carbon tetrachloride	mg/l	1.29	1.22	103.	22-168	5.87	24	L481705-01		WG501769
Chlorobenzene	mg/l	1.23	1.17	98.6	33-148	5.26	22	L481705-01		WG501769
Chloroform	mg/l	1.20	1.14	96.1	37-147	5.43	21	L481705-01		WG501769
Tetrachloroethene	mg/l	1.14	1.05	91.2	13-157	7.97	24	L481705-01		WG501769
Trichloroethene	mg/l	1.17	1.18	93.7	18-163	0.960	21	L481705-01		WG501769
Vinyl chloride	mg/l	1.14	1.17	91.1	0-179	2.41	26	L481705-01		WG501769
4-Bromofluorobenzene				103.3	75-128					WG501769
Dibromofluoromethane				111.4	79-125					WG501769
Toluene-d8				106.2	87-114					WG501769
a,a,a-Trifluorotoluene				99.50	84-114					WG501769
1,2,4-Trichlorobenzene	mg/kg	0.184	0.159	55.3	37-104	14.9	26	L481606-02		WG501407
2,4,6-Trichlorophenol	mg/kg	0.273	0.250	82.0	27-128	8.82	31	L481606-02		WG501407
2,4-Dichlorophenol	mg/kg	0.251	0.228	75.5	39-116	9.76	23	L481606-02		WG501407
2,4-Dimethylphenol	mg/kg	0.255	0.235	76.6	50-119	8.09	27	L481606-02		WG501407
2,4-Dinitrophenol	mg/kg	0.0417	0.0360	12.5	10-123	14.7	42	L481606-02		WG501407
2,4-Dinitrotoluene	mg/kg	0.284	0.255	85.2	52-121	10.6	23	L481606-02		WG501407
2,6-Dinitrotoluene	mg/kg	0.267	0.252	80.0	53-114	5.70	22	L481606-02		WG501407
2-Chloronaphthalene	mg/kg	0.232	0.230	69.6	52-101	0.659	20	L481606-02		WG501407
2-Chlorophenol	mg/kg	0.176	0.153	52.8	41-112	13.8	27	L481606-02		WG501407
2-Nitrophenol	mg/kg	0.232	0.192	69.8	23-117	19.2	31	L481606-02		WG501407
3,3-Dichlorobenzidine	mg/kg	0.178	0.185	53.4	10-133	3.73	41	L481606-02		WG501407
4,6-Dinitro-2-methylphenol	mg/kg	0.133	0.122	39.9	10-124	8.78	38	L481606-02		WG501407
4-Bromophenyl-phenylether	mg/kg	0.294	0.282	88.4	37-103	4.27	23	L481606-02		WG501407
4-Chloro-3-methylphenol	mg/kg	0.300	0.274	90.1	52-119	9.06	24	L481606-02		WG501407
4-Chlorophenyl-phenylether	mg/kg	0.277	0.257	83.2	53-105	7.51	20	L481606-02		WG501407
4-Nitrophenol	mg/kg	0.246	0.226	73.9	15-140	8.71	40	L481606-02		WG501407
Acenaphthene	mg/kg	0.267	0.242	80.2	52-102	9.74	23	L481606-02		WG501407
Acenaphthylene	mg/kg	0.265	0.257	79.5	54-103	3.18	22	L481606-02		WG501407
Anthracene	mg/kg	0.287	0.266	86.2	55-114	7.79	21	L481606-02		WG501407
Benzidine	mg/kg	0	0.000124	0.00	0-45	200.*	50	L481606-02		WG501407
Benzo(a)anthracene	mg/kg	0.254	0.240	76.2	37-124	5.67	33	L481606-02		WG501407
Benzo(a)pyrene	mg/kg	0.266	0.247	79.8	44-129	7.17	27	L481606-02		WG501407
Benzo(b)fluoranthene	mg/kg	0.263	0.242	78.9	28-135	8.05	33	L481606-02		WG501407
Benzo(g,h,i)perylene	mg/kg	0.182	0.169	54.6	25-123	7.64	35	L481606-02		WG501407
Benzo(k)fluoranthene	mg/kg	0.280	0.260	84.0	41-116	7.50	34	L481606-02		WG501407
Benzylbutyl phthalate	mg/kg	0.342	0.334	103.	45-143	2.50	39	L481606-02		WG501407
Bis(2-chlorethoxy)methane	mg/kg	0.230	0.211	69.0	48-108	8.42	23	L481606-02		WG501407
Bis(2-chloroethyl)ether	mg/kg	0.207	0.175	62.0	36-115	16.7	30	L481606-02		WG501407
Bis(2-chloroisopropyl)ether	mg/kg	0.190	0.166	56.9	44-109	13.1	27	L481606-02		WG501407

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Mt. Juliet, TN 37122  
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Fax (615) 758-5859

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Est. 1970

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Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Bis(2-ethylhexyl)phthalate	mg/kg	0.341	0.329	102.	40-128	3.63	34	L481606-02	WG501407
Chrysene	mg/kg	0.256	0.243	76.7	39-119	4.94	31	L481606-02	WG501407
Di-n-butyl phthalate	mg/kg	0.344	0.322	103.	49-121	6.80	22	L481606-02	WG501407
Di-n-octyl phthalate	mg/kg	0.326	0.312	98.0	40-132	4.43	27	L481606-02	WG501407
Dibenz(a,h)anthracene	mg/kg	0.211	0.200	63.3	29-123	5.52	30	L481606-02	WG501407
Diethyl phthalate	mg/kg	0.311	0.288	93.5	51-113	7.69	21	L481606-02	WG501407
Dimethyl phthalate	mg/kg	0.294	0.277	88.3	54-108	5.79	23	L481606-02	WG501407
Fluoranthene	mg/kg	0.288	0.268	86.4	23-143	7.20	29	L481606-02	WG501407
Fluorene	mg/kg	0.275	0.257	82.5	53-107	6.70	22	L481606-02	WG501407
Hexachloro-1,3-butadiene	mg/kg	0.209	0.174	62.9	39-113	18.2	26	L481606-02	WG501407
Hexachlorobenzene	mg/kg	0.282	0.267	84.5	49-108	5.43	27	L481606-02	WG501407
Hexachlorocyclopentadiene	mg/kg	0.0819	0.0719	24.6	10-131	13.0	39	L481606-02	WG501407
Hexachloroethane	mg/kg	0.141	0.128	42.3	25-118	9.47	35	L481606-02	WG501407
Indeno(1,2,3-cd)pyrene	mg/kg	0.212	0.196	63.7	28-125	7.83	32	L481606-02	WG501407
Isophorone	mg/kg	0.228	0.208	68.5	51-115	9.40	22	L481606-02	WG501407
n-Nitrosodi-n-propylamine	mg/kg	0.213	0.196	63.9	54-110	8.41	23	L481606-02	WG501407
n-Nitrosodimethylamine	mg/kg	0.170	0.144	51.2	20-116	16.7	38	L481606-02	WG501407
n-Nitrosodiphenylamine	mg/kg	0.253	0.232	75.9	54-138	8.38	26	L481606-02	WG501407
Naphthalene	mg/kg	0.201	0.178	60.3	41-100	12.2	26	L481606-02	WG501407
Nitrobenzene	mg/kg	0.182	0.167	54.8	40-102	9.06	24	L481606-02	WG501407
Pentachlorophenol	mg/kg	0.184	0.168	55.4	10-146	9.25	35	L481606-02	WG501407
Phenanthrene	mg/kg	0.283	0.261	85.0	37-125	8.25	27	L481606-02	WG501407
Phenol	mg/kg	0.196	0.168	58.8	52-111	15.0	22	L481606-02	WG501407
Pyrene	mg/kg	0.266	0.256	79.9	22-151	3.93	38	L481606-02	WG501407
2,4,6-Tribromophenol				89.23	25-137				WG501407
2-Fluorobiphenyl				74.45	30-120				WG501407
2-Fluorophenol				50.21	26-130				WG501407
Nitrobenzene-d5				58.35	18-119				WG501407
Phenol-d5				65.51	37-141				WG501407
p-Terphenyl-d14				102.5	23-143				WG501407
1,4-Dichlorobenzene	ppm	0.0674	0.0660	67.4	10-108	2.07	50	L481776-01	WG502030
2,4,5-Trichlorophenol	ppm	0.0766	0.0709	76.6	10-136	7.72	45	L481776-01	WG502030
2,4,6-Trichlorophenol	ppm	0.0760	0.0772	76.0	10-137	1.56	42	L481776-01	WG502030
2,4-Dinitrotoluene	ppm	0.0857	0.0838	85.7	32-137	2.30	36	L481776-01	WG502030
2-Methylphenol	ppm	0.0881	0.0911	88.1	13-110	3.36	23	L481776-01	WG502030
3&4-Methyl Phenol	ppm	0.213	0.236	113.*	10-56	10.6	36	L481776-01	WG502030
Hexachloro-1,3-butadiene	ppm	0.0759	0.0764	75.9	16-118	0.549	50	L481776-01	WG502030
Hexachlorobenzene	ppm	0.0758	0.0747	75.8	41-114	1.43	28	L481776-01	WG502030
Hexachloroethane	ppm	0.145	0.137	145.*	10-125	5.69	50	L481776-01	WG502030
Nitrobenzene	ppm	0.0735	0.0704	73.5	14-122	4.34	46	L481776-01	WG502030
Pentachlorophenol	ppm	0.0695	0.0675	69.4	0-137	2.82	50	L481776-01	WG502030
Pyridine	ppm	0.0463	0.0477	46.3	0-70	2.96	50	L481776-01	WG502030
2,4,6-Tribromophenol				77.43	10-148				WG502030
2-Fluorobiphenyl				73.57	26-122				WG502030
2-Fluorophenol				48.70	10-87				WG502030
Nitrobenzene-d5				83.71	12-120				WG502030
Phenol-d5				37.83	10-67				WG502030
p-Terphenyl-d14				102.7	34-149				WG502030

Batch number /Run number / Sample number cross reference

WG501205: R1407348: L481739-01  
WG501428: R1407549: L481739-01  
WG501535: R1409488: L481739-02  
WG501220: R1409609: L481739-02  
WG501526: R1411030: L481739-01

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WG501286: R1411968: L481739-02  
WG501461: R1412008: L481739-01  
WG501407: R1413168: L481739-02  
WG501769: R1413288: L481739-01  
WG502030: R1419251: L481739-01  
WG502533: R1421365: L481739-01

\* \* Calculations are performed prior to rounding of reported values .  
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The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Client Name MACTEC - Louisville, KY Client #:

Address: 13425 Eastpoint Centre Dr Ste 122

City/State/Zip Code: Louisville KY 40223

Project Manager: ts Kelly @ mactec.com

Telephone Number: 502-253-2500 Fax: 502-253-2501

Sampler Name: (Print Name) Scott Kelly

Sampler Signature: [Signature]

Project Name: RBTC 500 VAC - Louisville

Project #: 6680-08-9635

Site/Location ID: MACTEC LOU - 500 VAC State: Louisville, KY

Report To: Scott Kelly

Invoice To: MACTEC, AP Processing, 1105 Lakewood, Ste 300

Quote #: 201013638 PO#: 201013638

Alpharetta  
GA  
30009

TAT Standard <input checked="" type="checkbox"/> Rush (surcharges may apply)		Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix SL - Sludge DW - Drinking Water GW - Groundwater S - Soil/Solid WW - Wastewater Specify Other	Preservation & # of Containers								Analyze For:								QC Deliverables	
Date Needed: 10/6/10							Fax Results: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		HNO <sub>3</sub>	HCl	NaOH	H <sub>2</sub> SO <sub>4</sub>	Methanol	None	Other (Specify)	VOC	SVOC	8 REPA Total Metals	TCMP VOC	TCMP SVOC	TCMP 8 REPA Metals	None	Level 2 (Batch QC)	Level 3
SAMPLE ID																								
Drum #1		9-30-10	1315	G		SL					X						X	X	X					
East Shop Sump		9-30-10	1440	G		S					X	X	X										3-day RUSH	

Special Instructions:

Please RUSH East Shop Sump Sample 3-day TAT need results 10/6/10  
435593081261

LABORATORY COMMENTS:

Init Lab Temp:

Rec Lab Temp: 3.5°

Custody Seals: Y N N/A

Bottles Supplied by Test America: Y N

Method of Shipment:

O/C

3.5°



12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
(615) 758-5858  
1-800-767-5859  
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

### Report Summary

Monday October 11, 2010

Report Number: L482531

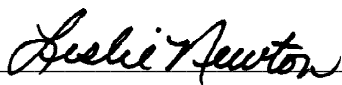
Samples Received: 10/01/10

Client Project: 6680-08-9635

Description: RBTC 500 VAC Louisville

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

  
Leslie Newton , ESC Representative

### Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487  
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140  
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233  
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,  
TX - T104704245, OK-9915

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

This report may not be reproduced, except in full, without written approval from ESC Lab Sciences. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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Mt. Juliet, TN 37122  
(615) 758-5858  
1-800-767-5859  
Fax (615) 758-5859

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Est. 1970

# REPORT OF ANALYSIS

Mr. Scott Kelly  
MACTEC - Louisville, KY  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

October 11, 2010

Date Received : October 01, 2010  
Description : RBTC 500 VAC Louisville

Sample ID : EAST SHOP SUMP

Collected By : Scott Kelly  
Collection Date : 09/30/10 14:40

ESC Sample # : L482531-01

Site ID :

Project : 6680-08-9635

Parameter	Result	Det. Limit	Units	Limit	Method	Date/Time	By	Dil
TCLP Extraction	-				1311	10/09/10 0801	MVE	1
Mercury	BDL	0.0020	mg/l	0.20	7470A	10/09/10 2018	WC	2
Arsenic	BDL	0.25	mg/l	5.0	6010B	10/10/10 0924	ARF	5
Barium	18.	0.75	mg/l	100	6010B	10/10/10 0924	ARF	5
Cadmium	BDL	0.25	mg/l	1.0	6010B	10/10/10 0924	ARF	5
Chromium	BDL	0.25	mg/l	5.0	6010B	10/10/10 0924	ARF	5
Lead	0.32	0.25	mg/l	5.0	6010B	10/10/10 0924	ARF	5
Selenium	BDL	0.25	mg/l	1.0	6010B	10/10/10 0924	ARF	5
Silver	BDL	0.25	mg/l	5.0	6010B	10/10/10 0924	ARF	5

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Limit - Maximum Contaminant Level as established by the US EPA

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

.

Reported: 10/10/10 19:05 Revised: 10/11/10 10:01

Attachment A  
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L482531-01	WG502354	SAMP	TCLP Extraction	R1420811	W2
	WG502567	SAMP	Mercury	R1419812	OJ3J6
	WG502607	SAMP	Arsenic	R1420289	O
	WG502607	SAMP	Cadmium	R1420289	O
	WG502607	SAMP	Selenium	R1420289	O



Attachment B  
Explanation of QC Qualifier Codes

Qualifier	Meaning
O	(ESC) Sample diluted due to matrix interferences that impaired the ability to make an accurate analytical determination. The detection limit is elevated in order to reflect the necessary dilution.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low
J3	The associated batch QC was outside the established quality control range for precision.
W2	(ESC) - Insufficient sample amount to perform method as required. Sample amount approved per client instruction.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed  
10/11/10 at 10:01:25

TSR Signing Reports: 044  
R5 - Desired TAT

Alison's direct dial 859-566-3729

Sample: L482531-01 Account: MACTECLOU Received: 10/01/10 09:00 Due Date: 10/13/10 00:00 RPT Date: 10/10/10 19:05  
Relogged from L481739-02



**YOUR LAB OF CHOICE**

MACTEC - Louisville, KY  
Mr. Scott Kelly  
13425 Eastpoint Center Dr. Ste. 122  
Louisville, KY 40223

Quality Assurance Report  
Level II

L482531

12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
(615) 758-5858  
1-800-767-5859  
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

October 11, 2010

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Mercury	< .0002	mg/l			WG502567	10/09/10 17:38
Arsenic	< .05	mg/l			WG502607	10/10/10 08:14
Barium	< .15	mg/l			WG502607	10/10/10 08:14
Cadmium	< .05	mg/l			WG502607	10/10/10 08:14
Chromium	< .05	mg/l			WG502607	10/10/10 08:14
Lead	< .05	mg/l			WG502607	10/10/10 08:14
Selenium	< .05	mg/l			WG502607	10/10/10 08:14
Silver	< .05	mg/l			WG502607	10/10/10 08:14

Analyte	Units	Duplicate		RPD	Limit	Ref Samp	Batch
		Result	Duplicate				
Mercury	mg/l	0	0	0	20	L482531-01	WG502567
Barium	mg/l	0.310	0.308	0.325	20	L482646-02	WG502607
Cadmium	mg/l	0	0	0	20	L482646-02	WG502607
Chromium	mg/l	0	0.00850	NA	20	L482646-02	WG502607
Silver	mg/l	0	0.00490	NA	20	L482646-02	WG502607
Lead	mg/l	0	0	0	20	L482646-02	WG502607

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Mercury	mg/l	.003	0.00263	87.7	85-115	WG502567
Arsenic	mg/l	1.13	1.10	97.3	85-115	WG502607
Barium	mg/l	1.13	1.10	97.3	85-115	WG502607
Cadmium	mg/l	1.13	1.12	99.1	85-115	WG502607
Chromium	mg/l	1.13	1.13	100.	85-115	WG502607
Lead	mg/l	1.13	1.13	100.	85-115	WG502607
Selenium	mg/l	1.13	1.11	98.2	85-115	WG502607
Silver	mg/l	1.13	0.987	87.3	85-115	WG502607

Analyte	Units	Matrix Spike			% Rec	Limit	Ref Samp	Batch
		MS Res	Ref Res	TV				
Mercury	mg/l	0.00304	0	.0015	101.	70-130	L482531-01	WG502567
Barium	mg/l	1.28	0.308	1.13	86.0	75-125	L482646-02	WG502607
Cadmium	mg/l	1.03	0	1.13	91.2	75-125	L482646-02	WG502607
Chromium	mg/l	1.10	0.00850	1.13	96.6	75-125	L482646-02	WG502607
Silver	mg/l	0.600	0.00490	1.13	52.7*	75-125	L482646-02	WG502607
Lead	mg/l	1.16	0	1.13	20.5*	75-125	L482646-02	WG502607

Analyte	Units	Matrix Spike Duplicate			Limit	RPD	Limit	Ref Samp	Batch
		MSD	Ref	%Rec					
Mercury	mg/l	0.000460	0.00304	15.3*	70-130	147.*	20	L482531-01	WG502567
Barium	mg/l	1.35	1.28	92.2	75-125	5.32	20	L482646-02	WG502607
Cadmium	mg/l	1.09	1.03	96.5	75-125	5.66	20	L482646-02	WG502607
Chromium	mg/l	1.15	1.10	101.	75-125	4.44	20	L482646-02	WG502607
Silver	mg/l	0.863	0.600	75.9	75-125	36.0*	20	L482646-02	WG502607

\* Performance of this Analyte is outside of established criteria.  
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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Quality Assurance Report  
Level II

L482531

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(615) 758-5858  
1-800-767-5859  
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

October 11, 2010

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Lead	mg/l	1.11	1.16	19.6*	75-125	4.41	20	L482646-02	WG502607

Batch number /Run number / Sample number cross reference

WG502567: R1419812: L482531-01  
WG502607: R1420289: L482531-01  
WG502354: R1420811: L482531-01

\* \* Calculations are performed prior to rounding of reported values .  
\* Performance of this Analyte is outside of established criteria.  
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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MACTEC - Louisville, KY  
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13425 Eastpoint Center Dr. Ste. 122

Louisville, KY 40223

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Mt. Juliet, TN 37122  
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Tax I.D. 62-0814289

Est. 1970

October 11, 2010

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

**TestAmerica**  
ANALYTICAL TESTING CORPORATION

**Nashville Division  
2960 Foster Creighton  
Nashville, TN 37204**

**Phone: 615-726-0177**  
**Fax: 615-726-3404**

What work is being conducted for regulatory purposes?  
Compliance Monitoring

Client Name MACTEC - Louisville, KY Client #:

Address: 13425 Eastpoint Centre Dr Ste 122

City/State/Zip Code: Louisville KY 40223

Project Manager: tskelly@mactel.com

Telephone Number: 502-233-2500 Fax: 502-233-2501

Sampler Name: (Print Name) Scott Kelly

Sampler Signature: T. Scott

Project Name: RBTC 500 VAC - Louisville

Project #: 6680-08-9635

Site/Location ID: MACTECLON - 500 VAC State: Louisville, Ky

Report To: Scott Kelly

Invoice To: MACTEC, AP Processing, 1105 Lakewood, Ste  
Quota #: 2402100 300

Quote #: \_\_\_\_\_ PO#: 201013638

Alpharetta  
GA  
30009

[illegible]**Special instructions:**

Please RUSH East Shop Samp Sample 3-day TAT need results 10/6/10  
435593081261

LABORATORY COMMENTS:

**Init Lab Temp:**

Rec Lab Temp: 3.5°

Custody Seals: Y N N/A  
Bottles Supplied by Test America: Y N

**Method of Shipment:**

10/1

3.5.

**Jonah Huckabay**

(48253)

**From:** Leslie Newton  
**Sent:** Wednesday, October 06, 2010 4:21 PM  
**To:** Login; TCLP  
**Subject:** L481739-02 MACTECLOU

**Importance:** High

**Attachments:** COCL481739

Client needs this re-logged for TCLP Metals. Please put on a different L # than the samples in-house.



COCL481739.pdf  
(137 KB)

*Leslie Newton*

**Leslie Newton**  
Sr. Technical Service Representative  
**ESC Lab Sciences**  
12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
615-773-9670  
<http://www.myesc.esclabsciences.com>

## **APPENDIX F**

### **WASTE DISPOSAL AND BACKFILL DOCUMENTATION**



## **APPENDIX F1**

### **CONCRETE DEBRIS**



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

Form Approved. OMB No. 2050-0039

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number <b>KYD074075441</b>	2. Page 1 of <b>1</b>	3. Emergency Response Phone <b>(800)326-1221</b>	4. Manifest Tracking Number <b>00035650BWAS</b>						
5. Generator's Name and Mailing Address <b>ROBERT BOSCH TOOL CORP / DAVID LUEPKE 1800 WEST CENTRAL ROAD MOUNT PROSPECT, IL 60056 (224)232-2201</b>			6. Generator's Site Address (if different than mailing address) <b>ROBERT BOSCH TOOL CORP / DAVID LUEPKE 500 EAST MAIN STREET LOUISVILLE, KY 40202 GEN: 127503</b>								
7. Transporter 1 Company Name <b>HERITAGE TRANSPORT, LLC</b>				U.S. EPA ID Number <b>IND058484114</b>							
7. Transporter 2 Company Name				U.S. EPA ID Number							
8. Designated Facility Name and Site Address <b>HERITAGE ENVIRONMENTAL SERVICES LLC 7901 WEST MORRIS STREET INDIANAPOLIS, IN 46231 Facility's Phone: (317)243-0811</b>				U.S. EPA ID Number <b>IND093219012</b>							
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))  1. <b>RQ NA3077, HAZARDOUS WASTE, SOLID, N.O.S., PGII, (F007), ERG#171</b>			10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes <b>E007</b>			
				No. Type							
				<b>001 CM 20 Y</b>							
14. Special Handling Instructions and Additional Information <b>L.WI_Q575507_T#2591772_LDR</b>  <b>[1434142]</b>											
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/Officer's Printed/Typed Name <b>Michael J. Candia (R.S. agent for R. Bosch Tool Corp)</b>				Signature <i>Michael J. Candia</i>		Month Day Year <b>10 14 10</b>					
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> 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				Signature <i>Paul Demery</i>				Month Day Year <b>10 14 10</b>		
	Transporter 1 Printed/Typed Name <b>Paul Demery</b>				Signature <i>Paul Demery</i>				Month Day Year <b>10 14 10</b>		
DESIGNATED FACILITY	18. Discrepancy										
	18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection										
	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. <b>H129</b>			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 <b>Adam Will</b>				Signature <i>Adam Will</i>				Month Day Year <b>10 29 10</b>			

Stop Ticket

Stop#: 1282271-9000

Trip#: 942027

Site#: 127503

EPA ID#: KYD074075441  
PO#: DL1012



1 of 1

Pick-up: 10/13/10 - 10/13/10

Miles: 252

Internal Contact  
BILLIE DZUNDA (877)381-2341



Mailing Address

DAVID LUEPKE  
ROBERT BOSCH TOOL CORP  
1800 WEST CENTRAL ROAD  
MOUNT PROSPECT, IL 60056  
UNITED STATES

Site Address

(None)

ROBERT BOSCH TOOL CORP  
500 EAST MAIN STREET  
LOUISVILLE, KY 40202  
UNITED STATES

Phone# (224)232-2201

ROACH, DAVID - (270)259-4081

HERITAGE TRANSPORT, LLC (8000) (317)486-2973  
IND058484114 US DOT#: 314460

Emergency Rate Pickup Demurrage 20.00/11 Final Delivery Demurrage

Tractor# 312 Trailer# 2014

Liner Qty 1 Pump/Hose RO# TO HT 20-08 RO# TO HT

PICKUP TIME: 07:00-17:00 RO# TO GEN RO# TO GEN

Stop Type LIVE LOAD RO Type OPEN TOP RO Size 20 Liner Qty

Driver# 4895 Driver Name Paul Demery Date 10/14/10

HERITAGE ENVIRONMENTAL SERVICES LLC (9000)  
7901 WEST MORRIS STREET, INDIANAPOLIS, IN 46231 UNITED STATES  
IND093219012  
(317)243-0811

P/U	Items	Common Name	See Manifest	Transaction	Prod	Ref#	Ord	Type
	1	DEBRIS FROM BASE OF FORMER PLATING LIN	000356508WAS-1	2591772	6014	Y1Y	1	CM

ADDL EQUIP:

PPE: GLVS, GOGLS, APRON OR PCTYVEK SUIT

SPL INSTRS: SITE CONTACT SCOTT KELLY 502/648-9456

Site Rep Name Michael T. Caudill Signature Michael T. Caudill Date 10/14/10

10 20 10 06:59 64700 LB

10 20 10 07:41 67100 LB

93961: ROBERT BOSCH LLC  
Company/Loc: 48\12

Heritage Environmental Services, LLC  
www.heritage-enviro.com



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

Form Approved. OMB No. 2050-0039

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number KYD074075441	2. Page 1 of 1	3. Emergency Response Phone (800) 326-1221	4. Manifest Tracking Number <b>000356507WAS</b>		
5. Generator's Name and Mailing Address ROBERT BOSCH TOOL CORP / DAVID LUEPKE 1800 WEST CENTRAL ROAD MOUNT PROSPECT, IL 60056 (224) 232-2201			Generator's Site Address (if different than mailing address) ROBERT BOSCH TOOL CORP / DAVID LUEPKE 500 EAST MAIN STREET LOUISVILLE, KY 40202 GEN: 127503				
6. Transporter 1 Company Name HERITAGE TRANSPORT, LLC			U.S. EPA ID Number IND058484114				
7. Transporter 2 Company Name			U.S. EPA ID Number				
8. Designated Facility Name and Site Address HERITAGE ENVIRONMENTAL SERVICES LLC 7901 WEST MORRIS STREET INDIANAPOLIS, IN 46231 Facility's Phone: (317) 243-0811			U.S. EPA ID Number IND093219012				
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
			No.	Type			
		1. RD NA3077 HAZARDOUS WASTE, SOLID, N.O.S., PGI II, (F007), ERG#171	1	CM	20	Y	E007
		2.					
		3.					
		4.					
14. Special Handling Instructions and Additional Information W1 0375507_T#2591770_LDR  [1434141]							
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/Officer's Printed/Typed Name Michael J. Caudill (R. Bosch Tool Corp.) Signature Michael J. Caudill Month Day Year 10 15 10							
TRANSPORTER	16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> 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 Eric Scott Signature Eric Scott Month Day Year 10 15 10 Transporter 2 Printed/Typed Name Signature Month Day Year						
DESIGNATED FACILITY	18. Discrepancy						
	18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection						
	18b. Alternate Facility (or Generator) Manifest Reference Number: _____ 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. H129 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 Adam Will Signature Adam Will Month Day Year 10 20 10							



Eric S. 1 of 1

Stop-Ticket

Stop#: 1282270-9000

Trip#: 942026

Site#: 127503

EPA ID#: KYD074075441  
PO#: DL1012

Pick-up: 10/13/10 - 10/13/10

Miles: 252

Internal Contact  
BILLIE DZUNDA (877)381-2341



Mailing Address

DAVID LUEPKE  
ROBERT BOSCH TOOL CORP  
1800 WEST CENTRAL ROAD  
MOUNT PROSPECT, IL 60056  
UNITED STATES

Site Address

(None)

ROBERT BOSCH TOOL CORP  
500 EAST MAIN STREET  
LOUISVILLE, KY 40202  
UNITED STATES

Phone# (224)232-2201  
ROACH, DAVID - (270)259-4081

HERITAGE TRANSPORT, LLC (8000) (317)486-2973  
IND0584114 US DOT#: 314460

Emergency Rate

Pickup Demurrage 120

Final Delivery Demurrage

Tractor#

2323

Trailer#

20-24

Liner Qty 1 Pump/Hose

RO# TO HT

RO-49

RO# TO HT

RO# TO GEN

A

RO# TO GEN

PICKUP TIME: 07:00-17:00

RO Size 20

Liner Qty

Stop Type LIVE LOAD

RO Type OPEN TOP

Date 10-15-10

Driver# 2324

Driver Name

Eric Roach

IND093219012

(317)243-0811

HERITAGE ENVIRONMENTAL SERVICES LLC (9000)  
7901 WEST MORRIS STREET, INDIANAPOLIS, IN 46231 UNITED STATES

P/U

Items

Common Name

See Manifest

Transaction

Prod

Ref#

Ord

Type

1 DEBRIS FROM BASE OF FORMER PLATING LIN 000356507WAS-1

2591770

6014

Y1Y

1

CM

ADDL EQUIP:

PPE: GLVS, GOGLS, APRON OR PCTYVEK SUIT

SPL INSTRS: SITE CONTACT SCOTT KELLY 502/648-9456

Site Rep  
Name

Michael J. Cavallini  
(as agent for R. Bosch Tool Corp)

Signature

Michael J. Cavallini

Date 10/15/10

10 20 10 08:26

51040 LB

10 20 10 08:47

52280 LB

93961: ROBERT BOSCH LLC  
Company Loc: 48112

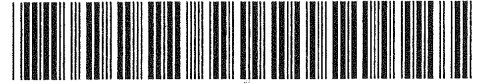
Heritage Environmental Services, LLC  
www.heritage-enviro.com

## **APPENDIX F2**

### **DRUMMED WASTE**



<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number KYD074075441		2. Page 1 of 1		3. Emergency Response Phone (800) 326-1221		4. Manifest Tracking Number 000374070WAS		
		5. Generator's Name and Mailing Address ROBERT BOSCH TOOL CORP / DAVID LUEPKE 1800 WEST CENTRAL ROAD MOUNT PROSPECT, IL 60056 (224) 232-2201				Generator's Site Address (if different than mailing address) ROBERT BOSCH TOOL CORP / DAVID LUEPKE 500 EAST MAIN STREET LOUISVILLE, KY 40202 GEN: 127503				
6. Transporter 1 Company Name HERITAGE TRANSPORT, LLC						U.S. EPA ID Number IND0750494114				
7. Transporter 2 Company Name						U.S. EPA ID Number				
8. Designated Facility Name and Site Address HERITAGE ENVIRONMENTAL SERVICES LLC 7901 WEST MORRIS STREET INDIANAPOLIS, IN 46231						U.S. EPA ID Number IND098219012				
Facility's Phone: (317) 243-0811										
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))				10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
						No. Type				
	X	1. RD NA3077, HAZARDOUS WASTE, SOLID, N.O.S., PG III, (F007), ERG#171				002 PM		110	G	F007
	X	2. RD NA3077, HAZARDOUS WASTE, SOLID, N.O.S., PG III, (F007), ERG#171				004 DM		220	G	F007
	X	3. RD NA3077, HAZARDOUS WASTE, SOLID, N.O.S., PG III, (F007), ERG#171				001 DF		005	G	F007
		4.								
14. Special Handling Instructions and Additional Information 1. M2 D583099_LDR 2. M3 D583100_LDR 3. WS 2 EPI: HERITAGE 114542773										
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/Officer's Printed/Typed Name X DAVID ROACH				Signature David Roach				Month Day Year 12/17/10		
INT'L	16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> 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 HACOLD DAVIS Signature HACOLD DAVIS Month Day Year 12/17/10 Transporter 2 Printed/Typed Name _____ Signature _____ Month Day Year _____									
TRANSPORTER	18. Discrepancy									
	18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection Manifest Reference Number: _____ U.S. EPA ID Number _____									
DESIGNATED FACILITY	18b. Alternate Facility (or Generator) _____ U.S. EPA ID Number _____ Facility's Phone: _____ Month Day Year _____									
	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. H111 2. H111 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 _____										

**Generator Name: ROBERT BOSCH TOOL CORP**
**Manifest Tracking No.: 000374090WAS EPA I.D. No.: KYD074075441**


(1) Waste Does Not Meet Applicable Treatment Standards: This is a restricted waste that does not meet the applicable treatment standards set forth in Subpart D of 40 CFR Part 268.

I certify that the information provided on this and any additional pages of this LDR notification is true, accurate and complete.

Authorized Signature: *David Runch* Print Name: DAVID RUNCH

Company/Title: B.T.S. Date: 12/17/10

(1) Manifest Page/Line	(2) Hazardous Waste Codes	(3) Wastewater Or Non Wastewater	(4) Subcategory (if applicable)	(5) Underlying Constituents	(6) Applicable Certification
1.1	F007	NWW		NA	1
1.2	F007	NWW		NA	1



## **APPENDIX F3**

### **WASTEWATER**



*Louisville and Jefferson County Metropolitan Sewer District*  
700 West Liberty Street  
Louisville, KY 40203-1911  
502-540-6000  
[www.msdlouky.org](http://www.msdlouky.org)

November 08, 2010

FAX 224 232-2702

Mr. David Luepke  
Robert Bosch Tool Corporation  
1800 West Central Road  
Mount Prospect, IL 60056

Subject: U.D.R. # 28895 – Approximately 160 gallons of wastewater that was generated from sampling and cleanup activities related to groundwater monitoring wells at 500 E. Main St., Louisville, Ky. 40202.

Dear Mr. Luepke:

This correspondence approves your request to discharge the above referenced material to an on-site combined sewer connection. The discharge window is from November 8 through 24, 2010. The terms of your approval are listed below.

The Standard Terms of your approval are as follows:

- screen/remove grit prior to discharge;
- if IWD inspection of the material prior to or during discharge reveals a violation of MSD's Wastewater Discharge Regulations, and/or the conditions outline herein, approval will be revoked and not reinstated until corrective action is taken;
- failure to comply with MSD Wastewater Discharge Regulations or violations of conditions outlined herein may result in enforcement action;
- should MSD determine at any time that the discharge herein approved may cause an adverse effect to MSD operations, including but not limited to WDR Sections 2.01(a)(7), Danger to life or safety of any person; 2.01(a)(8), A strong or offensive odor which prevents the effective maintenance or operation of the treatment works; or 2.01(a)(10), Interference with operation, maintenance or performance of the treatment works, this approval may be revoked.



*Beneficial Use of Louisville's Biosolids*  
[www.louisvillegreen.com](http://www.louisvillegreen.com)

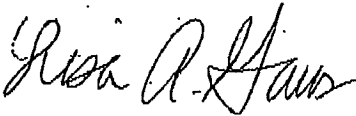
Mr. David Luepke  
November 8, 2010  
Page 2

In addition, the following Special Conditions shall apply to this discharge:

- any discharges into this combined sewer system should not exceed 50 gpm;
- no discharge is allowed within 72 hours of a .3 inches or greater precipitation event within a 24 hour moving window.

Please call me at 540-6910 if you have any questions or if the discharge cannot be completed in the above specified discharge time.

Sincerely,



Lisa A. Gaus  
Emergency Response Pretreatment Administrator

glk/LAG  
2010 11 02 Robt Bosch MACTEC UDR 28895

cc: UDR file  
Scott Kelly, MACTEC Engineering & Consulting, Inc., 13425 Eastpoint Centre Dr., Ste. 122,  
Louisville, Ky. 40223, ph. 502 253-2541 fax 502 253-2501

## **APPENDIX F4**

### **BACKFILL DOCUMENTATION**

**NUGENT SAND COMPANY**1833 River Rd.  
Louisville, KY 40206Louisville Yard - Nugent  
Phone: (502) 504-0158**10/15/10 07:55 596064****CUST: ASTENV JOB: 512****AST ENVIRONMENTAL, INC**  
70 COMMERCIAL WAY  
SPRINGSBORO OH 45066

	LB	TON	mTON
GROSS	76360	38.18	34.64
TARE	26500	13.25	12.02
NET	49860	24.93	22.62

**DELIVER TO:****512 EAST MAIN**  
**1-937-790-0771****SUBTOTAL:****DELIVERY:****TAX.....:****TOTAL DUE:****PO: 512****PROD: DG Dense Graded Aggregates****ZONE:1 Loads Today: 2****Tons Today: 50.47****Tons/Job...: 50.47****HAULER: GLASSK****TRUCK#: K-4****Kirk Glasscock****CUSTOMER:****DRIVER:**

THIS IS TO CERTIFY THAT I HAVE PERSONALLY RECEIVED THE MATERIAL DESCRIBED HEREON AS AGENT OF THE CUSTOMER AS SPECIFIED ABOVE. THE QUANTITY APPEARS TO BE AS STATED ON THIS TICKET.

**ORIGINAL****NUGENT SAND COMPANY**1833 River Rd.  
Louisville, KY 40206Louisville Yard - Nugent  
Phone: (502) 504-0158**10/15/10 07:25 596058****CUST: ASTENV JOB: 512****AST ENVIRONMENTAL, INC**  
70 COMMERCIAL WAY  
SPRINGSBORO OH 45066

	LB	TON	mTON
GROSS	77580	38.79	35.19
TARE	26500	13.25	12.02
NET	51080	25.54	23.17

**DELIVER TO:****512 EAST MAIN**  
**1-937-790-0771****SUBTOTAL:****DELIVERY:****TAX.....:****TOTAL DUE:****PO: 512****PROD: DG Dense Graded Aggregates****ZONE:1 Loads Today: 1****Tons Today: 25.54****Tons/Job...: 25.54****HAULER: GLASSK****TRUCK#: K-4****Kirk Glasscock****CUSTOMER:****DRIVER:**

THIS IS TO CERTIFY THAT I HAVE PERSONALLY RECEIVED THE MATERIAL DESCRIBED HEREON AS AGENT OF THE CUSTOMER AS SPECIFIED ABOVE. THE QUANTITY APPEARS TO BE AS STATED ON THIS TICKET.

**ORIGINAL**