



August 6, 2014

Mr. Todd Davis  
Site Assessment Manager  
U.S. Environmental Protection Agency, Region 7  
11201 Renner Blvd.  
Lenexa, Kansas 66219

**Subject: Final Phase II Targeted Brownfields Assessment  
KCMO Public Works East Garage (also known as Municipal Farms Area 7)  
Kansas City, Jackson County, Missouri  
EPA Region 7, START 4, Contract No. EP-S7-13-06, Task Order No. 0002.019.001  
Monitor: Todd Davis, Site Assessment Team Leader**

Dear Mr. Davis:

Tetra Tech, Inc. is submitting the attached Phase II Targeted Brownfields Assessment (TBA) report regarding the KCMO Public Works East Garage site in Kansas City, Missouri. The TBA includes an investigation to confirm or eliminate recognized environmental conditions specified in the Phase I TBA report finalized by Tetra Tech, Inc., in January 2014.

If you have any questions or comments regarding this submittal, please call the project manager at (816)-412-1778.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Kumud Pyakuryal', written over a horizontal line.

Kumud Pyakuryal  
START Project Manager

A handwritten signature in blue ink, appearing to read 'Ted Faile', written over a horizontal line.

Ted Faile, PG, CHMM  
START Program Manager

Enclosures

**PHASE II TARGETED BROWNFIELDS ASSESSMENT REPORT**  
**KANSAS CITY PUBLIC WORKS EAST GARAGE SITE**  
**4635 AND 4725 EAST COAL MINE ROAD, KANSAS CITY, MISSOURI**

**Superfund Technical Assessment and Response Team (START) 4**

**EP-S7-13-06, Task Order No. 0002.019.001**

Prepared For:

U.S. Environmental Protection Agency  
Region 7  
11201 Renner Blvd.  
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August 6, 2014

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## EXECUTIVE SUMMARY

The Tetra Tech, Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START) was tasked by the U.S. Environmental Protection Agency (EPA) Region 7 Superfund Division to conduct a Phase II Targeted Brownfields Assessment (TBA) of the approximately 14.5-acre Kansas City Missouri Public Works East Garage site at 4635 East Coal Mine Road and 4725 East Coal Mine Road in Kansas City, Jackson County, Missouri (subject property); this site is also referred to as Municipal Farm Area 7 in its Conceptual Land Use Plan (CLUP). The City of Kansas City, Missouri (City) requested assessment assistance under the TBA program from EPA Region 7 for assessing current environmental conditions at the site with intent to create a permanent farm location for a non-profit youth agricultural program to grow produce for harvest and production of food products to be sold in local groceries and markets. START conducted this Phase II TBA in accordance with the *Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process*, ASTM International (ASTM) designation E1903-97-11, and otherwise in compliance with EPA's "All Appropriate Inquiries" Rule (AAI Rule) (40 *Code of Federal Regulations* [CFR] Part 312).

A Phase I TBA of the subject property completed in January 2014 resulted in findings and specifications of recognized environmental conditions (REC) to the subject property that appear in detail in Section 2.5.

The purpose of this Phase II TBA was to determine if historical activities at the subject property had impacted surface soil, sediment, subsurface soil, and/or groundwater. During this Phase II TBA at the subject property, soil, groundwater, and sediment samples were collected to assess environmental impacts. Analytical results were compared to Missouri Risk-Based Corrective Action (MRBCA) Tier 1 risk-based target levels (RBTL) for residential and non-residential land use for sandy soil types.

Findings and recommendations from the Phase II TBA are as follows:

Based on sampling during this Phase II TBA, elevated levels of arsenic and lead are present in the soil at the former landfill area, and elevated levels of metals are present in the groundwater. No soil, sediment, or water sample contained concentrations of VOCs above respective MRBCA lowest default target levels (LDTL) (Missouri Department of Natural Resource [MDNR] 2006). Concentrations of three SVOCs exceeded the respective LDTLs in two soil samples, but only benzo(a)pyrene (0.96 micrograms per kilograms [mg/kg]) and bis(2-chloroisopropyl)ether (0.048 J mg/kg) exceeded the respective Tier 1 RBTLs for residential soil. Of the metals in soil and sediment that exceeded LDTLs, none exceeded its Tier 1 RBTL for non-residential land use.

Concentrations of arsenic (dissolved and total), cadmium, chromium, and lead exceeded the respective LDTLs in groundwater at sample location GW-04. A groundwater sample was collected at only one location; groundwater was not encountered at other locations. Nevertheless, review of results from that groundwater sample suggests possible impacts on groundwater at the site from past on-site activities. All other RECs listed in the Phase I TBA (Tetra Tech 2014) were eliminated by examination of results from the Phase II sampling.

Use of groundwater at the subject property as drinking water is unlikely, because the subject property is within city limits and utilizes city water. However, if a decision to use the groundwater for drinking purposes occurs in the future, and metals contamination continues to be a concern after the decision regarding future use of the subject property, further investigation may be necessary.

## **1.0 INTRODUCTION**

The Tetra Tech, Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START) was tasked by the U.S. Environmental Protection Agency (EPA) Region 7 Superfund Division to conduct a Phase II Targeted Brownfields Assessment (TBA) of the approximately 14.5-acre Kansas City Missouri Public Works East Garage site at 4635 East Coal Mine Road and 4725 East Coal Mine Road in Kansas City, Jackson County, Missouri. The City of Kansas City, Missouri (City) requested assessment assistance under the TBA program from EPA Region 7 for assessing current environmental conditions at the site with intent to create a permanent farm location for a non-profit youth agricultural program to grow produce for harvest and production of food products to be sold in local groceries and markets. START conducted this Phase II TBA in accordance with the *Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process*, ASTM International (ASTM) designation E1903-97-11, and otherwise in compliance with EPA's "All Appropriate Inquiries" Rule (AAI Rule) (40 *Code of Federal Regulations* [CFR] Part 312).

### **1.1 PURPOSE**

The purpose of this Phase II TBA was to determine if historical activities at the subject property had impacted surface soil, sediment, subsurface soil, or groundwater at and around items posing recognized environmental conditions (REC) that Tetra Tech had identified during the January 2014 Phase I TBA. During this Phase II TBA at the subject property, soil, groundwater, and sediment samples were collected to confirm or eliminate RECs. Analytical results were compared to Missouri Risk-Based Corrective Action (MRBCA) lowest default target levels (LDTL), and to Tier 1 risk-based target levels (RBTL) for residential and non-residential land use for sandy soil types.

### **1.2 SPECIAL TERMS AND CONDITIONS**

There were no special terms or conditions for the TBA.

## **2.0 BACKGROUND AND SITE HISTORY**

This section provides a brief description of the subject property: the physical setting, including geology, hydrogeology, and hydrology; site history and land use; adjacent land use; and a summary of previous assessments.

### **2.1 SITE DESCRIPTION AND FEATURES**

For the purposes of the TBA, the subject property encompasses approximately 14.5 acres of land associated with the street addresses of 4725 and 4635 East Coal Mine Road in Kansas City, Jackson County, Missouri (see Figure 1, Appendix A), currently owned by the City. The subject property encompasses three whole City parcels (I, II, and III [see below]) and approximately 7 acres of undeveloped land at the southwest corner of Parcel IV. According to the City of Kansas City, Missouri KC Mapper website, legal descriptions of the parcels included in the subject property are as follows (City 2013 and Tetra Tech 2014a):

Parcel I – JA31620040200000000

SEC 25-49-33 S1/2 NW1/4 ALL TH PT OF NW 1/4 SE 1/4 25-49-33 LY S OF K C S RY (EX PT DAF: BEG AT SW COR NW 1/4 TH N 514' TH E 332' TH S ELY 1000' MOL TO A PT 15' N OF S LI OF E LI OF W 1/4 SEC TH S 15' TH W 1315' TO POB)

Parcel II – JA31610060200000000

SEC 25-49-33 NW1/4 NE1/4 BEG 1115' S OF NW COR NE TH E 1475' TH N 18' TH NWLY 350'P/M TO SPUR TRACK TH CONT NWLY ALG SD SPUR TO SLY LI KCS RY TH SWLY ALG SD LI TO W LI OF 1/4 SEC TH S 310' TO BEG Parcel III - JA31620040300000000

Parcel III

SEC 25-49-33 SW1/4 NE1/4 BEG 935.22' N OF SW COR OF NE 1/4 TH N 615.78' TH E 1485' TH S 615.78' TH W 1485' TO POB.

The subject property is depicted on the United States Geological Survey (USGS) 7.5-minute series Kansas City, Missouri topographic quadrangle map (USGS 1996) in northern ½ of Section 25, Township 49 north, Range 33 west (see Figure 1, Appendix A). Coordinates at the approximate center of the property are 39° 2' 33.36" north latitude and 94° 30' 29.52" west longitude (Google Earth 2013).

### **2.2 PHYSICAL SETTING**

As described in Section 2.1, the subject property encompasses approximately 14.5 acres south of East Coal Mine Road in Kansas City, Jackson County, Missouri. The subject property is bounded north by East Coal



Mine Road and divided into east and west plots by an unimproved road used to access the existing Botts Radio Communications Towers south of the subject property. A pond and lagoon, respectively, border the eastern and western boundaries of the subject property. It includes lightly forested land and former agricultural land, with an unimproved driveway extending southward from East Coal Mine Road.

Jackson County is within the west-central part of Missouri, in the Iowa and Missouri Deep Loess Hills Resource Area of the Central Feed Grains and Livestock Region of the United States. The Missouri River is the northern boundary of the county. The northern part of the county is the nearly level flood plain of the Missouri River. Adjacent to the flood plain and south are moderately sloping to steep, loess-covered bluffs and hills. The rest of the county consists of gently sloping to moderately sloping uplands and flood plains of the Blue River, Little Blue River, Sni-A-Bar Creek, and their tributaries (U.S. Department of Agriculture [USDA] 1984).

Elevations in Jackson County range from 1,105 feet above mean sea level (amsl) on the divide in the south-central part of the county to 690 feet amsl at normal water level on the Missouri River at the county line on the eastern side of the county (USDA 1984). Based on a review of the USGS 7.5-minute series Independence, Missouri, topographic quadrangle map (USGS 1996), the subject property ranges from approximately 760 to 860 feet amsl. The subject property consists of relatively even terrain, with the highest location over the area of land near the northern portion of the subject property, next to East Coal Mine Road. However, area topography in the site area generally slopes west and north toward the Blue River.

### **2.2.1 Geologic Setting**

Soils on the subject property are of Snead-Menfro-Oska association. This association occurs at strongly dissected uplands adjacent to flood plains of intermediate and small streams, with plenty of rock outcrops. The Snead-Menfro-Oska association covers about 20 percent of Jackson County, and percentages of areas taken up within that 20 percent by components of the association are as follows: 32 percent Snead soils, 25 percent Menfro soils, 11 percent Oska soils, and 32 percent other soils (USDA 1984).

The upper bedrock formation in the vicinity of the subject property consists of the middle Kansas City Group, Missourian Series, Pennsylvania System (Missouri Bureau of Geology and Mines 1917). Underlying the Kansas City Group are the shales of the Pleasanton Group. Underlying the Pleasanton Group are predominantly shales of the Marmaton and Cherokee Groups of the Desmoinesian Series (Missouri Department of Natural Resources [MDNR] 1997). Maximum thicknesses of these groups are as

follows: 135 feet for the Kansas City Group, 150 feet for the Pleasanton Group, and 190 feet for the Marmaton Group (Stohr, St. Ivany, and Williams 1981).

### **2.2.2 Hydrogeology**

Local Pennsylvanian-age bedrock units generally yield low quantities of marginal quality groundwater high in dissolved solids—particularly chlorides, iron, and bicarbonates (Stohr, St. Ivany, and Williams 1981). According to the user-provided information in the area-wide Brownfields sustainable reuse plan, although the subject property is close to major utility lines, future water demands should be determined to indicate whether the 8-inch line feeding the nearby Public Works Facility and Lift Station can be extended for future needs within the subject property. Nearby water supplied by the City of Kansas City, Missouri, Water Department is obtained from the Missouri River and groundwater sources near the river.

Mississippian and Pennsylvania formations form the bedrock aquifers in this region. The Pennsylvanian aquifers are characterized by water table conditions; however, because of the geologic structure in the region, artesian conditions may exist locally in shallow wells. Artesian conditions exist in deeper wells that were drilled to Ordovician bedrock. Water yields are low (1 to 15 gallons per minute [gpm]), and the water is high in chlorides, sodium, iron, bicarbonates, and other dissolved solids. Water yields increase in deeper wells, but quality decreases significantly with depth. Water table depths in the alluvium and terraces of the flood plains in the region are 20 to 30 feet (Stohr, St. Ivany, and Williams 1981).

Mississippian and older bedrock aquifers exhibit leaky artesian conditions; however, water table conditions exist near the border of the Ozark Plateaus. Water yields vary from 25 to a few hundred gpm. The water quality is highest near the eastern border of the Osage Plains, and decreases toward the northwest, with increasing concentrations of chlorides, sodium, and other dissolved solids. Recharge is by regional water movement from the Ozark Plateaus and by limited infiltration of precipitation (Stohr, St. Ivany, and Williams 1981).

Numerous drainageways dissect the bedrock in this area and flow into the Blue River. Transient water also may be encountered within fracture zones and along bedding planes, and frequently discharges at bedrock outcrops.

Environmental Data Resources, Inc. (EDR), a START subcontractor, identified two federal USGS wells and one state database well within 1 mile of the subject property by searching state and USGS database listings. The reported total depths of the wells ranged from 615 to 652 feet below ground surface (bgs); total depth of the second USGS well was not reported. Static water levels at the wells were not provided,

and EDR extracted no data on groundwater flow and velocity (Tetra Tech 2014a). In the absence of site-specific data or other indicators, the direction of groundwater flow may be inferred from the regional topographic gradient. Therefore, the deeper groundwater flow is inferred to the north in the direction of the topographic gradient and surface water flow toward the Blue River (see Appendix A, Figure 2). The lagoon and pond east and west of the subject property, respectively, may also capture some shallow groundwater infiltration at the subject property.

### **2.2.3 Hydrology**

Based on the USGS map, surface water on the subject property appears to follow surface topography and either infiltrates the ground or flows east (toward the lagoon) or west (toward the pond). The northern boundary of the subject property is topographically only about 40 feet higher than the Blue River.

## **2.3 SITE HISTORY AND LAND USE**

According to the TBA application completed by the City, the subject property was used for agricultural purposes between the 1940s and 1970s. In addition, the application states that a 3- to 5-acre landfill constructed around 1991-1995 on the subject property received sediments dredged from the Blue River near the former ARMCO steel plant; after placement of those sediments, the landfill was covered with 2 feet of clay soil.

## **2.4 ADJACENT PROPERTY USE**

The subject property is bounded north by East Coal Mine Road, with the Blue River beyond; east by a lagoon, with forestland and open lands beyond; south by the Botts Radio communication towers; and west by an unnamed pond. No known information indicates use of the lagoon as a surface impoundment to store waste materials. A review of historical documents indicated that the area surrounding the subject property has been used for a variety of residential and municipal purposes (Tetra Tech 2014a).

## **2.5 SUMMARY OF PREVIOUS ASSESSMENTS**

Environmental Advisors and Engineers (EAE) prepared an Area-Wide Brownfields Plan (AWBP) regarding the Municipal Farms properties for facilitating sustainable reuse and development of the area (EAE 2012). Based on available information about the CLUP areas that include the subject property, the most likely contaminants present were identified as polychlorinated biphenyls (PCB), metals, and

herbicides/pesticides. In January 2014, Tetra Tech prepared a Phase I TBA on behalf of the EPA for this site in Kansas City, Missouri. The following findings resulted:

- Several 1-quart petroleum containers were observed around the subject property. An empty 5-gallon bucket and automobile-related trash were observed along the driveway, on the subject property. Although no staining was observed around the drums, because the original contents are unknown, and because materials from any of the containers may have leaked onto the ground, presence of these containers poses an environmental concern to the subject property.
- Review of historical aerial photographs and site documents provided by the City of Kansas City confirmed presence of a landfill area, which is a REC, that has since been re-vegetated. According to Mr. Bracker at the City of Kansas City, the subject property was used for agricultural purposes. However, a portion of it served as a landfill between 1991 and 1995 to receive sediments dredged from the Blue River near the former ARMCO steel plant. The application also indicated that the sediments contained total recoverable petroleum hydrocarbons at concentrations ranging from 50 to at least 200 parts per million (ppm) and possibly up to 500 to 1,000 ppm. A 2-foot clay soil cover was placed over the landfill. Historical aerial photographs from the early- to mid-1990s show the distressed areas associated the landfill. No analytical data packages were available for review during this Phase I.
- Two 10,000-gallon aboveground storage tanks (AST) were observed west of the subject property in the Public Works facilities. Because the contents of the ASTs could be hazardous, presence of the ASTs poses an environmental concern to the subject property.
- At the time of the reconnaissance, solid waste and debris consisting of tires, electronics, organic waste, and general solid waste items were observed on the subject property. This area of solid waste storage poses an environmental concern to the subject property.

To summarize, likelihood of releases of hazardous material or hazardous waste releases from the drums, containers, and former landfill pose RECs or environmental concerns to the subject property. Based on identifications of these RECs, START recommended a Phase II TBA at the subject property to assess presence of contaminants via collection of sediment, groundwater, surface, and subsurface soil samples for laboratory analysis. Tetra Tech recommended analyzing these samples for PCBs, volatile organic compounds (VOC), semivolatile organic compounds (SVOC), herbicides/pesticides, the eight Resource Conservation and Recovery Act (RCRA) metals, total petroleum hydrocarbons (TPH)-diesel range organics (DRO), TPH-gasoline range organics (GRO), and TPH-oil range organics (ORO).

### **3.0 PHASE II TARGETED BROWNFIELDS ASSESSMENT ACTIVITIES**

The purpose of this Phase II TBA was to determine if historical activities at the subject property had impacted surface soil, sediment, subsurface soil, or groundwater at and around items posing RECs.

The following sections describe the scope of the Phase II TBA, and field exploration and methods. START members (SM) Kumud Pyakuryal and Cosmo Canacari conducted sampling activities on March 31 and April 1, 2014.

#### **3.1 SCOPE OF THE ASSESSMENT**

STMs conducted environmental sampling to determine if surface soil, sediment, subsurface soil, and/or groundwater had been impacted by current or historical activities at the subject property. Photographs taken to document the Phase II TBA field activities are included in Appendix B. Analytical summary tables appear in Appendix C. Chain-of-custody records, analytical data packages, and a data validation report are in Appendix D. The sampling proceeded in accordance with an approved Quality Assurance Project Plan (QAPP) completed under Task Order 019.001 (Tetra Tech 2014b).

##### **3.1.1 Conceptual Site Model and Sampling Plan**

The QAPP issued in January 2014 was consistent with standard practice within the ASTM Phase II process, proposing a sampling scheme for collection of soil, water, and sediment samples that was biased/judgmental, in accordance with the *Guidance for Performing Site Inspections under Comprehensive Environmental Response Compensation and Liability Act (CERCLA)*, Office of Solid Waste and Emergency Response (OSWER) Directive #9345.1-05, September 1992; and the *Removal Program Representative Sampling Guidance, Volume 1: Soil*, OSWER Directive 9360.4-10, November 1991 (Tetra Tech 2014b). The objectives were to characterize possible historical releases to the environment prior to future development of the property. Surface soil, subsurface soil, sediment, and groundwater samples were collected to identify contamination possibly present at the subject property. START attempted to sample groundwater at several locations; however, groundwater was encountered and sampled at only one location. Table D-1 summarizes samples collected during the Phase II TBA and the analyses performed.

### **3.1.2 Chemical Testing Plan**

All samples were submitted to a START-contracted ALS Environmental (ALS) laboratory for analysis. The soil, sediment, and groundwater samples were analyzed for PCBs, VOCs, SVOCs, total RCRA metals (including mercury), TPH-GRO, TPH DRO, TPH-ORO, pesticides, and herbicides. The groundwater sample was also submitted for analysis for dissolved metals. All samples were analyzed according to standard operating procedures (SOP) and methods specified in the January 2014 QAPP, which was subsequently approved by EPA. START selected a laboratory with analytical detection limits below applicable MRBCA default target levels for all analytes. Appropriate containers and physical/chemical preservation techniques were employed during the field activities to help ensure that representative analytical results would be obtained. Samples were shipped to ALS on April 1, 2014; the samples were received by the laboratory on April 2, 2014.

### **3.1.3 Deviations from the QAPP**

Deviations from the QAPP and rationales for these are as follows:

- START was able to collect groundwater samples by use of direct-push technology (DPT) at only one location because no groundwater was encountered at other locations where groundwater sampling was attempted.
- Two sampling locations (SO-01 and SO-02) had to be moved because the DPT-mounted truck would not have been able to access these locations without clearance of existing trees and overgrowth.

## **3.2 FIELD EXPLORATION AND METHODS**

Field activities at the subject property occurred on March 31 and April 1, 2014. The sections below summarize sample collections that occurred.

### **3.2.1 Sediment Sampling**

During Phase II TBA activities, two sediment samples were collected—one each at locations adjacent to the lagoon and pond (east and west, respectively, of the subject property) (see Appendix A, Figure 2). Sediment samples are designated on the map as “SED.” At each location, a sediment sample was collected from the top 6 inches by use of a clean, dedicated, stainless steel spoon, and was placed in 8-ounce jars. The samples were subsequently analyzed for RCRA metals (including mercury), PCBs, and herbicides/pesticides. Pertinent data, including sample locations, were recorded in the field log book. All sediment samples were stored in coolers maintained at temperatures at or below 4 degrees Celsius (°C).

### **3.2.2 Subsurface Soil Sampling**

Subsurface soil samples were collected at two depths at six boring locations (maximum collection depth of 20 feet bgs) (see Table D-1 and Appendix A, Figure 2). Subsurface soils are designated on the map as “SO.” Sample numbers are designated as SO-S-XX-XX and SO-D-XX-XX, with the latter specifying sampling at greater depth than the former. Each borehole was advanced by use of a Geoprobe™ 4-foot-long Macro-Core® sampler fitted with a disposable polyvinyl chloride (PVC) liner. Soil samples were collected in accordance with Region 7 EPA Standard Operating Procedure (SOP) 4230.07: Geoprobe™ operations. A hand-held photoionization detector (PID) was used to screen each 4-foot core interval for volatile organics, and a sample was collected from the interval inducing the highest PID readings or showing other evidence of contamination. If no elevated PID readings or other signs of contamination were noted, a sample was collected from the base of the boring. Each sample for laboratory analysis included a grab sample for analysis for VOCs collected in accordance with EPA SW 846 Method 5035, and consisted of two 5-gram soil aliquots in separate 40-milliliter (mL) vials preserved with sodium bisulfate, and one 5-gram soil aliquot in a 40-mL vial preserved with methanol. After collection of the grab samples, the remaining soil from each sample interval was placed in a disposable aluminum pie pan for homogenization, and then transferred to the appropriate number of 4-ounce jars for analysis for TPH-GRO and TPH-DRO. The Geoprobe™ Macro-Core® sampler was decontaminated using analconox/water solution, followed by a fresh water rinse. Pertinent data, including analyses to be performed and sample locations, were recorded in the field log book. All soil samples were stored in coolers maintained at temperatures at or below 4 °C.

### **3.2.3 Groundwater Sampling**

A groundwater sample was collected from one temporary monitoring well on the subject property. Groundwater was encountered between 28 and 30 feet bgs. The sample was collected by use of a Geoprobe Screen Point 15 sampling apparatus equipped with reusable, 4-foot-long, stainless steel screen. The sampler was advanced to the maximum depth (32 feet bgs); then the screen was exposed to the aquifer. After the screen was deployed at the bottom of the boring, a sample was collected through disposable polyethylene tubing utilizing a peristaltic pump or check valve placed at the bottom of the tubing. The groundwater sampler and rods were decontaminated after sampling. Pertinent data, including analyses to be performed and sample locations, were recorded in the field log book. The groundwater sample was field filtered for dissolved metals. It was stored in coolers maintained at temperatures at or below 4 C.

### **3.2.4 Quality Control Sampling**

Two trip blanks (one for water, one for soil) supplied by ALS Environmental were analyzed for VOCs.



## **4.0 EVALUATION AND PRESENTATION OF RESULTS**

Sections 4.1 through 4.5 summarize the analytical data from the samples collected during the Phase II TBA. Based on the USDA Soil Survey of Jackson County, Missouri (USDA 1984), the soil at this location is named Bremer silt loam of the Kennebec-Colo-Bremer association (see Appendix A, Figure 2); this association covers about 10 percent of the county. Bremer silt loams are deep, nearly level, poorly drained soil on low terraces along streams. The surface layer is black silt loam, and subsoil is very dark gray and dark gray, mottled, firm, silty clay loam in the upper part; dark grayish brown, firm, silty clay loam in the middle part; and multicolored, firm, silty clay loam in the lower part. Bremer silt loam is subject to occasional flooding unless protected by levees. Individual areas are irregularly shaped and range from 5 to 30 acres. According to the MRBCA soil classification guideline (MDNR 2006), Bremer silt loam appears to qualify as Type 2, because this silty loam association consists of 50 percent or more of silt and 12 to 27 percent clay, or 50 to 80 percent silt and less than 12 percent clay. Although a Type 2 soil may be present at the site, soil sample results from this TBA were compared to more conservative MRBCA-specified values for Type 2 target levels for residential land use for sandy soil types (MDNR 2006). These values have been established to represent protective concentration thresholds of common environmental contaminants. Mercury, arsenic, lead, and selenium concentrations were also compared to mean background concentrations in Jackson County, Missouri (USGS 2012). The complete analytical data packages for all samples are included as Appendix D, and results are compared to screening values in Appendix C Tables.

### **4.1 SEDIMENT SAMPLES**

The sediment samples were analyzed for metals, PCBs, and herbicides/pesticides. No PCBs or herbicides/pesticides were detected. Arsenic was detected above the LDTL in samples SED-01 and SED-02, but the concentrations were below the target level for non-residential sandy soil. Lead was detected in both sediment samples at levels above the LDTL. However, these concentrations did not exceed the target level for residential Type 1 soils.

### **4.2 SUBSURFACE SOIL SAMPLES**

Except for common lab contaminants, no VOCs (including TPH-GRO) exceeded the LDTLs. Except for 2,6-dinitrotoluene (at 0.12 milligrams per kilogram [mg/kg] in sample SO-02-S-0-4), benzo(a)pyrene (at 0.96 mg/kg in sample SO-04-S-0-4), and bis(2-chloroisopropyl)ether, no other SVOCs (including TPH-ORO and TPH-DRO) exceeded the LDTLs. Arsenic and lead exceeded the LDTLs in all of the soil

samples. Arsenic and lead exceeded the LDTLs in all subsurface soil samples. Arsenic also found above the Tier 1 RBTLs for residential land use.

#### **4.3 GROUNDWATER**

In groundwater sample GW-04, no detected concentrations of VOCs (including TPH-GRO) or SVOCs (including TPH-ORO and TPH-DRO) exceeded sample detection limits. Total concentrations of arsenic, cadmium, chromium, and lead met or exceeded their respective LDTLs. Among the dissolved metals concentrations detected, only that of arsenic exceeded the LDTL.

#### **4.4 QUALITY CONTROL SAMPLES**

Trace amounts of the VOCs acetone, methylene chloride, and toluene (common laboratory contaminants) were detected in the soil trip blank. Because these common laboratory contaminants were detected at low concentrations and these contaminants were not identified at levels of concern in the field-collected samples, no qualifications to the data are required. No VOCs were detected in the water trip blank.

## **5.0 DISCUSSION OF FINDINGS AND CONCLUSIONS**

This section summarizes findings and presents conclusions regarding the Phase II TBA field activities.

### **5.1 RECOGNIZED ENVIRONMENTAL CONDITIONS**

No soil, sediment, or groundwater samples contained concentrations of VOCs above respective LDTLs. Three SVOCs exceeded their LDTLs in two soil samples, but only benzo(a)pyrene exceeded the Tier 1 RBTLs for residential soil. Of the metals in soil and sediment that exceeded LDTLs, none exceeded its Tier 1 RBTL for non-residential land use.

Arsenic (dissolved and total), cadmium, chromium, and lead concentrations exceeded their respective LDTLs in groundwater at sample location GW-04. Based on this information, it appears groundwater at the site has been impacted by past on-site activities. No other RECs listed in the Phase I TBA (Tetra Tech 2014a) are of concern based on the Phase II sampling results.

### **5.2 AFFECTED MEDIA**

Based on sampling during this Phase II TBA, elevated levels of arsenic and lead are present in the soil at the former landfill area, and elevated levels of metals are present in the groundwater.

In the 1990s, the subject property was used as a landfill that received sediments dredged from the Blue River near the former ARMCO steel plant. This may explain the elevated levels of heavy metals—particularly lead—in soil, sediment, and groundwater. Arsenic concentrations, although above the LDTL, appear to be at the USGS-specified background concentration in soils; however, concentrations of arsenic, cadmium, chromium, and lead exceeded the respective LDTLs in groundwater. The City is assessing current environmental conditions at the site with intent to create a permanent location for a non-profit youth agricultural program to grow produce for harvest and production of food products to be sold in local groceries and markets, and will be able to determine whether further sampling is necessary according to anticipated future use.

Use of groundwater at the subject property as drinking water is unlikely because the subject property is well within city limits and utilizes city water. Overall, based on results from sampling during this Phase II TBA, no contaminant in soil, sediment, or groundwater associated with the Phase I RECs is present at the subject property at concentration likely to pose a critical threat to human health or the environment.

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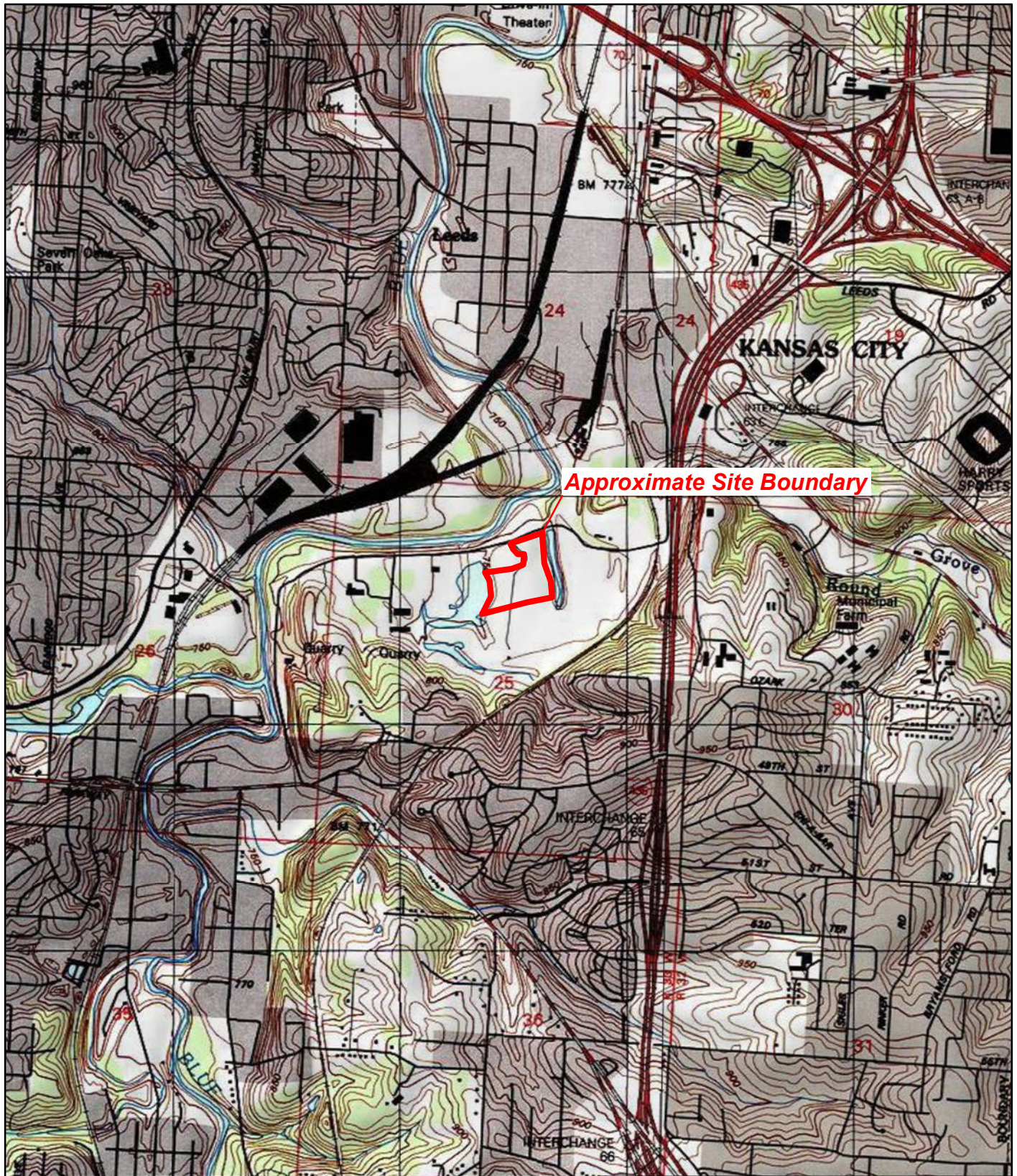
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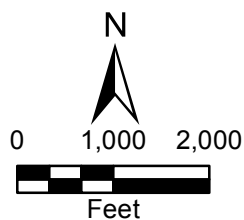
**APPENDIX A**

**FIGURES**





**Approximate Site Boundary**



Kansas City Missouri Public Works  
East Garage Site  
Kansas City, Missouri

**Figure 1**  
Site Location Map



Source: USGS Independence, MO 7.5 Minute Topo Quad, 1996  
USGS Kansas City, MO 7.5 Minute Topo Quad, 1996

Date: 4/29/14

Drawn By: Nick Wiederholt

Project No: X9025.14.0002.019.001

X:\G025\000201\0001\Projects\mxd\Figure1.mxd





#### Legend

##### Sample locations

- DPT soil (deep and shallow)
- DPT soil/groundwater (deep and shallow)
- Sediment



Potential BoysGrow  
site boundary

DPT Direct push technology

Kansas City Missouri Public Works  
East Garage Site  
Kansas City, Missouri

**Figure 2**  
Sample Location Map



**TETRA TECH**

**APPENDIX B**

**PHOTOGRAPHIC DOCUMENTATION**



**Kansas City Missouri Public Works East Garage  
Jackson County, Missouri**



<p style="text-align: center;">TETRA TECH PROJECT NO. X9025.14.0002.019.001 DIRECTION: Southwest</p>	DESCRIPTION	This photograph shows collection of soil samples SO-06-S-0-4 and SO-06-S-16-20.	1
	CLIENT	Environmental Protection Agency - Region 7	DATE 3/31/2014
	PHOTOGRAPHER	Kumud Pyakuryal	



<p style="text-align: center;">TETRA TECH PROJECT NO. X9025.14.0002.019.001 DIRECTION: South</p>	DESCRIPTION	This photograph shows the U.S. Environmental Protection Agency (EPA) task monitor discussing groundwater sample depth at GW-04-30 with a member of the Tetra Tech, Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START).	2
	CLIENT	Environmental Protection Agency - Region 7	DATE 3/31/2014
	PHOTOGRAPHER	Kumud Pyakuryal	

**Kansas City Missouri Public Works East Garage  
Jackson County, Missouri**



<b>TETRA TECH PROJECT NO. X9025.14.0002.019.001 DIRECTION: Not Applicable</b>	<b>DESCRIPTION</b>	This photograph shows soil borings from sampling location S0-04, before screening with a photoionization detector (PID).	3
	<b>CLIENT</b>	Environmental Protection Agency - Region 7	<b>DATE</b> 3/31/2014
	<b>PHOTOGRAPHER</b>	Kumud Pyakuryal	



<b>TETRA TECH PROJECT NO. X9025.14.0002.019.001 DIRECTION: Not Applicable</b>	<b>DESCRIPTION</b>	This photograph shows the initial attempt to collect sample SO-05 (for soil classification) before screening with a PID.	4
	<b>CLIENT</b>	Environmental Protection Agency - Region 7	<b>DATE</b> 3/31/2014
	<b>PHOTOGRAPHER</b>	Kumud Pyakuryal	



**Kansas City Missouri Public Works East Garage  
Jackson County, Missouri**



<b>TETRA TECH PROJECT NO. X9025.14.0002.019.001 DIRECTION: South</b>	DESCRIPTION	This photograph shows a Tetra Tech team member advancing a borehole at SO-05 using a Geoprobe™.	5
	CLIENT	Environmental Protection Agency - Region 7	<b>DATE 3/31/2014</b>
	PHOTOGRAPHER	Kumud Pyakuryal	



<b>TETRA TECH PROJECT NO. X9025.14.0002.019.001 DIRECTION: Northwest</b>	DESCRIPTION	This photograph shows a Tetra Tech team member advancing a borehole at SO-03 using a Geoprobe™.	6
	CLIENT	Environmental Protection Agency - Region 7	<b>DATE 4/01/2014</b>
	PHOTOGRAPHER	Kumud Pyakuryal	

**Kansas City Missouri Public Works East Garage  
Jackson County, Missouri**



<p style="text-align: center;">TETRA TECH PROJECT NO. X9025.14.0002.019.001 DIRECTION: South</p>	DESCRIPTION	This photograph shows an abandoned tire and electronics, adjacent and east of the access road extending southward onto the property from East Coal Mine Road.	7
	CLIENT	Environmental Protection Agency - Region 7	DATE 4/01/2014
	PHOTOGRAPHER	Kumud Pyakuryal	



<p style="text-align: center;">TETRA TECH PROJECT NO. X9025.14.0002.019.001 DIRECTION: Southeast</p>	DESCRIPTION	This photograph shows a Tetra Tech team member attempting to advance boring at sampling location SO-2.	8
	CLIENT	Environmental Protection Agency - Region 7	DATE 4/01/2014
	PHOTOGRAPHER	Kumud Pyakuryal	

## **APPENDIX C**

### **TABLES**



**TABLE C-1**

**SUMMARY OF SAMPLES COLLECTED DURING PHASE II TBA ACTIVITIES  
KCMO PUBLIC WORKS EAST GARAGE, JACKSON COUNTY, MISSOURI**

**MARCH 31 AND APRIL 1, 2014**

<b>Sample Number (Lab ID No.)</b>	<b>Sample Depth (ft bgs)</b>	<b>Sample Analyses</b>
<b>Subsurface Soil Samples</b>		
SO-01-S-0-4 (1404130-01)	0-4	PCBs, VOC, SVOC, RCRA metals (including mercury), TPH-GRO, and TPH-DRO
SO-01-D-16-20 (1404130-02)	16-20	PCBs, VOC, SVOC, RCRA metals (including mercury), TPH-GRO, and TPH-DRO
SO-02-S-0-4 (1404130-03)	0-4	PCBs, VOC, SVOC, RCRA metals (including mercury), TPH-GRO, and TPH-DRO
SO-02-D-16-20 (1404130-04)	16-20	PCBs, VOC, SVOC, RCRA metals (including mercury), TPH-GRO, and TPH-DRO
SO-03-S-0-4 (1404130-05)	0-4	PCBs, VOC, SVOC, RCRA metals (including mercury), TPH-GRO, and TPH-DRO
SO-03-D-12-16 (1404130-06)	12-16	PCBs, VOC, SVOC, RCRA metals (including mercury), TPH-GRO, and TPH-DRO
SO-04-S-0-4 (1404130-07)	0-4	PCBs, VOC, SVOC, RCRA metals (including mercury), TPH-GRO, and TPH-DRO
SO-04-D-16-20 (1404130-08)	16-20	PCBs, VOC, SVOC, RCRA metals (including mercury), TPH-GRO, and TPH-DRO
SO-05-S-0-4 (1404130-09)	0-4	PCBs, VOC, SVOC, RCRA metals (including mercury), TPH-GRO, and TPH-DRO
SO-05-D-16-20 (1404130-10)	16-20	PCBs, VOC, SVOC, RCRA metals (including mercury), TPH-GRO, and TPH-DRO
SO-06-S-0-4 (1404130-11)	0-4	PCBs, VOC, SVOC, RCRA metals (including mercury), TPH-GRO, and TPH-DRO
SO-06-D-16-20 (1404130-12)	16-20	PCBs, VOC, SVOC, RCRA metals (including mercury), TPH-GRO, and TPH-DRO
<b>Sediment Samples</b>		
SED-01 (1404130-13)	1 inch below water surface	Total RCRA metals (including mercury), PCBs, and herbicides/pesticides
SED-02 (1404130-14)	1 inch below water surface	Total RCRA metals (including mercury), PCBs, and herbicides/pesticides
<b>Groundwater Samples</b>		
GW-04 (1404130-15)	At 30 feet bgs	PCBs, VOCs, SVOCs, TPH-GRO, TPH-DRO, and total and dissolved RCRA metals (including mercury)
<b>Quality Control Samples</b>		
Trip Blank – Soil (1404130-16)	Trip Blank – Soil	VOCs
Trip Blank – Water (1404130-17)	Trip Blank – Water	VOCs

Notes:

DRO	Diesel range organics	SED	Sediment
GRO	Gasoline range organics	SVOC	Semivolatile organic compound
GW	Groundwater	SO	Soil
PCB	Polychlorinated biphenyl	TPH	Total petroleum hydrocarbons
RCRA	Resource Conservation and Recovery Act	VOC	Volatile organic compound

TABLE C-2

**SUMMARY OF METALS ANALYSIS OF SOIL SAMPLES  
KCMO PUBLIC WORKS EAST GARAGE, JACKSON COUNTY, MISSOURI**

Sample Identification	Analyte and Associated Concentration in Milligrams per Kilogram (mg/kg)							
	Mercury	Arsenic	Barium	Cadmium	Chromium*	Lead	Selenium	Silver
SO-01-S-0-4	0.012 J	<b>5.4</b>	180	0.67 J	22	<b>79</b>	1.4 J	0.51 J
SO-01-D-16-20	0/018 J	<b>6.5</b>	170	0.37 J	19	<b>20</b>	1.3 J	0.10 J
SO-02-S-0-4	0.024	<b>7.1</b>	170	1.9	42	<b>77</b>	1.2 J	0.27 J
SO-02-D-16-20	0.036	<b>3.9</b>	140	0.15 J	15	<b>8.5</b>	0.99 J	0.072 J
SO-03-S-0-4	0.015 J	<b>4.2</b>	150	0.12 J	17	<b>11</b>	1.3 J	0.12 J
SO-03-D-12-16	0.019	<b>6.7</b>	160	0.25 J	17	<b>9.5</b>	1.2J	0.059 J
SO-04-S-0-4	0.11	<b>9.3</b>	260	2.1	43	<b>130</b>	1.5 J	0.26 J
SO-04-D-16-20	0.02	<b>9.9</b>	530	0.61 J	23	<b>17</b>	1.9 J	0.087 J
SO-05-S-0-4	0.012 J	<b>5.3</b>	210	0.1 J	20	<b>11</b>	1.9 J	0.058 J
SO-05-D-16-20	0.017	<b>4.9</b>	230	0.37 J	16	<b>13</b>	1.4 J	0.05 J
SO-06-S-0-4	0.018	<b>5.7</b>	150	0.13 J	17	<b>12</b>	1.3 J	0.11 J
SO-06-D-16-20	0.024	<b>11</b>	430	0.74 J	21	<b>16</b>	1.9 J	0.095 J
SED-01	0.069	<b>6.2</b>	150	1.4	31	<b>59</b>	1.4	0.19
SED-02	0.075	<b>6</b>	190	1.8	27	<b>73</b>	1.5	0.19
Screening Values in mg/kg								
Lowest Default Target Level	2.19 <sup>INH</sup>	3.89 <sup>SDC</sup>	2,040 <sup>GWP</sup>	9.31 <sup>GWP</sup>	74,600 <sup>SDC</sup> 0.00159 <sup>GWP</sup>	3.74 <sup>GWP</sup>	6.27 <sup>GWP</sup>	16 <sup>GWP</sup>
Tier 1 RBTL; Soil Type 1, Residential	2.19	3.89	15,000	16.8	74,600 0.147	260	380	374
Tier 1 RBTL; Soil Type 1, Non-residential	17.6	15.9	181,000	74.8	702,000 0.639	660	4,780	4,480
Jackson County Missouri	0.016	16.603	NE	NE	NE	40.96	0.499	NE

Notes:

**Bold** Analyte concentration equals or exceeds the Lowest Default Target Level**Shaded** Analyte concentration equals or exceeds the Tier 1 Residential RBTL

GWP Protection of domestic groundwater use pathway

INH Indoor inhalation pathway

J Analyte detected below the quantitation limit.

NE Not established

RBTL Risk-based target level from Table B-2 and B-5 of the Missouri Risk-Based Corrective Action Technical Guidance, Appendix B

SDC Soil direct contact pathway

\* Total chromium; screening values are for chromium (111) and (VI)

TABLE C-3

SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS ANALYSIS OF SOIL SAMPLES  
KCMO PUBLIC WORKS EAST GARAGE, JACKSON COUNTY, MISSOURI

Sample Number	Analyte and Associated Concentration in Milligrams per Kilogram (mg/kg)																	
	DRO	ORO	1,1'-Biphenyl	2,6-Dinitrotoluene	4-Chloroaniline	Acenaphthene	Acenaphthylene	2-Methylnaphthalene	3-Nitroaniline	Acetophenone	4-Nitrophenol	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Bis(2-chloroethyl)ether
SO-01-S-0-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.022	0.032	0.051	0.03	ND	ND
SO-01-D-16-20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SO-02-S-0-4	55	110	ND	0.12 J	0.062	0.06	0.15	0.078	ND	ND	ND	0.25	0.55	0.58	0.83	0.59	0.78	ND
SO-02-D-16-20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SO-03-S-0-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SO-03-D-12-16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.035	0.043	0.046	0.033	ND	ND
SO-04-S-0-4	48	65	ND	ND	ND	0.026	0.32	60	ND	ND	ND	0.36	0.77	0.96	1.3	0.88	0.47	ND
SO-04-D-16-20	25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.03	0.038	0.043	0.022	ND	ND
SO-05-S-0-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SO-05-D-16-20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SO-06-S-0-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SO-06-D-16-20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SED-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SED-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Screening Values in mg/kg																		
Lowest Default Target Levels	4,150 <sup>INH</sup>	124,000 <sup>SDC</sup>	30.7 <sup>GWP</sup>	0.0112 <sup>GWP</sup>	0.0606 <sup>DWG</sup>	0.165 <sup>DWG</sup>	0.170 <sup>DWG</sup>	7.55 <sup>GWP</sup>	0.0329 <sup>GWP</sup>	NE	0.0539 <sup>GWP</sup>	3,060 <sup>GWP</sup>	6.12 <sup>GWP</sup>	0.62 <sup>SDC</sup>	6.19 <sup>SDC</sup>	1,720 <sup>SDC</sup>	62 <sup>SDC</sup>	0.000449 <sup>GWP</sup>
Tier 1 RBTL; Soil Type 1, Residential	140,000	124,000	3,420	6.85	0.677	174	175	273	17.8	NE	89.7	15,700	6.2	0.62	6.19	1,720	62	5.49



TABLE C-3 (Continued)

SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS ANALYSIS OF SOIL SAMPLES  
KCMO PUBLIC WORKS EAST GARAGE, JACKSON COUNTY, MISSOURI

Sample Number	Analyte and Associated Concentration in Milligrams per Kilogram (mg/kg)														
	Bis(2-chloroisopropyl)ether	Bis(2-ethylhexyl)phthalate	Butyl benzyl phthalate	Carbazole	Chrysene	Dibenzo(a,h)anthracene	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
SO-01-S-0-4	ND	ND	ND	ND	0.026	ND	ND	ND	ND	0.032	ND	0.053	ND	0.026	0.04
SO-01-D-16-20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SO-02-S-0-4	<b>0.048 J</b>	0.049 J	0.17 J	0.11 J	0.61	0.12	ND	34 J	ND	1.2	0.087	0.52	0.2	0.95	1.1
SO-02-D-16-20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SO-03-S-0-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SO-03-D-12-16	ND	ND	ND	ND	0.024	ND	ND	ND	ND	0.063	ND	0.053	0.024	0.055	0.058
SO-04-S-0-4	ND	0.16 J	0.45	0.078 J	0.850	0.21	ND	ND	ND	1.7	140	0.86	0.14	0.960	1.7
SO-04-D-16-20	ND	ND	ND	ND	0.023	ND	ND	ND	ND	0.072	ND	ND	ND	0.05	0.063
SO-05-S-0-4	ND	ND	ND	ND	0.021	ND	ND	ND	ND	0.037	ND	ND	ND	0.027	0.04
SO-05-D-16-20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SO-06-S-0-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SO-06-D-16-20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SED-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SED-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Screening Values in mg/kg															
Lowest Default Target Levels	0.0318 <sup>GWP</sup>	347 <sup>SDC</sup>	12,200 <sup>SDC</sup>	13.3 <sup>GWP</sup>	599 <sup>SDC</sup>	0.62 <sup>SDC</sup>	1,120 <sup>GWP</sup>	5,460 <sup>GWP</sup>	75.8 <sup>GWP</sup>	2,280 <sup>SDC</sup>	211 <sup>GWP</sup>	3.77 <sup>SDC</sup>	0.325 <sup>GWP</sup>	158 <sup>GWP</sup>	1,500 <sup>GWP</sup>
Tier 1 RBTL; Soil Type 1, Residential	88.8	347	12,200	242	599	0.62	585,000	6,110	2,280	2,280	2,200	3.77	36.3	2,170	1,710

Notes:

<b>Bold</b>	Value in boldface equals or exceeds a screening concentration
<b>Shaded</b>	Analyte concentration equals or exceeds the Tier 1 Residential RBTL
DRO	Diesel range organics (C10-C-21)
DWG	Domestic water use of groundwater
GWP	Protection of domestic groundwater use pathway
INH	Indoor inhalation pathway
J	Analyte detected below the quantitation limit.
ND	Not detected
NE	Not established
ORO	Oil range organics (C21-C35)
RBTL	Risk-based target level from Table B-2 of the Missouri Risk-Based Corrective Action Technical Guidance, Appendix B
SDC	Soil direct contact pathway
SED	Sediment
SO	Soil

TABLE C-4

**SUMMARY OF VOLATILE ORGANIC COMPOUND ANALYSIS OF SOIL SAMPLES  
KCMO PUBLIC WORKS EAST GARAGE, JACKSON COUNTY, MISSOURI**

Sample Number	Analyte and Associated Concentration in Milligrams per Kilogram (mg/kg)				
	Gasoline Range Organics	2-Butanone	Acetone	Methylene chloride	Toluene
SO-01-S-0-4	ND	0.0069 J	0.057	0.0014 J	0.00034 J
SO-01-D-16-20	ND	0.0022 J	0.021	0.0011 J	0.00036 J
SO-02-S-0-4	ND	0.027	ND	0.00064 J	ND
SO-02-D-16-20	ND	0.0025 J	0.026	0.00096 J	0.0004 J
SO-03-S-0-4	ND	0.0033 J	0.035	0.00048 J	ND
SO-03-D-12-16	ND	0.0027 J	0.025	0.0014 J	0.00038 J
SO-04-S-0-4	ND	0.014 J	0.091	ND	ND
SO-04-D-16-20	ND	0.0049 J	0.047	ND	ND
SO-05-S-0-4	ND	0.01 J	0.088	0.00049 J	ND
SO-05-D-16-20	ND	0.0027 J	0.032	0.0012 J	ND
SO-06-S-0-4	ND	0.0053 J	0.057	0.00083 J	0.00038 J
SO-06-D-16-20	ND	0.0077 J	0.088	0.0007 J	ND
SED-01	NA	NA	NA	NA	NA
SED-02	NA	NA	NA	NA	NA
<b>Screening Values in mg/kg</b>					
Lowest Default Target Levels	385 <sup>INH</sup>	7.3 <sup>GWP</sup>	4.2 <sup>GWP</sup>	0.0176 <sup>GWP</sup>	29.8 <sup>GWP</sup>
Tier 1 RBTL; Soil Type 1, Residential	385	3,880	1,830	2.86	499

## Notes:

- GWP Protection of domestic groundwater use pathway
- INH Indoor inhalation pathway
- J Analyte detected below the quantitation limit.
- NA Not Applicable
- ND Not Detected
- RBTL Risk-based target level from Table B-2 of the Missouri Risk-Based Corrective Action Technical
- SED Sediment
- SO Soil

TABLE C-5

SUMMARY OF METALS ANALYSIS OF WATER SAMPLES  
KCMO PUBLIC WORKS EAST GARAGE, JACKSON COUNTY, MISSOURI

Sample Number	Analyte and Associated Concentration in Micrograms per Liter (µg/L)															
	Mercury		Arsenic		Barium		Cadmium		Chromium		Lead		Selenium		Silver	
	total	dissolved	total	dissolved	total	dissolved	total	dissolved	total	dissolved	total	dissolved	total	dissolved	total	dissolved
GW-04	0.15 J	ND	45	26	650	290	6.4	0.087 J	100	ND	110	ND	6.1	0.66 J	0.57 J	0.075 J
Screening Values in µg/L																
Lowest Default Target Levels	50.7		10		2,000		5		100 Cr III 0.00337 Cr VI		15		50		78.1	
Tier 1 RBTL; Soil Type 1, Drinking water use	50.7		10		2,000		5		100 Cr III 0.00337 Cr VI		15		50		78.2	

Notes:

- Bold**Value in boldface equals or exceeds a screening concentration
- JAnalyte detected below the quantitation limit
- Cr IIITrivalent chromium
- Cr VHexavalent chromium
- GWGroundwater
- NDAnalyzed but not detected above the method detection limit
- RBTLRisk-based target level from Table B-2 of the Missouri Risk-Based Corrective Action Technical Guidance, Appendix B

TABLE C-6

**SUMMARY OF POLYCHLORINATED BIPHENYLS ANALYSIS OF SEDIMENT SAMPLES  
KCMO PUBLIC WORKS EAST GARAGE, JACKSON COUNTY, MISSOURI**

Sample Number	Analyte and Associated Concentration in Micrograms per Kilogram (mg/kg)	
	Aroclor 1248	Aroclor 1254
SO-01-S-0-4	0.18	ND
SO-01-D-16-20	ND	ND
SO-02-S-0-4	0.13	0.091 J
SO-02-D-16-20	ND	ND
SO-03-S-0-4	ND	ND
SO-03-D-12-16	ND	ND
SO-04-S-0-4	0.17	ND
SO-04-D-16-20	ND	ND
SO-05-S-0-4	ND	ND
SO-05-D-16-20	ND	ND
SO-06-S-0-4	ND	ND
SO-06-D-16-20	ND	ND
SED-01	ND	ND
SED-02	ND	ND
<b>Screening Values in mg/kg</b>		
Lowest Default Target Levels	1.08 <sup>SDC</sup>	1.10 <sup>SDC</sup>
Tier 1 RBTL; Soil Type 1, Residential	1.08	1.10

## Notes:

- ND Analyzed but not detected above the method detection limit
- J Analyte detected below the quantitation limit
- RBTL Risk-based target level from Table B-2 of the Missouri Risk Based Corrective Action Technical Guidance, Appendix B
- SDC Soil direct contact pathway

## **APPENDIX D**

### **CHAIN-OF-CUSTODY RECORDS, ANALYTICAL DATA PACKAGES, AND DATA VALIDATION REPORT**



14-Apr-2014

Kumud Pyakuryal  
Tetra Tech  
415 Oak Street  
Kansas City, MO 64106

Re: **KCMO Public Works East Garage 3.31-4.1.14**

Work Order: **1404130**

Dear Kumud,

ALS Environmental received 17 samples on 02-Apr-2014 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 158.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

A handwritten signature in cursive script that reads "Ann Preston".

Electronically approved by: Ann Preston

Ann Preston  
Project Manager



Certificate No: MN 532786

### Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

[www.alsglobal.com](http://www.alsglobal.com)

RIGHT SOLUTIONS RIGHT PARTNER

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Work Order:** 1404130

**Work Order Sample Summary**

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1404130-01	SO-01-S-0-4	Soil		4/1/2014 15:30	4/2/2014 09:30	<input type="checkbox"/>
1404130-02	SO-01-D-16-20	Soil		4/1/2014 16:00	4/2/2014 09:30	<input type="checkbox"/>
1404130-03	SO-02-S-0-4	Soil		4/1/2014 12:15	4/2/2014 09:30	<input type="checkbox"/>
1404130-04	SO-02-D-16-20	Soil		4/1/2014 12:40	4/2/2014 09:30	<input type="checkbox"/>
1404130-05	SO-03-S-0-4	Soil		4/1/2014 11:10	4/2/2014 09:30	<input type="checkbox"/>
1404130-06	SO-03-D-12-16	Soil		4/1/2014 11:45	4/2/2014 09:30	<input type="checkbox"/>
1404130-07	SO-04-S-0-4	Soil		3/31/2014 11:10	4/2/2014 09:30	<input type="checkbox"/>
1404130-08	SO-04-D-16-20	Soil		3/31/2014 12:00	4/2/2014 09:30	<input type="checkbox"/>
1404130-09	SO-05-S-0-4	Soil		3/31/2014 15:05	4/2/2014 09:30	<input type="checkbox"/>
1404130-10	SO-05-D-16-20	Soil		3/31/2014 15:45	4/2/2014 09:30	<input type="checkbox"/>
1404130-11	SO-06-S-0-4	Soil		3/31/2014 16:00	4/2/2014 09:30	<input type="checkbox"/>
1404130-12	SO-06-D-16-20	Soil		3/31/2014 16:30	4/2/2014 09:30	<input type="checkbox"/>
1404130-13	SED-01	Sediment		3/31/2014 16:35	4/2/2014 09:30	<input type="checkbox"/>
1404130-14	SED-02	Sediment		3/31/2014 16:00	4/2/2014 09:30	<input type="checkbox"/>
1404130-15	GW-04	Water		3/31/2014 12:00	4/2/2014 09:30	<input type="checkbox"/>
1404130-16	Trip Blank	Soil		4/1/2014	4/2/2014 09:30	<input type="checkbox"/>
1404130-17	Trip Blank	Water		3/31/2014	4/2/2014 09:30	<input type="checkbox"/>

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**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Work Order:** 1404130

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**Case Narrative**

Samples for the above noted Work Order were received on 04/02/2014. The attached "Sample Receipt Checklist" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting.

With the following exceptions, all sample analyses achieved analytical criteria.

**Volatile Organics:**

Batch 57183 LCS recovery for Bromomethane was above the upper control limit. All sample results in the batch were non-detect. No qualification is necessary for Bromomethane.

Batch R138301A LCS recovery for Bromomethane was above the upper control limit. All sample results in the batch were non-detect. No qualification is necessary for Bromomethane. The sample GW-04 MS/MSD recoveries for many Volatile compounds were below the control limits. The corresponding reporting limits in the parent sample may be biased low.

Batch R138353 LCS recovery for 4-Methyl-2-pentanone was above the upper control limit. All sample results in the batch were non-detect. No qualification is necessary for 4-Methyl-2-pentanone.

Batch R138585 sample SO-03-D-12-16 MS/MSD recoveries for many Volatile compounds were below the control limits. The corresponding reporting limits in the parent sample may be biased low for these compounds.

All samples run from the TSP preserved low level Terra Core kits had a low recovery for the surrogate, Dibromofluoromethane, due to interference with the TSP preservative. No data requires qualification.

The soil Trip Blank had a reportable result for Acetone. This is a common laboratory solvent, and must be assumed this is caused by laboratory contamination.



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**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Work Order:** 1404130

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## Case Narrative

### Extractable Organics :

Batch 57176 sample GW-04 MS/MSD recoveries for 2,4-Dinitrophenol and 4,6-Dinitro-2-methyl phenol were below the control limits. The corresponding reporting limits in the parent sample may be biased low for 2,4-Dinitrophenol and 4,6-Dinitro-2-methyl phenol.

Batch 57224 LCS recovery for one Semi-Volatiles surrogate was above control limits and is considered a Sporadic Marginal Exceedence allowed by the SOP. No data requires qualification. Sample SO-02-S-0-4 MS recoveries for several PAH compounds were above control limits. The RPDs for Fluoranthene, Phenanthrene and Pyrene were also above control limits. The corresponding results for these three compounds may be biased high in the parent sample. No other compounds requires qualifications.

Batch 57224 sample 1404130-10 Semi-Volatiles surrogate recovery was below control limits due to matrix interference. All compounds were non-detect. The reporting limits may be biased low.

Batch 57371 MS/MSD data for Semi-Volatiles is not related to this project's samples. No data requires qualification.

Batch 57179 sample GW-04 RPD between the MS/MSD recoveries for the Semi-Volatile surrogate was above control limits. The individual MS/MSD recoveries met quality control criteria. No data requires qualification.

### Metals:

Batch 57215 samples 1404130-01 through 1404130-06 reporting limits were elevated due to dilution for high concentrations of non-target analytes.

Batch 57215 sample SO-03-S-0-4 MS/MSD recoveries for Barium were above control limits, however, the result in the parent sample was greater than 4x the spiked amount. No qualification is required for Barium. The MS/MSD recoveries for Chromium were above control limits. The corresponding result in the parent sample may be biased high for Chromium.

Batch 57252 samples 1404130-07 through 1404130-14 reporting limits were elevated due to dilution for high concentrations of non-target analytes.

Batch 57252 sample SO-05-D-16-20 MS/MSD recoveries for Chromium were above control limits. The corresponding result in the parent sample may be biased high for Chromium. The MS/MSD recoveries and RPD for Barium were outside control limits, however, the result in the parent sample was greater than 4x the spiked amount. No qualification is required for Barium. The MS recovery for Lead was below control limits. Both the MSD recovery and

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**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Work Order:** 1404130

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**Case Narrative**

RPD met quality control criteria. No data requires qualification for Lead.

Wet Chemistry:  
No deviations or anomalies noted.

<b><u>Qualifier</u></b>	<b><u>Description</u></b>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

<b><u>Acronym</u></b>	<b><u>Description</u></b>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<b><u>Units Reported</u></b>	<b><u>Description</u></b>
% of sample	Percent of Sample
µg/Kg	Micrograms per Kilogram
µg/Kg-dry	Micrograms per Kilogram Dry Weight
µg/L	Micrograms per Liter
mg/Kg-dry	Milligrams per Kilogram Dry Weight
mg/L	Milligrams per Liter

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-01-S-0-4  
**Collection Date:** 4/1/2014 03:30 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-01  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>PCBS</b>							
			Method:SW8082		Prep: SW3541 / 4/7/14		Analyst: JD
Aroclor 1016	U		56	98	µg/Kg-dry	1	4/8/2014 15:16
Aroclor 1221	U		56	98	µg/Kg-dry	1	4/8/2014 15:16
Aroclor 1232	U		56	98	µg/Kg-dry	1	4/8/2014 15:16
Aroclor 1242	U		56	98	µg/Kg-dry	1	4/8/2014 15:16
<b>Aroclor 1248</b>	<b>180</b>		<b>56</b>	<b>98</b>	<b>µg/Kg-dry</b>	1	4/8/2014 15:16
Aroclor 1254	U		36	98	µg/Kg-dry	1	4/8/2014 15:16
Aroclor 1260	U		36	98	µg/Kg-dry	1	4/8/2014 15:16
Surr: Decachlorobiphenyl	100			40-140	%REC	1	4/8/2014 15:16
Surr: Tetrachloro-m-xylene	94.1			45-124	%REC	1	4/8/2014 15:16
<b>MERCURY BY CVAA</b>							
			Method:SW7471		Prep: SW7471 / 4/3/14		Analyst: LR
<b>Mercury</b>	<b>0.012</b>	J	<b>0.0010</b>	<b>0.021</b>	<b>mg/Kg-dry</b>	1	4/3/2014 12:00
<b>METALS BY ICP-MS</b>							
			Method:SW6020A		Prep: SW3050B / 4/4/14		Analyst: ML
<b>Arsenic</b>	<b>5.4</b>		<b>0.28</b>	<b>2.1</b>	<b>mg/Kg-dry</b>	5	4/4/2014 18:32
<b>Barium</b>	<b>180</b>		<b>0.058</b>	<b>2.1</b>	<b>mg/Kg-dry</b>	5	4/4/2014 18:32
<b>Cadmium</b>	<b>0.67</b>	J	<b>0.0084</b>	<b>0.84</b>	<b>mg/Kg-dry</b>	5	4/4/2014 18:32
<b>Chromium</b>	<b>22</b>		<b>0.34</b>	<b>2.1</b>	<b>mg/Kg-dry</b>	5	4/4/2014 18:32
<b>Lead</b>	<b>79</b>		<b>0.0084</b>	<b>2.1</b>	<b>mg/Kg-dry</b>	5	4/4/2014 18:32
<b>Selenium</b>	<b>1.4</b>	J	<b>0.27</b>	<b>2.1</b>	<b>mg/Kg-dry</b>	5	4/4/2014 18:32
<b>Silver</b>	<b>0.51</b>	J	<b>0.0084</b>	<b>2.1</b>	<b>mg/Kg-dry</b>	5	4/4/2014 18:32
<b>DIESEL RANGE ORGANICS BY GC-MS</b>							
			Method:SW8270		Prep: SW3541 / 4/4/14		Analyst: RM
DRO (C10-C21)	U		1.5	3.5	mg/Kg-dry	1	4/8/2014 06:47
ORO (C21-C35)	U		1.7	3.5	mg/Kg-dry	1	4/8/2014 06:47
Surr: 4-Terphenyl-d14	109			25-137	%REC	1	4/8/2014 06:47
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>							
			Method:SW8270		Prep: SW3541 / 4/4/14		Analyst: RM
1,1'-Biphenyl	U		6.0	400	µg/Kg-dry	1	4/8/2014 18:55
2,4,5-Trichlorophenol	U		10	190	µg/Kg-dry	1	4/8/2014 18:55
2,4,6-Trichlorophenol	U		6.8	190	µg/Kg-dry	1	4/8/2014 18:55
2,4-Dichlorophenol	U		12	190	µg/Kg-dry	1	4/8/2014 18:55
2,4-Dimethylphenol	U		65	400	µg/Kg-dry	1	4/8/2014 18:55
2,4-Dinitrophenol	U		36	800	µg/Kg-dry	1	4/8/2014 18:55
2,4-Dinitrotoluene	U		13	190	µg/Kg-dry	1	4/8/2014 18:55
2,6-Dinitrotoluene	U		21	190	µg/Kg-dry	1	4/8/2014 18:55
2-Chloronaphthalene	U		1.9	8.1	µg/Kg-dry	1	4/8/2014 18:55
2-Chlorophenol	U		12	190	µg/Kg-dry	1	4/8/2014 18:55
2-Methylnaphthalene	U		3.3	8.1	µg/Kg-dry	1	4/8/2014 18:55
2-Methylphenol	U		16	190	µg/Kg-dry	1	4/8/2014 18:55

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-01-S-0-4  
**Collection Date:** 4/1/2014 03:30 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-01  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		16	800	µg/Kg-dry	1	4/8/2014 18:55
2-Nitrophenol	U		14	190	µg/Kg-dry	1	4/8/2014 18:55
3,3'-Dichlorobenzidine	U		500	800	µg/Kg-dry	1	4/8/2014 18:55
3-Nitroaniline	U		14	800	µg/Kg-dry	1	4/8/2014 18:55
4,6-Dinitro-2-methylphenol	U		33	400	µg/Kg-dry	1	4/8/2014 18:55
4-Bromophenyl phenyl ether	U		11	190	µg/Kg-dry	1	4/8/2014 18:55
4-Chloro-3-methylphenol	U		9.3	190	µg/Kg-dry	1	4/8/2014 18:55
4-Chloroaniline	U		12	800	µg/Kg-dry	1	4/8/2014 18:55
4-Chlorophenyl phenyl ether	U		12	190	µg/Kg-dry	1	4/8/2014 18:55
4-Methylphenol	U		19	190	µg/Kg-dry	1	4/8/2014 18:55
4-Nitroaniline	U		11	800	µg/Kg-dry	1	4/8/2014 18:55
4-Nitrophenol	U		8.0	800	µg/Kg-dry	1	4/8/2014 18:55
Acenaphthene	U		1.2	8.1	µg/Kg-dry	1	4/8/2014 18:55
Acenaphthylene	U		1.5	8.1	µg/Kg-dry	1	4/8/2014 18:55
Acetophenone	U		6.0	400	µg/Kg-dry	1	4/8/2014 18:55
Anthracene	U		1.6	8.1	µg/Kg-dry	1	4/8/2014 18:55
Atrazine	U		12	400	µg/Kg-dry	1	4/8/2014 18:55
Benzaldehyde	U		15	400	µg/Kg-dry	1	4/8/2014 18:55
<b>Benzo(a)anthracene</b>	<b>22</b>		<b>1.6</b>	<b>8.1</b>	<b>µg/Kg-dry</b>	1	4/8/2014 18:55
<b>Benzo(a)pyrene</b>	<b>32</b>		<b>2.6</b>	<b>8.1</b>	<b>µg/Kg-dry</b>	1	4/8/2014 18:55
<b>Benzo(b)fluoranthene</b>	<b>51</b>		<b>2.4</b>	<b>8.1</b>	<b>µg/Kg-dry</b>	1	4/8/2014 18:55
<b>Benzo(g,h,i)perylene</b>	<b>30</b>		<b>3.2</b>	<b>8.1</b>	<b>µg/Kg-dry</b>	1	4/8/2014 18:55
Benzo(k)fluoranthene	U		1.7	8.1	µg/Kg-dry	1	4/8/2014 18:55
Bis(2-chloroethoxy)methane	U		13	190	µg/Kg-dry	1	4/8/2014 18:55
Bis(2-chloroethyl)ether	U		13	190	µg/Kg-dry	1	4/8/2014 18:55
Bis(2-chloroisopropyl)ether	U		17	190	µg/Kg-dry	1	4/8/2014 18:55
Bis(2-ethylhexyl)phthalate	U		13	400	µg/Kg-dry	1	4/8/2014 18:55
Butyl benzyl phthalate	U		15	190	µg/Kg-dry	1	4/8/2014 18:55
Caprolactam	U		18	400	µg/Kg-dry	1	4/8/2014 18:55
Carbazole	U		12	190	µg/Kg-dry	1	4/8/2014 18:55
<b>Chrysene</b>	<b>26</b>		<b>1.9</b>	<b>8.1</b>	<b>µg/Kg-dry</b>	1	4/8/2014 18:55
Dibenzo(a,h)anthracene	U		3.0	8.1	µg/Kg-dry	1	4/8/2014 18:55
Dibenzofuran	U		13	190	µg/Kg-dry	1	4/8/2014 18:55
Diethyl phthalate	U		13	400	µg/Kg-dry	1	4/8/2014 18:55
Dimethyl phthalate	U		14	400	µg/Kg-dry	1	4/8/2014 18:55
Di-n-butyl phthalate	U		5.8	400	µg/Kg-dry	1	4/8/2014 18:55
Di-n-octyl phthalate	U		13	190	µg/Kg-dry	1	4/8/2014 18:55
<b>Fluoranthene</b>	<b>32</b>		<b>2.8</b>	<b>8.1</b>	<b>µg/Kg-dry</b>	1	4/8/2014 18:55
Fluorene	U		2.7	8.1	µg/Kg-dry	1	4/8/2014 18:55
Hexachlorobenzene	U		11	190	µg/Kg-dry	1	4/8/2014 18:55

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-01-S-0-4  
**Collection Date:** 4/1/2014 03:30 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-01  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorobutadiene	U		14	190	µg/Kg-dry	1	4/8/2014 18:55
Hexachlorocyclopentadiene	U		13	400	µg/Kg-dry	1	4/8/2014 18:55
Hexachloroethane	U		19	190	µg/Kg-dry	1	4/8/2014 18:55
<b>Indeno(1,2,3-cd)pyrene</b>	<b>53</b>		<b>2.7</b>	<b>8.1</b>	<b>µg/Kg-dry</b>	1	4/8/2014 18:55
Isophorone	U		13	190	µg/Kg-dry	1	4/8/2014 18:55
Naphthalene	U		3.0	8.1	µg/Kg-dry	1	4/8/2014 18:55
Nitrobenzene	U		16	190	µg/Kg-dry	1	4/8/2014 18:55
N-Nitrosodi-n-propylamine	U		15	190	µg/Kg-dry	1	4/8/2014 18:55
N-Nitrosodiphenylamine	U		72	190	µg/Kg-dry	1	4/8/2014 18:55
Pentachlorophenol	U		7.8	400	µg/Kg-dry	1	4/8/2014 18:55
<b>Phenanthrene</b>	<b>26</b>		<b>1.6</b>	<b>8.1</b>	<b>µg/Kg-dry</b>	1	4/8/2014 18:55
Phenol	U		14	190	µg/Kg-dry	1	4/8/2014 18:55
<b>Pyrene</b>	<b>40</b>		<b>2.7</b>	<b>8.1</b>	<b>µg/Kg-dry</b>	1	4/8/2014 18:55
Surr: 2,4,6-Tribromophenol	68.4			34-140	%REC	1	4/8/2014 18:55
Surr: 2-Fluorobiphenyl	74.5			12-100	%REC	1	4/8/2014 18:55
Surr: 2-Fluorophenol	84.2			33-117	%REC	1	4/8/2014 18:55
Surr: 4-Terphenyl-d14	113			25-137	%REC	1	4/8/2014 18:55
Surr: Nitrobenzene-d5	94.5			37-107	%REC	1	4/8/2014 18:55
Surr: Phenol-d6	86.0			40-106	%REC	1	4/8/2014 18:55
<b>GASOLINE RANGE ORGANICS BY GC-MS</b>			Method: <b>SW8260GRO</b>		Prep: SW5035 / 4/3/14		Analyst: <b>BG</b>
GRO (C6-C10)	U		1,500	3,100	µg/Kg-dry	1	4/3/2014 15:48
Surr: Toluene-d8	90.3			70-130	%REC	1	4/3/2014 15:48
<b>VOLATILE ORGANIC COMPOUNDS</b>			Method: <b>SW8260</b>		Analyst: <b>AK</b>		
1,1,1-Trichloroethane	U		0.23	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
1,1,2,2-Tetrachloroethane	U		0.15	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
1,1,2-Trichloroethane	U		0.20	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
1,1,2-Trichlorotrifluoroethane	U		0.30	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
1,1-Dichloroethane	U		0.27	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
1,1-Dichloroethene	U		0.24	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
1,2,4-Trichlorobenzene	U		0.22	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
1,2-Dibromo-3-chloropropane	U		0.21	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
1,2-Dibromoethane	U		0.22	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
1,2-Dichlorobenzene	U		0.22	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
1,2-Dichloroethane	U		0.29	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
1,2-Dichloropropane	U		0.28	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
1,3-Dichlorobenzene	U		0.20	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
1,4-Dichlorobenzene	U		0.22	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
<b>2-Butanone</b>	<b>6.9</b>	J	<b>0.82</b>	<b>11</b>	<b>µg/Kg-dry</b>	0.865	4/9/2014 11:27
2-Hexanone	U		0.32	5.3	µg/Kg-dry	0.865	4/9/2014 11:27

**Note:** See Qualifiers page for a list of qualifiers and their definitions.



# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-01-S-0-4  
**Collection Date:** 4/1/2014 03:30 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-01  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
4-Methyl-2-pentanone	U		0.21	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
<b>Acetone</b>	<b>57</b>		<b>1.0</b>	<b>11</b>	<b>µg/Kg-dry</b>	0.865	4/9/2014 11:27
Benzene	U		0.26	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
Bromodichloromethane	U		0.22	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
Bromoform	U		0.16	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
Bromomethane	U		0.37	11	µg/Kg-dry	0.865	4/9/2014 11:27
Carbon disulfide	U		0.39	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
Carbon tetrachloride	U		0.22	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
Chlorobenzene	U		0.23	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
Chloroethane	U		0.60	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
Chloroform	U		0.28	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
Chloromethane	U		0.33	11	µg/Kg-dry	0.865	4/9/2014 11:27
cis-1,2-Dichloroethene	U		0.31	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
cis-1,3-Dichloropropene	U		0.19	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
Cyclohexane	U		0.34	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
Dibromochloromethane	U		0.18	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
Dichlorodifluoromethane	U		0.35	11	µg/Kg-dry	0.865	4/9/2014 11:27
Ethylbenzene	U		0.21	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
Isopropylbenzene	U		0.21	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
m,p-Xylene	U		0.40	2.7	µg/Kg-dry	0.865	4/9/2014 11:27
Methyl acetate	U		0.86	11	µg/Kg-dry	0.865	4/9/2014 11:27
Methyl tert-butyl ether	U		0.27	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
Methylcyclohexane	U		0.30	11	µg/Kg-dry	0.865	4/9/2014 11:27
<b>Methylene chloride</b>	<b>1.4</b>	<b>J</b>	<b>0.30</b>	<b>5.3</b>	<b>µg/Kg-dry</b>	0.865	4/9/2014 11:27
o-Xylene	U		0.21	2.7	µg/Kg-dry	0.865	4/9/2014 11:27
Styrene	U		0.19	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
Tetrachloroethene	U		0.32	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
<b>Toluene</b>	<b>0.34</b>	<b>J</b>	<b>0.25</b>	<b>5.3</b>	<b>µg/Kg-dry</b>	0.865	4/9/2014 11:27
trans-1,2-Dichloroethene	U		0.31	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
trans-1,3-Dichloropropene	U		0.20	11	µg/Kg-dry	0.865	4/9/2014 11:27
Trichloroethene	U		0.25	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
Trichlorofluoromethane	U		1.2	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
Vinyl chloride	U		0.32	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
Xylenes, Total	U		0.61	5.3	µg/Kg-dry	0.865	4/9/2014 11:27
Surr: 1,2-Dichloroethane-d4	108			70-120	%REC	0.865	4/9/2014 11:27
Surr: 4-Bromofluorobenzene	94.9			75-120	%REC	0.865	4/9/2014 11:27
Surr: Dibromofluoromethane	40.2	<b>S</b>		85-115	%REC	0.865	4/9/2014 11:27
Surr: Toluene-d8	97.2			85-120	%REC	0.865	4/9/2014 11:27

## MOISTURE

Method: A2540 G

Analyst: AT

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

## ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-01-S-0-4  
**Collection Date:** 4/1/2014 03:30 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-01  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Moisture	19		0.025	0.050	% of sample	1	4/2/2014 13:35

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-01-D-16-20  
**Collection Date:** 4/1/2014 04:00 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-02  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>PCBS</b>							
			Method: <b>SW8082</b>		Prep: SW3541 / 4/7/14		Analyst: <b>JD</b>
Aroclor 1016	U		60	110	µg/Kg-dry	1	4/8/2014 15:32
Aroclor 1221	U		60	110	µg/Kg-dry	1	4/8/2014 15:32
Aroclor 1232	U		60	110	µg/Kg-dry	1	4/8/2014 15:32
Aroclor 1242	U		60	110	µg/Kg-dry	1	4/8/2014 15:32
Aroclor 1248	U		60	110	µg/Kg-dry	1	4/8/2014 15:32
Aroclor 1254	U		39	110	µg/Kg-dry	1	4/8/2014 15:32
Aroclor 1260	U		39	110	µg/Kg-dry	1	4/8/2014 15:32
Surr: Decachlorobiphenyl	99.1			40-140	%REC	1	4/8/2014 15:32
Surr: Tetrachloro-m-xylene	95.1			45-124	%REC	1	4/8/2014 15:32
<b>MERCURY BY CVAA</b>							
			Method: <b>SW7471</b>		Prep: SW7471 / 4/3/14		Analyst: <b>LR</b>
Mercury	<b>0.018</b>	J	<b>0.00088</b>	<b>0.018</b>	mg/Kg-dry	1	4/3/2014 12:02
<b>METALS BY ICP-MS</b>							
			Method: <b>SW6020A</b>		Prep: SW3050B / 4/4/14		Analyst: <b>ML</b>
Arsenic	<b>6.5</b>		<b>0.28</b>	<b>2.1</b>	mg/Kg-dry	5	4/4/2014 18:39
Barium	<b>170</b>		<b>0.059</b>	<b>2.1</b>	mg/Kg-dry	5	4/4/2014 18:39
Cadmium	<b>0.37</b>	J	<b>0.0084</b>	<b>0.84</b>	mg/Kg-dry	5	4/4/2014 18:39
Chromium	<b>19</b>		<b>0.34</b>	<b>2.1</b>	mg/Kg-dry	5	4/4/2014 18:39
Lead	<b>20</b>		<b>0.0084</b>	<b>2.1</b>	mg/Kg-dry	5	4/4/2014 18:39
Selenium	<b>1.3</b>	J	<b>0.27</b>	<b>2.1</b>	mg/Kg-dry	5	4/4/2014 18:39
Silver	<b>0.10</b>	J	<b>0.0084</b>	<b>2.1</b>	mg/Kg-dry	5	4/4/2014 18:39
<b>DIESEL RANGE ORGANICS BY GC-MS</b>							
			Method: <b>SW8270</b>		Prep: SW3541 / 4/4/14		Analyst: <b>RM</b>
DRO (C10-C21)	U		1.6	3.7	mg/Kg-dry	1	4/8/2014 07:13
ORO (C21-C35)	U		1.8	3.7	mg/Kg-dry	1	4/8/2014 07:13
Surr: 4-Terphenyl-d14	25.4			25-137	%REC	1	4/8/2014 07:13
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>							
			Method: <b>SW8270</b>		Prep: SW3541 / 4/9/14		Analyst: <b>RM</b>
1,1'-Biphenyl	U		6.3	420	µg/Kg-dry	1	4/10/2014 20:28
2,4,5-Trichlorophenol	U		11	200	µg/Kg-dry	1	4/10/2014 20:28
2,4,6-Trichlorophenol	U		7.2	200	µg/Kg-dry	1	4/10/2014 20:28
2,4-Dichlorophenol	U		12	200	µg/Kg-dry	1	4/10/2014 20:28
2,4-Dimethylphenol	U		68	420	µg/Kg-dry	1	4/10/2014 20:28
2,4-Dinitrophenol	U		38	840	µg/Kg-dry	1	4/10/2014 20:28
2,4-Dinitrotoluene	U		14	200	µg/Kg-dry	1	4/10/2014 20:28
2,6-Dinitrotoluene	U		22	200	µg/Kg-dry	1	4/10/2014 20:28
2-Chloronaphthalene	U		2.0	8.5	µg/Kg-dry	1	4/10/2014 20:28
2-Chlorophenol	U		13	200	µg/Kg-dry	1	4/10/2014 20:28
2-Methylnaphthalene	U		3.5	8.5	µg/Kg-dry	1	4/10/2014 20:28
2-Methylphenol	U		17	200	µg/Kg-dry	1	4/10/2014 20:28

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-01-D-16-20  
**Collection Date:** 4/1/2014 04:00 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-02  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		17	840	µg/Kg-dry	1	4/10/2014 20:28
2-Nitrophenol	U		14	200	µg/Kg-dry	1	4/10/2014 20:28
3,3'-Dichlorobenzidine	U		530	840	µg/Kg-dry	1	4/10/2014 20:28
3-Nitroaniline	U		14	840	µg/Kg-dry	1	4/10/2014 20:28
4,6-Dinitro-2-methylphenol	U		35	420	µg/Kg-dry	1	4/10/2014 20:28
4-Bromophenyl phenyl ether	U		12	200	µg/Kg-dry	1	4/10/2014 20:28
4-Chloro-3-methylphenol	U		9.9	200	µg/Kg-dry	1	4/10/2014 20:28
4-Chloroaniline	U		13	840	µg/Kg-dry	1	4/10/2014 20:28
4-Chlorophenyl phenyl ether	U		12	200	µg/Kg-dry	1	4/10/2014 20:28
4-Methylphenol	U		20	200	µg/Kg-dry	1	4/10/2014 20:28
4-Nitroaniline	U		12	840	µg/Kg-dry	1	4/10/2014 20:28
4-Nitrophenol	U		8.4	840	µg/Kg-dry	1	4/10/2014 20:28
Acenaphthene	U		1.3	8.5	µg/Kg-dry	1	4/10/2014 20:28
Acenaphthylene	U		1.5	8.5	µg/Kg-dry	1	4/10/2014 20:28
Acetophenone	U		6.4	420	µg/Kg-dry	1	4/10/2014 20:28
Anthracene	U		1.7	8.5	µg/Kg-dry	1	4/10/2014 20:28
Atrazine	U		13	420	µg/Kg-dry	1	4/10/2014 20:28
Benzaldehyde	U		16	420	µg/Kg-dry	1	4/10/2014 20:28
Benzo(a)anthracene	U		1.7	8.5	µg/Kg-dry	1	4/10/2014 20:28
Benzo(a)pyrene	U		2.8	8.5	µg/Kg-dry	1	4/10/2014 20:28
Benzo(b)fluoranthene	U		2.5	8.5	µg/Kg-dry	1	4/10/2014 20:28
Benzo(g,h,i)perylene	U		3.3	8.5	µg/Kg-dry	1	4/10/2014 20:28
Benzo(k)fluoranthene	U		1.8	8.5	µg/Kg-dry	1	4/10/2014 20:28
Bis(2-chloroethoxy)methane	U		13	200	µg/Kg-dry	1	4/10/2014 20:28
Bis(2-chloroethyl)ether	U		13	200	µg/Kg-dry	1	4/10/2014 20:28
Bis(2-chloroisopropyl)ether	U		18	200	µg/Kg-dry	1	4/10/2014 20:28
Bis(2-ethylhexyl)phthalate	U		14	420	µg/Kg-dry	1	4/10/2014 20:28
Butyl benzyl phthalate	U		16	200	µg/Kg-dry	1	4/10/2014 20:28
Caprolactam	U		19	420	µg/Kg-dry	1	4/10/2014 20:28
Carbazole	U		13	200	µg/Kg-dry	1	4/10/2014 20:28
Chrysene	U		2.0	8.5	µg/Kg-dry	1	4/10/2014 20:28
Dibenzo(a,h)anthracene	U		3.2	8.5	µg/Kg-dry	1	4/10/2014 20:28
Dibenzofuran	U		13	200	µg/Kg-dry	1	4/10/2014 20:28
Diethyl phthalate	U		14	420	µg/Kg-dry	1	4/10/2014 20:28
Dimethyl phthalate	U		14	420	µg/Kg-dry	1	4/10/2014 20:28
Di-n-butyl phthalate	U		6.2	420	µg/Kg-dry	1	4/10/2014 20:28
Di-n-octyl phthalate	U		14	200	µg/Kg-dry	1	4/10/2014 20:28
Fluoranthene	U		3.0	8.5	µg/Kg-dry	1	4/10/2014 20:28
Fluorene	U		2.9	8.5	µg/Kg-dry	1	4/10/2014 20:28
Hexachlorobenzene	U		12	200	µg/Kg-dry	1	4/10/2014 20:28

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-01-D-16-20  
**Collection Date:** 4/1/2014 04:00 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-02  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorobutadiene	U		14	200	µg/Kg-dry	1	4/10/2014 20:28
Hexachlorocyclopentadiene	U		13	420	µg/Kg-dry	1	4/10/2014 20:28
Hexachloroethane	U		20	200	µg/Kg-dry	1	4/10/2014 20:28
Indeno(1,2,3-cd)pyrene	U		2.8	8.5	µg/Kg-dry	1	4/10/2014 20:28
Isophorone	U		14	200	µg/Kg-dry	1	4/10/2014 20:28
Naphthalene	U		3.1	8.5	µg/Kg-dry	1	4/10/2014 20:28
Nitrobenzene	U		17	200	µg/Kg-dry	1	4/10/2014 20:28
N-Nitrosodi-n-propylamine	U		16	200	µg/Kg-dry	1	4/10/2014 20:28
N-Nitrosodiphenylamine	U		76	200	µg/Kg-dry	1	4/10/2014 20:28
Pentachlorophenol	U		8.2	420	µg/Kg-dry	1	4/10/2014 20:28
Phenanthrene	U		1.7	8.5	µg/Kg-dry	1	4/10/2014 20:28
Phenol	U		15	200	µg/Kg-dry	1	4/10/2014 20:28
Pyrene	U		2.9	8.5	µg/Kg-dry	1	4/10/2014 20:28
Surr: 2,4,6-Tribromophenol	72.9			34-140	%REC	1	4/10/2014 20:28
Surr: 2-Fluorobiphenyl	72.2			12-100	%REC	1	4/10/2014 20:28
Surr: 2-Fluorophenol	82.7			33-117	%REC	1	4/10/2014 20:28
Surr: 4-Terphenyl-d14	103			25-137	%REC	1	4/10/2014 20:28
Surr: Nitrobenzene-d5	75.7			37-107	%REC	1	4/10/2014 20:28
Surr: Phenol-d6	84.4			40-106	%REC	1	4/10/2014 20:28
<b>GASOLINE RANGE ORGANICS BY GC-MS</b>			Method: <b>SW8260GRO</b>		Prep: SW5035 / 4/3/14		Analyst: <b>BG</b>
GRO (C6-C10)	U		1,600	3,200	µg/Kg-dry	1	4/3/2014 16:14
Surr: Toluene-d8	91.2			70-130	%REC	1	4/3/2014 16:14
<b>VOLATILE ORGANIC COMPOUNDS</b>			Method: <b>SW8260</b>		Analyst: <b>AK</b>		
1,1,1-Trichloroethane	U		0.22	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
1,1,2,2-Tetrachloroethane	U		0.14	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
1,1,2-Trichloroethane	U		0.19	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
1,1,2-Trichlorotrifluoroethane	U		0.28	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
1,1-Dichloroethane	U		0.25	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
1,1-Dichloroethene	U		0.22	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
1,2,4-Trichlorobenzene	U		0.21	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
1,2-Dibromo-3-chloropropane	U		0.20	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
1,2-Dibromoethane	U		0.20	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
1,2-Dichlorobenzene	U		0.20	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
1,2-Dichloroethane	U		0.27	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
1,2-Dichloropropane	U		0.26	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
1,3-Dichlorobenzene	U		0.19	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
1,4-Dichlorobenzene	U		0.21	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
<b>2-Butanone</b>	<b>2.2</b>	<b>J</b>	<b>0.76</b>	<b>9.9</b>	<b>µg/Kg-dry</b>	0.764	4/9/2014 11:53
2-Hexanone	U		0.30	5.0	µg/Kg-dry	0.764	4/9/2014 11:53

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-01-D-16-20  
**Collection Date:** 4/1/2014 04:00 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-02  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
4-Methyl-2-pentanone	U		0.20	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
<b>Acetone</b>	<b>21</b>		<b>0.93</b>	<b>9.9</b>	<b>µg/Kg-dry</b>	0.764	4/9/2014 11:53
Benzene	U		0.25	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
Bromodichloromethane	U		0.20	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
Bromoform	U		0.15	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
Bromomethane	U		0.35	9.9	µg/Kg-dry	0.764	4/9/2014 11:53
Carbon disulfide	U		0.37	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
Carbon tetrachloride	U		0.20	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
Chlorobenzene	U		0.22	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
Chloroethane	U		0.56	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
Chloroform	U		0.26	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
Chloromethane	U		0.30	9.9	µg/Kg-dry	0.764	4/9/2014 11:53
cis-1,2-Dichloroethene	U		0.29	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
cis-1,3-Dichloropropene	U		0.18	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
Cyclohexane	U		0.32	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
Dibromochloromethane	U		0.17	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
Dichlorodifluoromethane	U		0.33	9.9	µg/Kg-dry	0.764	4/9/2014 11:53
Ethylbenzene	U		0.19	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
Isopropylbenzene	U		0.19	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
m,p-Xylene	U		0.37	2.5	µg/Kg-dry	0.764	4/9/2014 11:53
Methyl acetate	U		0.80	9.9	µg/Kg-dry	0.764	4/9/2014 11:53
Methyl tert-butyl ether	U		0.25	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
Methylcyclohexane	U		0.28	9.9	µg/Kg-dry	0.764	4/9/2014 11:53
<b>Methylene chloride</b>	<b>1.1</b>	<b>J</b>	<b>0.28</b>	<b>5.0</b>	<b>µg/Kg-dry</b>	0.764	4/9/2014 11:53
o-Xylene	U		0.20	2.5	µg/Kg-dry	0.764	4/9/2014 11:53
Styrene	U		0.18	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
Tetrachloroethene	U		0.30	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
<b>Toluene</b>	<b>0.36</b>	<b>J</b>	<b>0.23</b>	<b>5.0</b>	<b>µg/Kg-dry</b>	0.764	4/9/2014 11:53
trans-1,2-Dichloroethene	U		0.29	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
trans-1,3-Dichloropropene	U		0.18	9.9	µg/Kg-dry	0.764	4/9/2014 11:53
Trichloroethene	U		0.23	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
Trichlorofluoromethane	U		1.2	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
Vinyl chloride	U		0.30	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
Xylenes, Total	U		0.57	5.0	µg/Kg-dry	0.764	4/9/2014 11:53
Surr: 1,2-Dichloroethane-d4	108			70-120	%REC	0.764	4/9/2014 11:53
Surr: 4-Bromofluorobenzene	95.6			75-120	%REC	0.764	4/9/2014 11:53
Surr: Dibromofluoromethane	21.6	<b>S</b>		85-115	%REC	0.764	4/9/2014 11:53
Surr: Toluene-d8	96.5			85-120	%REC	0.764	4/9/2014 11:53

## MOISTURE

Method: A2540 G

Analyst: AT

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

## ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech

**Project:** KCMO Public Works East Garage 3.31-4.1.14

**Sample ID:** SO-01-D-16-20

**Collection Date:** 4/1/2014 04:00 PM

**Work Order:** 1404130

**Lab ID:** 1404130-02

**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Moisture	23		0.025	0.050	% of sample	1	4/2/2014 13:35

**Note:** See Qualifiers page for a list of qualifiers and their definitions.



# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-02-S-0-4  
**Collection Date:** 4/1/2014 12:15 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-03  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>PCBS</b>							
			Method:SW8082		Prep: SW3541 / 4/7/14		Analyst: <b>JD</b>
Aroclor 1016	U		58	100	µg/Kg-dry	1	4/8/2014 15:48
Aroclor 1221	U		58	100	µg/Kg-dry	1	4/8/2014 15:48
Aroclor 1232	U		58	100	µg/Kg-dry	1	4/8/2014 15:48
Aroclor 1242	U		58	100	µg/Kg-dry	1	4/8/2014 15:48
<b>Aroclor 1248</b>	<b>130</b>		<b>58</b>	<b>100</b>	<b>µg/Kg-dry</b>	1	4/8/2014 15:48
<b>Aroclor 1254</b>	<b>91</b>	J	<b>37</b>	<b>100</b>	<b>µg/Kg-dry</b>	1	4/8/2014 15:48
Aroclor 1260	U		37	100	µg/Kg-dry	1	4/8/2014 15:48
Surr: Decachlorobiphenyl	97.1			40-140	%REC	1	4/8/2014 15:48
Surr: Tetrachloro-m-xylene	92.1			45-124	%REC	1	4/8/2014 15:48
<b>MERCURY BY CVAA</b>							
			Method:SW7471		Prep: SW7471 / 4/3/14		Analyst: <b>LR</b>
<b>Mercury</b>	<b>0.024</b>		<b>0.00080</b>	<b>0.016</b>	<b>mg/Kg-dry</b>	1	4/3/2014 12:05
<b>METALS BY ICP-MS</b>							
			Method:SW6020A		Prep: SW3050B / 4/4/14		Analyst: <b>ML</b>
<b>Arsenic</b>	<b>7.1</b>		<b>0.29</b>	<b>2.1</b>	<b>mg/Kg-dry</b>	5	4/4/2014 19:04
<b>Barium</b>	<b>170</b>		<b>0.059</b>	<b>2.1</b>	<b>mg/Kg-dry</b>	5	4/4/2014 19:04
<b>Cadmium</b>	<b>1.9</b>		<b>0.0084</b>	<b>0.84</b>	<b>mg/Kg-dry</b>	5	4/4/2014 19:04
<b>Chromium</b>	<b>42</b>		<b>0.34</b>	<b>2.1</b>	<b>mg/Kg-dry</b>	5	4/4/2014 19:04
<b>Lead</b>	<b>77</b>		<b>0.0084</b>	<b>2.1</b>	<b>mg/Kg-dry</b>	5	4/4/2014 19:04
<b>Selenium</b>	<b>1.2</b>	J	<b>0.27</b>	<b>2.1</b>	<b>mg/Kg-dry</b>	5	4/4/2014 19:04
<b>Silver</b>	<b>0.27</b>	J	<b>0.0084</b>	<b>2.1</b>	<b>mg/Kg-dry</b>	5	4/4/2014 19:04
<b>DIESEL RANGE ORGANICS BY GC-MS</b>							
			Method:SW8270		Prep: SW3541 / 4/4/14		Analyst: <b>RM</b>
<b>DRO (C10-C21)</b>	<b>55</b>		<b>1.5</b>	<b>3.6</b>	<b>mg/Kg-dry</b>	1	4/8/2014 11:05
<b>ORO (C21-C35)</b>	<b>110</b>		<b>1.7</b>	<b>3.6</b>	<b>mg/Kg-dry</b>	1	4/8/2014 11:05
Surr: 4-Terphenyl-d14	105			25-137	%REC	1	4/8/2014 11:05
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>							
			Method:SW8270		Prep: SW3541 / 4/4/14		Analyst: <b>RM</b>
1,1'-Biphenyl	U		6.1	410	µg/Kg-dry	1	4/8/2014 22:21
2,4,5-Trichlorophenol	U		10	200	µg/Kg-dry	1	4/8/2014 22:21
2,4,6-Trichlorophenol	U		6.9	200	µg/Kg-dry	1	4/8/2014 22:21
2,4-Dichlorophenol	U		12	200	µg/Kg-dry	1	4/8/2014 22:21
2,4-Dimethylphenol	U		66	410	µg/Kg-dry	1	4/8/2014 22:21
2,4-Dinitrophenol	U		37	820	µg/Kg-dry	1	4/8/2014 22:21
2,4-Dinitrotoluene	U		13	200	µg/Kg-dry	1	4/8/2014 22:21
<b>2,6-Dinitrotoluene</b>	<b>120</b>	J	<b>21</b>	<b>200</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:21
2-Chloronaphthalene	U		1.9	8.3	µg/Kg-dry	1	4/8/2014 22:21
2-Chlorophenol	U		12	200	µg/Kg-dry	1	4/8/2014 22:21
<b>2-Methylnaphthalene</b>	<b>78</b>		<b>3.4</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:21
2-Methylphenol	U		17	200	µg/Kg-dry	1	4/8/2014 22:21

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-02-S-0-4  
**Collection Date:** 4/1/2014 12:15 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-03  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		16	820	µg/Kg-dry	1	4/8/2014 22:21
2-Nitrophenol	U		14	200	µg/Kg-dry	1	4/8/2014 22:21
3,3'-Dichlorobenzidine	U		510	820	µg/Kg-dry	1	4/8/2014 22:21
3-Nitroaniline	U		14	820	µg/Kg-dry	1	4/8/2014 22:21
4,6-Dinitro-2-methylphenol	U		34	410	µg/Kg-dry	1	4/8/2014 22:21
4-Bromophenyl phenyl ether	U		11	200	µg/Kg-dry	1	4/8/2014 22:21
4-Chloro-3-methylphenol	U		9.5	200	µg/Kg-dry	1	4/8/2014 22:21
<b>4-Chloroaniline</b>	<b>62</b>	J	<b>12</b>	<b>820</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:21
4-Chlorophenyl phenyl ether	U		12	200	µg/Kg-dry	1	4/8/2014 22:21
4-Methylphenol	U		20	200	µg/Kg-dry	1	4/8/2014 22:21
4-Nitroaniline	U		11	820	µg/Kg-dry	1	4/8/2014 22:21
4-Nitrophenol	U		8.2	820	µg/Kg-dry	1	4/8/2014 22:21
<b>Acenaphthene</b>	<b>60</b>		<b>1.2</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:21
<b>Acenaphthylene</b>	<b>150</b>		<b>1.5</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:21
Acetophenone	U		6.2	410	µg/Kg-dry	1	4/8/2014 22:21
<b>Anthracene</b>	<b>250</b>		<b>1.6</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:21
Atrazine	U		12	410	µg/Kg-dry	1	4/8/2014 22:21
Benzaldehyde	U		16	410	µg/Kg-dry	1	4/8/2014 22:21
<b>Benzo(a)anthracene</b>	<b>550</b>		<b>1.6</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:21
<b>Benzo(a)pyrene</b>	<b>580</b>		<b>2.7</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:21
<b>Benzo(b)fluoranthene</b>	<b>830</b>		<b>2.4</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:21
<b>Benzo(g,h,i)perylene</b>	<b>590</b>		<b>3.2</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:21
<b>Benzo(k)fluoranthene</b>	<b>780</b>		<b>1.7</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:21
Bis(2-chloroethoxy)methane	U		13	200	µg/Kg-dry	1	4/8/2014 22:21
Bis(2-chloroethyl)ether	U		13	200	µg/Kg-dry	1	4/8/2014 22:21
<b>Bis(2-chloroisopropyl)ether</b>	<b>48</b>	J	<b>17</b>	<b>200</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:21
<b>Bis(2-ethylhexyl)phthalate</b>	<b>49</b>	J	<b>13</b>	<b>410</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:21
<b>Butyl benzyl phthalate</b>	<b>170</b>	J	<b>15</b>	<b>200</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:21
Caprolactam	U		18	410	µg/Kg-dry	1	4/8/2014 22:21
<b>Carbazole</b>	<b>110</b>	J	<b>12</b>	<b>200</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:21
<b>Chrysene</b>	<b>610</b>		<b>2.0</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:21
<b>Dibenzo(a,h)anthracene</b>	<b>120</b>		<b>3.1</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:21
<b>Dibenzofuran</b>	<b>110</b>	J	<b>13</b>	<b>200</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:21
Diethyl phthalate	U		13	410	µg/Kg-dry	1	4/8/2014 22:21
Dimethyl phthalate	U		14	410	µg/Kg-dry	1	4/8/2014 22:21
<b>Di-n-butyl phthalate</b>	<b>34</b>	J	<b>6.0</b>	<b>410</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:21
Di-n-octyl phthalate	U		13	200	µg/Kg-dry	1	4/8/2014 22:21
<b>Fluoranthene</b>	<b>1,200</b>		<b>2.9</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:21
<b>Fluorene</b>	<b>87</b>		<b>2.8</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:21
Hexachlorobenzene	U		12	200	µg/Kg-dry	1	4/8/2014 22:21

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-02-S-0-4  
**Collection Date:** 4/1/2014 12:15 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-03  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorobutadiene	U		14	200	µg/Kg-dry	1	4/8/2014 22:21
Hexachlorocyclopentadiene	U		13	410	µg/Kg-dry	1	4/8/2014 22:21
Hexachloroethane	U		19	200	µg/Kg-dry	1	4/8/2014 22:21
<b>Indeno(1,2,3-cd)pyrene</b>	<b>520</b>		<b>2.7</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:21
Isophorone	U		14	200	µg/Kg-dry	1	4/8/2014 22:21
<b>Naphthalene</b>	<b>200</b>		<b>3.0</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:21
Nitrobenzene	U		16	200	µg/Kg-dry	1	4/8/2014 22:21
N-Nitrosodi-n-propylamine	U		16	200	µg/Kg-dry	1	4/8/2014 22:21
N-Nitrosodiphenylamine	U		73	200	µg/Kg-dry	1	4/8/2014 22:21
Pentachlorophenol	U		8.0	410	µg/Kg-dry	1	4/8/2014 22:21
<b>Phenanthrene</b>	<b>950</b>		<b>1.6</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:21
Phenol	U		14	200	µg/Kg-dry	1	4/8/2014 22:21
<b>Pyrene</b>	<b>1,100</b>		<b>2.8</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:21
Surr: 2,4,6-Tribromophenol	82.5			34-140	%REC	1	4/8/2014 22:21
Surr: 2-Fluorobiphenyl	76.2			12-100	%REC	1	4/8/2014 22:21
Surr: 2-Fluorophenol	83.7			33-117	%REC	1	4/8/2014 22:21
Surr: 4-Terphenyl-d14	101			25-137	%REC	1	4/8/2014 22:21
Surr: Nitrobenzene-d5	90.3			37-107	%REC	1	4/8/2014 22:21
Surr: Phenol-d6	84.4			40-106	%REC	1	4/8/2014 22:21
<b>GASOLINE RANGE ORGANICS BY GC-MS</b>			Method: <b>SW8260GRO</b>		Prep: SW5035 / 4/3/14		Analyst: <b>BG</b>
GRO (C6-C10)	U		1,600	3,100	µg/Kg-dry	1	4/3/2014 16:40
Surr: Toluene-d8	91.8			70-130	%REC	1	4/3/2014 16:40
<b>VOLATILE ORGANIC COMPOUNDS</b>			Method: <b>SW8260</b>		Analyst: <b>AK</b>		
1,1,1-Trichloroethane	U		0.23	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
1,1,2,2-Tetrachloroethane	U		0.15	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
1,1,2-Trichloroethane	U		0.20	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
1,1,2-Trichlorotrifluoroethane	U		0.30	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
1,1-Dichloroethane	U		0.27	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
1,1-Dichloroethene	U		0.24	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
1,2,4-Trichlorobenzene	U		0.22	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
1,2-Dibromo-3-chloropropane	U		0.21	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
1,2-Dibromoethane	U		0.22	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
1,2-Dichlorobenzene	U		0.22	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
1,2-Dichloroethane	U		0.30	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
1,2-Dichloropropane	U		0.28	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
1,3-Dichlorobenzene	U		0.20	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
1,4-Dichlorobenzene	U		0.22	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
<b>2-Butanone</b>	<b>27</b>		<b>0.82</b>	<b>11</b>	<b>µg/Kg-dry</b>	0.852	4/9/2014 12:19
2-Hexanone	U		0.32	5.3	µg/Kg-dry	0.852	4/9/2014 12:19

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-02-S-0-4  
**Collection Date:** 4/1/2014 12:15 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-03  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
4-Methyl-2-pentanone	U		0.21	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
Acetone	U		1.2	13	µg/Kg-dry	1	4/3/2014 16:40
Benzene	U		0.26	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
Bromodichloromethane	U		0.22	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
Bromoform	U		0.16	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
Bromomethane	U		0.38	11	µg/Kg-dry	0.852	4/9/2014 12:19
Carbon disulfide	U		0.39	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
Carbon tetrachloride	U		0.22	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
Chlorobenzene	U		0.24	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
Chloroethane	U		0.60	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
Chloroform	U		0.28	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
Chloromethane	U		0.33	11	µg/Kg-dry	0.852	4/9/2014 12:19
cis-1,2-Dichloroethene	U		0.32	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
cis-1,3-Dichloropropene	U		0.19	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
Cyclohexane	U		0.34	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
Dibromochloromethane	U		0.18	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
Dichlorodifluoromethane	U		0.35	11	µg/Kg-dry	0.852	4/9/2014 12:19
Ethylbenzene	U		0.21	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
Isopropylbenzene	U		0.21	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
m,p-Xylene	U		0.40	2.7	µg/Kg-dry	0.852	4/9/2014 12:19
Methyl acetate	U		0.86	11	µg/Kg-dry	0.852	4/9/2014 12:19
Methyl tert-butyl ether	U		0.27	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
Methylcyclohexane	U		0.30	11	µg/Kg-dry	0.852	4/9/2014 12:19
<b>Methylene chloride</b>	<b>0.64</b>	<b>J</b>	<b>0.30</b>	<b>5.3</b>	<b>µg/Kg-dry</b>	0.852	4/9/2014 12:19
o-Xylene	U		0.21	2.7	µg/Kg-dry	0.852	4/9/2014 12:19
Styrene	U		0.19	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
Tetrachloroethene	U		0.32	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
Toluene	U		0.25	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
trans-1,2-Dichloroethene	U		0.31	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
trans-1,3-Dichloropropene	U		0.20	11	µg/Kg-dry	0.852	4/9/2014 12:19
Trichloroethene	U		0.25	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
Trichlorofluoromethane	U		1.2	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
Vinyl chloride	U		0.33	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
Xylenes, Total	U		0.61	5.3	µg/Kg-dry	0.852	4/9/2014 12:19
Surr: 1,2-Dichloroethane-d4	99.6			70-120	%REC	1	4/3/2014 16:40
Surr: 1,2-Dichloroethane-d4	109			70-120	%REC	0.852	4/9/2014 12:19
Surr: 4-Bromofluorobenzene	93.6			75-120	%REC	1	4/3/2014 16:40
Surr: 4-Bromofluorobenzene	99.6			75-120	%REC	0.852	4/9/2014 12:19
Surr: Dibromofluoromethane	96.6			85-115	%REC	1	4/3/2014 16:40
Surr: Dibromofluoromethane	27.0	S		85-115	%REC	0.852	4/9/2014 12:19

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

## ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-02-S-0-4  
**Collection Date:** 4/1/2014 12:15 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-03  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Toluene-d8	104			85-120	%REC	1	4/3/2014 16:40
Surr: Toluene-d8	99.4			85-120	%REC	0.852	4/9/2014 12:19
<b>MOISTURE</b>			Method: A2540 G				Analyst: AT
Moisture	20		0.025	0.050	% of sample	1	4/2/2014 13:35

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-02-D-16-20  
**Collection Date:** 4/1/2014 12:40 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-04  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>PCBS</b>							
			Method: <b>SW8082</b>		Prep: SW3541 / 4/7/14		Analyst: <b>JD</b>
Aroclor 1016	U		60	110	µg/Kg-dry	1	4/8/2014 16:36
Aroclor 1221	U		60	110	µg/Kg-dry	1	4/8/2014 16:36
Aroclor 1232	U		60	110	µg/Kg-dry	1	4/8/2014 16:36
Aroclor 1242	U		60	110	µg/Kg-dry	1	4/8/2014 16:36
Aroclor 1248	U		60	110	µg/Kg-dry	1	4/8/2014 16:36
Aroclor 1254	U		39	110	µg/Kg-dry	1	4/8/2014 16:36
Aroclor 1260	U		39	110	µg/Kg-dry	1	4/8/2014 16:36
Surr: Decachlorobiphenyl	76.1			40-140	%REC	1	4/8/2014 16:36
Surr: Tetrachloro-m-xylene	85.1			45-124	%REC	1	4/8/2014 16:36
<b>MERCURY BY CVAA</b>							
			Method: <b>SW7471</b>		Prep: SW7471 / 4/3/14		Analyst: <b>LR</b>
Mercury	0.036		0.00094	0.019	mg/Kg-dry	1	4/3/2014 12:07
<b>METALS BY ICP-MS</b>							
			Method: <b>SW6020A</b>		Prep: SW3050B / 4/4/14		Analyst: <b>ML</b>
Arsenic	3.9		0.31	2.3	mg/Kg-dry	5	4/4/2014 19:10
Barium	140		0.065	2.3	mg/Kg-dry	5	4/4/2014 19:10
Cadmium	0.15	J	0.0092	0.92	mg/Kg-dry	5	4/4/2014 19:10
Chromium	15		0.38	2.3	mg/Kg-dry	5	4/4/2014 19:10
Lead	8.5		0.0092	2.3	mg/Kg-dry	5	4/4/2014 19:10
Selenium	0.99	J	0.30	2.3	mg/Kg-dry	5	4/4/2014 19:10
Silver	0.072	J	0.0092	2.3	mg/Kg-dry	5	4/4/2014 19:10
<b>DIESEL RANGE ORGANICS BY GC-MS</b>							
			Method: <b>SW8270</b>		Prep: SW3541 / 4/4/14		Analyst: <b>RM</b>
DRO (C10-C21)	U		1.6	3.6	mg/Kg-dry	1	4/8/2014 07:40
ORO (C21-C35)	U		1.7	3.6	mg/Kg-dry	1	4/8/2014 07:40
Surr: 4-Terphenyl-d14	104			25-137	%REC	1	4/8/2014 07:40
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>							
			Method: <b>SW8270</b>		Prep: SW3541 / 4/4/14		Analyst: <b>RM</b>
1,1'-Biphenyl	U		6.2	410	µg/Kg-dry	1	4/8/2014 19:36
2,4,5-Trichlorophenol	U		10	200	µg/Kg-dry	1	4/8/2014 19:36
2,4,6-Trichlorophenol	U		7.0	200	µg/Kg-dry	1	4/8/2014 19:36
2,4-Dichlorophenol	U		12	200	µg/Kg-dry	1	4/8/2014 19:36
2,4-Dimethylphenol	U		67	410	µg/Kg-dry	1	4/8/2014 19:36
2,4-Dinitrophenol	U		37	820	µg/Kg-dry	1	4/8/2014 19:36
2,4-Dinitrotoluene	U		13	200	µg/Kg-dry	1	4/8/2014 19:36
2,6-Dinitrotoluene	U		21	200	µg/Kg-dry	1	4/8/2014 19:36
2-Chloronaphthalene	U		2.0	8.3	µg/Kg-dry	1	4/8/2014 19:36
2-Chlorophenol	U		12	200	µg/Kg-dry	1	4/8/2014 19:36
2-Methylnaphthalene	U		3.4	8.3	µg/Kg-dry	1	4/8/2014 19:36
2-Methylphenol	U		17	200	µg/Kg-dry	1	4/8/2014 19:36

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-02-D-16-20  
**Collection Date:** 4/1/2014 12:40 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-04  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		16	820	µg/Kg-dry	1	4/8/2014 19:36
2-Nitrophenol	U		14	200	µg/Kg-dry	1	4/8/2014 19:36
3,3'-Dichlorobenzidine	U		510	820	µg/Kg-dry	1	4/8/2014 19:36
3-Nitroaniline	U		14	820	µg/Kg-dry	1	4/8/2014 19:36
4,6-Dinitro-2-methylphenol	U		34	410	µg/Kg-dry	1	4/8/2014 19:36
4-Bromophenyl phenyl ether	U		11	200	µg/Kg-dry	1	4/8/2014 19:36
4-Chloro-3-methylphenol	U		9.6	200	µg/Kg-dry	1	4/8/2014 19:36
4-Chloroaniline	U		12	820	µg/Kg-dry	1	4/8/2014 19:36
4-Chlorophenyl phenyl ether	U		12	200	µg/Kg-dry	1	4/8/2014 19:36
4-Methylphenol	U		20	200	µg/Kg-dry	1	4/8/2014 19:36
4-Nitroaniline	U		11	820	µg/Kg-dry	1	4/8/2014 19:36
4-Nitrophenol	U		8.2	820	µg/Kg-dry	1	4/8/2014 19:36
Acenaphthene	U		1.2	8.3	µg/Kg-dry	1	4/8/2014 19:36
Acenaphthylene	U		1.5	8.3	µg/Kg-dry	1	4/8/2014 19:36
Acetophenone	U		6.2	410	µg/Kg-dry	1	4/8/2014 19:36
Anthracene	U		1.6	8.3	µg/Kg-dry	1	4/8/2014 19:36
Atrazine	U		13	410	µg/Kg-dry	1	4/8/2014 19:36
Benzaldehyde	U		16	410	µg/Kg-dry	1	4/8/2014 19:36
Benzo(a)anthracene	U		1.6	8.3	µg/Kg-dry	1	4/8/2014 19:36
Benzo(a)pyrene	U		2.7	8.3	µg/Kg-dry	1	4/8/2014 19:36
Benzo(b)fluoranthene	U		2.4	8.3	µg/Kg-dry	1	4/8/2014 19:36
Benzo(g,h,i)perylene	U		3.3	8.3	µg/Kg-dry	1	4/8/2014 19:36
Benzo(k)fluoranthene	U		1.8	8.3	µg/Kg-dry	1	4/8/2014 19:36
Bis(2-chloroethoxy)methane	U		13	200	µg/Kg-dry	1	4/8/2014 19:36
Bis(2-chloroethyl)ether	U		13	200	µg/Kg-dry	1	4/8/2014 19:36
Bis(2-chloroisopropyl)ether	U		17	200	µg/Kg-dry	1	4/8/2014 19:36
Bis(2-ethylhexyl)phthalate	U		14	410	µg/Kg-dry	1	4/8/2014 19:36
Butyl benzyl phthalate	U		16	200	µg/Kg-dry	1	4/8/2014 19:36
Caprolactam	U		18	410	µg/Kg-dry	1	4/8/2014 19:36
Carbazole	U		12	200	µg/Kg-dry	1	4/8/2014 19:36
Chrysene	U		2.0	8.3	µg/Kg-dry	1	4/8/2014 19:36
Dibenzo(a,h)anthracene	U		3.1	8.3	µg/Kg-dry	1	4/8/2014 19:36
Dibenzofuran	U		13	200	µg/Kg-dry	1	4/8/2014 19:36
Diethyl phthalate	U		13	410	µg/Kg-dry	1	4/8/2014 19:36
Dimethyl phthalate	U		14	410	µg/Kg-dry	1	4/8/2014 19:36
Di-n-butyl phthalate	U		6.0	410	µg/Kg-dry	1	4/8/2014 19:36
Di-n-octyl phthalate	U		13	200	µg/Kg-dry	1	4/8/2014 19:36
Fluoranthene	U		2.9	8.3	µg/Kg-dry	1	4/8/2014 19:36
Fluorene	U		2.8	8.3	µg/Kg-dry	1	4/8/2014 19:36
Hexachlorobenzene	U		12	200	µg/Kg-dry	1	4/8/2014 19:36

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-02-D-16-20  
**Collection Date:** 4/1/2014 12:40 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-04  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorobutadiene	U		14	200	µg/Kg-dry	1	4/8/2014 19:36
Hexachlorocyclopentadiene	U		13	410	µg/Kg-dry	1	4/8/2014 19:36
Hexachloroethane	U		19	200	µg/Kg-dry	1	4/8/2014 19:36
Indeno(1,2,3-cd)pyrene	U		2.8	8.3	µg/Kg-dry	1	4/8/2014 19:36
Isophorone	U		14	200	µg/Kg-dry	1	4/8/2014 19:36
Naphthalene	U		3.1	8.3	µg/Kg-dry	1	4/8/2014 19:36
Nitrobenzene	U		16	200	µg/Kg-dry	1	4/8/2014 19:36
N-Nitrosodi-n-propylamine	U		16	200	µg/Kg-dry	1	4/8/2014 19:36
N-Nitrosodiphenylamine	U		74	200	µg/Kg-dry	1	4/8/2014 19:36
Pentachlorophenol	U		8.0	410	µg/Kg-dry	1	4/8/2014 19:36
Phenanthrene	U		1.7	8.3	µg/Kg-dry	1	4/8/2014 19:36
Phenol	U		14	200	µg/Kg-dry	1	4/8/2014 19:36
Pyrene	U		2.8	8.3	µg/Kg-dry	1	4/8/2014 19:36
Surr: 2,4,6-Tribromophenol	58.7			34-140	%REC	1	4/8/2014 19:36
Surr: 2-Fluorobiphenyl	72.2			12-100	%REC	1	4/8/2014 19:36
Surr: 2-Fluorophenol	80.2			33-117	%REC	1	4/8/2014 19:36
Surr: 4-Terphenyl-d14	106			25-137	%REC	1	4/8/2014 19:36
Surr: Nitrobenzene-d5	90.0			37-107	%REC	1	4/8/2014 19:36
Surr: Phenol-d6	84.3			40-106	%REC	1	4/8/2014 19:36
<b>GASOLINE RANGE ORGANICS BY GC-MS</b>			Method: <b>SW8260GRO</b>		Prep: SW5035 / 4/3/14		Analyst: <b>BG</b>
GRO (C6-C10)	U		1,600	3,200	µg/Kg-dry	1	4/3/2014 17:07
Surr: Toluene-d8	92.8			70-130	%REC	1	4/3/2014 17:07
<b>VOLATILE ORGANIC COMPOUNDS</b>			Method: <b>SW8260</b>		Analyst: <b>AK</b>		
1,1,1-Trichloroethane	U		0.24	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
1,1,2,2-Tetrachloroethane	U		0.15	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
1,1,2-Trichloroethane	U		0.21	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
1,1,2-Trichlorotrifluoroethane	U		0.30	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
1,1-Dichloroethane	U		0.27	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
1,1-Dichloroethene	U		0.24	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
1,2,4-Trichlorobenzene	U		0.22	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
1,2-Dibromo-3-chloropropane	U		0.21	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
1,2-Dibromoethane	U		0.22	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
1,2-Dichlorobenzene	U		0.22	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
1,2-Dichloroethane	U		0.30	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
1,2-Dichloropropane	U		0.28	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
1,3-Dichlorobenzene	U		0.20	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
1,4-Dichlorobenzene	U		0.23	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
<b>2-Butanone</b>	<b>2.5</b>	<b>J</b>	<b>0.83</b>	<b>11</b>	<b>µg/Kg-dry</b>	0.847	4/9/2014 12:46
2-Hexanone	U		0.32	5.4	µg/Kg-dry	0.847	4/9/2014 12:46

**Note:** See Qualifiers page for a list of qualifiers and their definitions.



# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-02-D-16-20  
**Collection Date:** 4/1/2014 12:40 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-04  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
4-Methyl-2-pentanone	U		0.21	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
<b>Acetone</b>	<b>26</b>		<b>1.0</b>	<b>11</b>	<b>µg/Kg-dry</b>	0.847	4/9/2014 12:46
Benzene	U		0.27	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
Bromodichloromethane	U		0.22	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
Bromoform	U		0.17	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
Bromomethane	U		0.38	11	µg/Kg-dry	0.847	4/9/2014 12:46
Carbon disulfide	U		0.40	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
Carbon tetrachloride	U		0.22	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
Chlorobenzene	U		0.24	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
Chloroethane	U		0.61	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
Chloroform	U		0.28	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
Chloromethane	U		0.33	11	µg/Kg-dry	0.847	4/9/2014 12:46
cis-1,2-Dichloroethene	U		0.32	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
cis-1,3-Dichloropropene	U		0.19	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
Cyclohexane	U		0.34	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
Dibromochloromethane	U		0.18	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
Dichlorodifluoromethane	U		0.36	11	µg/Kg-dry	0.847	4/9/2014 12:46
Ethylbenzene	U		0.21	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
Isopropylbenzene	U		0.21	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
m,p-Xylene	U		0.41	2.7	µg/Kg-dry	0.847	4/9/2014 12:46
Methyl acetate	U		0.87	11	µg/Kg-dry	0.847	4/9/2014 12:46
Methyl tert-butyl ether	U		0.27	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
Methylcyclohexane	U		0.30	11	µg/Kg-dry	0.847	4/9/2014 12:46
<b>Methylene chloride</b>	<b>0.96</b>	J	<b>0.31</b>	<b>5.4</b>	<b>µg/Kg-dry</b>	0.847	4/9/2014 12:46
o-Xylene	U		0.21	2.7	µg/Kg-dry	0.847	4/9/2014 12:46
Styrene	U		0.20	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
Tetrachloroethene	U		0.32	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
<b>Toluene</b>	<b>0.40</b>	J	<b>0.25</b>	<b>5.4</b>	<b>µg/Kg-dry</b>	0.847	4/9/2014 12:46
trans-1,2-Dichloroethene	U		0.32	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
trans-1,3-Dichloropropene	U		0.20	11	µg/Kg-dry	0.847	4/9/2014 12:46
Trichloroethene	U		0.25	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
Trichlorofluoromethane	U		1.3	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
Vinyl chloride	U		0.33	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
Xylenes, Total	U		0.62	5.4	µg/Kg-dry	0.847	4/9/2014 12:46
Surr: 1,2-Dichloroethane-d4	108			70-120	%REC	0.847	4/9/2014 12:46
Surr: 4-Bromofluorobenzene	97.2			75-120	%REC	0.847	4/9/2014 12:46
Surr: Dibromofluoromethane	19.8	S		85-115	%REC	0.847	4/9/2014 12:46
Surr: Toluene-d8	98.6			85-120	%REC	0.847	4/9/2014 12:46

## MOISTURE

Method: A2540 G

Analyst: AT

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

## ALS Group USA, Corp

Date: 14-Apr-14

Client: Tetra Tech

Project: KCMO Public Works East Garage 3.31-4.1.14

Sample ID: SO-02-D-16-20

Collection Date: 4/1/2014 12:40 PM

Work Order: 1404130

Lab ID: 1404130-04

Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Moisture	21		0.025	0.050	% of sample	1	4/2/2014 17:01

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-03-S-0-4  
**Collection Date:** 4/1/2014 11:10 AM

**Work Order:** 1404130  
**Lab ID:** 1404130-05  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>PCBS</b>							
			Method:SW8082		Prep: SW3541 / 4/7/14		Analyst: JD
Aroclor 1016	U		57	100	µg/Kg-dry	1	4/8/2014 16:52
Aroclor 1221	U		57	100	µg/Kg-dry	1	4/8/2014 16:52
Aroclor 1232	U		57	100	µg/Kg-dry	1	4/8/2014 16:52
Aroclor 1242	U		57	100	µg/Kg-dry	1	4/8/2014 16:52
Aroclor 1248	U		57	100	µg/Kg-dry	1	4/8/2014 16:52
Aroclor 1254	U		37	100	µg/Kg-dry	1	4/8/2014 16:52
Aroclor 1260	U		37	100	µg/Kg-dry	1	4/8/2014 16:52
Surr: Decachlorobiphenyl	84.1			40-140	%REC	1	4/8/2014 16:52
Surr: Tetrachloro-m-xylene	90.1			45-124	%REC	1	4/8/2014 16:52
<b>MERCURY BY CVAA</b>							
			Method:SW7471		Prep: SW7471 / 4/3/14		Analyst: LR
Mercury	0.015	J	0.00077	0.015	mg/Kg-dry	1	4/3/2014 12:09
<b>METALS BY ICP-MS</b>							
			Method:SW6020A		Prep: SW3050B / 4/4/14		Analyst: ML
Arsenic	4.2		0.28	2.0	mg/Kg-dry	5	4/4/2014 17:18
Barium	150		0.057	2.0	mg/Kg-dry	5	4/4/2014 17:18
Cadmium	0.12	J	0.0081	0.81	mg/Kg-dry	5	4/4/2014 17:18
Chromium	17		0.33	2.0	mg/Kg-dry	5	4/4/2014 17:18
Lead	11		0.0081	2.0	mg/Kg-dry	5	4/4/2014 17:18
Selenium	1.3	J	0.26	2.0	mg/Kg-dry	5	4/4/2014 17:18
Silver	0.12	J	0.0081	2.0	mg/Kg-dry	5	4/4/2014 17:18
<b>DIESEL RANGE ORGANICS BY GC-MS</b>							
			Method:SW8270		Prep: SW3541 / 4/4/14		Analyst: RM
DRO (C10-C21)	U		1.5	3.6	mg/Kg-dry	1	4/8/2014 08:07
ORO (C21-C35)	U		1.7	3.6	mg/Kg-dry	1	4/8/2014 08:07
Surr: 4-Terphenyl-d14	94.6			25-137	%REC	1	4/8/2014 08:07
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>							
			Method:SW8270		Prep: SW3541 / 4/4/14		Analyst: RM
1,1'-Biphenyl	U		6.1	400	µg/Kg-dry	1	4/8/2014 19:57
2,4,5-Trichlorophenol	U		10	200	µg/Kg-dry	1	4/8/2014 19:57
2,4,6-Trichlorophenol	U		6.8	200	µg/Kg-dry	1	4/8/2014 19:57
2,4-Dichlorophenol	U		12	200	µg/Kg-dry	1	4/8/2014 19:57
2,4-Dimethylphenol	U		65	400	µg/Kg-dry	1	4/8/2014 19:57
2,4-Dinitrophenol	U		37	810	µg/Kg-dry	1	4/8/2014 19:57
2,4-Dinitrotoluene	U		13	200	µg/Kg-dry	1	4/8/2014 19:57
2,6-Dinitrotoluene	U		21	200	µg/Kg-dry	1	4/8/2014 19:57
2-Chloronaphthalene	U		1.9	8.1	µg/Kg-dry	1	4/8/2014 19:57
2-Chlorophenol	U		12	200	µg/Kg-dry	1	4/8/2014 19:57
2-Methylnaphthalene	U		3.4	8.1	µg/Kg-dry	1	4/8/2014 19:57
2-Methylphenol	U		17	200	µg/Kg-dry	1	4/8/2014 19:57

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-03-S-0-4  
**Collection Date:** 4/1/2014 11:10 AM

**Work Order:** 1404130  
**Lab ID:** 1404130-05  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		16	810	µg/Kg-dry	1	4/8/2014 19:57
2-Nitrophenol	U		14	200	µg/Kg-dry	1	4/8/2014 19:57
3,3'-Dichlorobenzidine	U		500	810	µg/Kg-dry	1	4/8/2014 19:57
3-Nitroaniline	U		14	810	µg/Kg-dry	1	4/8/2014 19:57
4,6-Dinitro-2-methylphenol	U		34	400	µg/Kg-dry	1	4/8/2014 19:57
4-Bromophenyl phenyl ether	U		11	200	µg/Kg-dry	1	4/8/2014 19:57
4-Chloro-3-methylphenol	U		9.4	200	µg/Kg-dry	1	4/8/2014 19:57
4-Chloroaniline	U		12	810	µg/Kg-dry	1	4/8/2014 19:57
4-Chlorophenyl phenyl ether	U		12	200	µg/Kg-dry	1	4/8/2014 19:57
4-Methylphenol	U		19	200	µg/Kg-dry	1	4/8/2014 19:57
4-Nitroaniline	U		11	810	µg/Kg-dry	1	4/8/2014 19:57
4-Nitrophenol	U		8.0	810	µg/Kg-dry	1	4/8/2014 19:57
Acenaphthene	U		1.2	8.1	µg/Kg-dry	1	4/8/2014 19:57
Acenaphthylene	U		1.5	8.1	µg/Kg-dry	1	4/8/2014 19:57
Acetophenone	U		6.1	400	µg/Kg-dry	1	4/8/2014 19:57
Anthracene	U		1.6	8.1	µg/Kg-dry	1	4/8/2014 19:57
Atrazine	U		12	400	µg/Kg-dry	1	4/8/2014 19:57
Benzaldehyde	U		15	400	µg/Kg-dry	1	4/8/2014 19:57
Benzo(a)anthracene	U		1.6	8.1	µg/Kg-dry	1	4/8/2014 19:57
Benzo(a)pyrene	U		2.6	8.1	µg/Kg-dry	1	4/8/2014 19:57
Benzo(b)fluoranthene	U		2.4	8.1	µg/Kg-dry	1	4/8/2014 19:57
Benzo(g,h,i)perylene	U		3.2	8.1	µg/Kg-dry	1	4/8/2014 19:57
Benzo(k)fluoranthene	U		1.7	8.1	µg/Kg-dry	1	4/8/2014 19:57
Bis(2-chloroethoxy)methane	U		13	200	µg/Kg-dry	1	4/8/2014 19:57
Bis(2-chloroethyl)ether	U		13	200	µg/Kg-dry	1	4/8/2014 19:57
Bis(2-chloroisopropyl)ether	U		17	200	µg/Kg-dry	1	4/8/2014 19:57
Bis(2-ethylhexyl)phthalate	U		13	400	µg/Kg-dry	1	4/8/2014 19:57
Butyl benzyl phthalate	U		15	200	µg/Kg-dry	1	4/8/2014 19:57
Caprolactam	U		18	400	µg/Kg-dry	1	4/8/2014 19:57
Carbazole	U		12	200	µg/Kg-dry	1	4/8/2014 19:57
Chrysene	U		1.9	8.1	µg/Kg-dry	1	4/8/2014 19:57
Dibenzo(a,h)anthracene	U		3.0	8.1	µg/Kg-dry	1	4/8/2014 19:57
Dibenzofuran	U		13	200	µg/Kg-dry	1	4/8/2014 19:57
Diethyl phthalate	U		13	400	µg/Kg-dry	1	4/8/2014 19:57
Dimethyl phthalate	U		14	400	µg/Kg-dry	1	4/8/2014 19:57
Di-n-butyl phthalate	U		5.9	400	µg/Kg-dry	1	4/8/2014 19:57
Di-n-octyl phthalate	U		13	200	µg/Kg-dry	1	4/8/2014 19:57
Fluoranthene	U		2.8	8.1	µg/Kg-dry	1	4/8/2014 19:57
Fluorene	U		2.7	8.1	µg/Kg-dry	1	4/8/2014 19:57
Hexachlorobenzene	U		11	200	µg/Kg-dry	1	4/8/2014 19:57

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-03-S-0-4  
**Collection Date:** 4/1/2014 11:10 AM

**Work Order:** 1404130  
**Lab ID:** 1404130-05  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorobutadiene	U		14	200	µg/Kg-dry	1	4/8/2014 19:57
Hexachlorocyclopentadiene	U		13	400	µg/Kg-dry	1	4/8/2014 19:57
Hexachloroethane	U		19	200	µg/Kg-dry	1	4/8/2014 19:57
Indeno(1,2,3-cd)pyrene	U		2.7	8.1	µg/Kg-dry	1	4/8/2014 19:57
Isophorone	U		14	200	µg/Kg-dry	1	4/8/2014 19:57
Naphthalene	U		3.0	8.1	µg/Kg-dry	1	4/8/2014 19:57
Nitrobenzene	U		16	200	µg/Kg-dry	1	4/8/2014 19:57
N-Nitrosodi-n-propylamine	U		16	200	µg/Kg-dry	1	4/8/2014 19:57
N-Nitrosodiphenylamine	U		72	200	µg/Kg-dry	1	4/8/2014 19:57
Pentachlorophenol	U		7.8	400	µg/Kg-dry	1	4/8/2014 19:57
Phenanthrene	U		1.6	8.1	µg/Kg-dry	1	4/8/2014 19:57
Phenol	U		14	200	µg/Kg-dry	1	4/8/2014 19:57
Pyrene	U		2.7	8.1	µg/Kg-dry	1	4/8/2014 19:57
Surr: 2,4,6-Tribromophenol	40.8			34-140	%REC	1	4/8/2014 19:57
Surr: 2-Fluorobiphenyl	70.6			12-100	%REC	1	4/8/2014 19:57
Surr: 2-Fluorophenol	62.5			33-117	%REC	1	4/8/2014 19:57
Surr: 4-Terphenyl-d14	101			25-137	%REC	1	4/8/2014 19:57
Surr: Nitrobenzene-d5	88.2			37-107	%REC	1	4/8/2014 19:57
Surr: Phenol-d6	75.8			40-106	%REC	1	4/8/2014 19:57
<b>GASOLINE RANGE ORGANICS BY GC-MS</b>			Method: <b>SW8260GRO</b>		Prep: SW5035 / 4/3/14		Analyst: <b>BG</b>
GRO (C6-C10)	U		1,600	3,100	µg/Kg-dry	1	4/3/2014 17:33
Surr: Toluene-d8	93.6			70-130	%REC	1	4/3/2014 17:33
<b>VOLATILE ORGANIC COMPOUNDS</b>			Method: <b>SW8260</b>		Analyst: <b>AK</b>		
1,1,1-Trichloroethane	U		0.24	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
1,1,2,2-Tetrachloroethane	U		0.15	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
1,1,2-Trichloroethane	U		0.21	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
1,1,2-Trichlorotrifluoroethane	U		0.30	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
1,1-Dichloroethane	U		0.28	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
1,1-Dichloroethene	U		0.24	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
1,2,4-Trichlorobenzene	U		0.22	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
1,2-Dibromo-3-chloropropane	U		0.21	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
1,2-Dibromoethane	U		0.22	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
1,2-Dichlorobenzene	U		0.22	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
1,2-Dichloroethane	U		0.30	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
1,2-Dichloropropane	U		0.28	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
1,3-Dichlorobenzene	U		0.20	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
1,4-Dichlorobenzene	U		0.23	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
<b>2-Butanone</b>	<b>3.3</b>	<b>J</b>	<b>0.83</b>	<b>11</b>	<b>µg/Kg-dry</b>	0.862	4/9/2014 13:11
2-Hexanone	U		0.33	5.4	µg/Kg-dry	0.862	4/9/2014 13:11

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-03-S-0-4  
**Collection Date:** 4/1/2014 11:10 AM

**Work Order:** 1404130  
**Lab ID:** 1404130-05  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
4-Methyl-2-pentanone	U		0.21	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
<b>Acetone</b>	<b>35</b>		<b>1.0</b>	<b>11</b>	<b>µg/Kg-dry</b>	0.862	4/9/2014 13:11
Benzene	U		0.27	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
Bromodichloromethane	U		0.22	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
Bromoform	U		0.17	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
Bromomethane	U		0.38	11	µg/Kg-dry	0.862	4/9/2014 13:11
Carbon disulfide	U		0.40	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
Carbon tetrachloride	U		0.22	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
Chlorobenzene	U		0.24	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
Chloroethane	U		0.61	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
Chloroform	U		0.28	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
Chloromethane	U		0.33	11	µg/Kg-dry	0.862	4/9/2014 13:11
cis-1,2-Dichloroethene	U		0.32	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
cis-1,3-Dichloropropene	U		0.19	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
Cyclohexane	U		0.35	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
Dibromochloromethane	U		0.18	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
Dichlorodifluoromethane	U		0.36	11	µg/Kg-dry	0.862	4/9/2014 13:11
Ethylbenzene	U		0.21	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
Isopropylbenzene	U		0.21	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
m,p-Xylene	U		0.41	2.7	µg/Kg-dry	0.862	4/9/2014 13:11
Methyl acetate	U		0.87	11	µg/Kg-dry	0.862	4/9/2014 13:11
Methyl tert-butyl ether	U		0.27	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
Methylcyclohexane	U		0.30	11	µg/Kg-dry	0.862	4/9/2014 13:11
<b>Methylene chloride</b>	<b>0.48</b>	<b>J</b>	<b>0.31</b>	<b>5.4</b>	<b>µg/Kg-dry</b>	0.862	4/9/2014 13:11
o-Xylene	U		0.22	2.7	µg/Kg-dry	0.862	4/9/2014 13:11
Styrene	U		0.20	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
Tetrachloroethene	U		0.32	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
Toluene	U		0.26	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
trans-1,2-Dichloroethene	U		0.32	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
trans-1,3-Dichloropropene	U		0.20	11	µg/Kg-dry	0.862	4/9/2014 13:11
Trichloroethene	U		0.25	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
Trichlorofluoromethane	U		1.3	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
Vinyl chloride	U		0.33	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
Xylenes, Total	U		0.62	5.4	µg/Kg-dry	0.862	4/9/2014 13:11
Surr: 1,2-Dichloroethane-d4	112			70-120	%REC	0.862	4/9/2014 13:11
Surr: 4-Bromofluorobenzene	98.8			75-120	%REC	0.862	4/9/2014 13:11
Surr: Dibromofluoromethane	27.2	<b>S</b>		85-115	%REC	0.862	4/9/2014 13:11
Surr: Toluene-d8	99.6			85-120	%REC	0.862	4/9/2014 13:11

## MOISTURE

Method: A2540 G

Analyst: AT

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

## ALS Group USA, Corp

Date: 14-Apr-14

Client: Tetra Tech

Project: KCMO Public Works East Garage 3.31-4.1.14

Sample ID: SO-03-S-0-4

Collection Date: 4/1/2014 11:10 AM

Work Order: 1404130

Lab ID: 1404130-05

Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Moisture	20		0.025	0.050	% of sample	1	4/2/2014 17:01

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-03-D-12-16  
**Collection Date:** 4/1/2014 11:45 AM

**Work Order:** 1404130  
**Lab ID:** 1404130-06  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>PCBS</b>							
			Method: <b>SW8082</b>		Prep: SW3541 / 4/7/14		Analyst: <b>JD</b>
Aroclor 1016	U		58	100	µg/Kg-dry	1	4/8/2014 17:09
Aroclor 1221	U		58	100	µg/Kg-dry	1	4/8/2014 17:09
Aroclor 1232	U		58	100	µg/Kg-dry	1	4/8/2014 17:09
Aroclor 1242	U		58	100	µg/Kg-dry	1	4/8/2014 17:09
Aroclor 1248	U		58	100	µg/Kg-dry	1	4/8/2014 17:09
Aroclor 1254	U		37	100	µg/Kg-dry	1	4/8/2014 17:09
Aroclor 1260	U		37	100	µg/Kg-dry	1	4/8/2014 17:09
Surr: Decachlorobiphenyl	88.1			40-140	%REC	1	4/8/2014 17:09
Surr: Tetrachloro-m-xylene	92.1			45-124	%REC	1	4/8/2014 17:09
<b>MERCURY BY CVAA</b>							
			Method: <b>SW7471</b>		Prep: SW7471 / 4/3/14		Analyst: <b>LR</b>
Mercury	0.019		0.00097	0.019	mg/Kg-dry	1	4/3/2014 12:19
<b>METALS BY ICP-MS</b>							
			Method: <b>SW6020A</b>		Prep: SW3050B / 4/4/14		Analyst: <b>ML</b>
Arsenic	6.7		0.33	2.4	mg/Kg-dry	5	4/4/2014 19:16
Barium	160		0.068	2.4	mg/Kg-dry	5	4/4/2014 19:16
Cadmium	0.25	J	0.0097	0.97	mg/Kg-dry	5	4/4/2014 19:16
Chromium	17		0.40	2.4	mg/Kg-dry	5	4/4/2014 19:16
Lead	9.5		0.0097	2.4	mg/Kg-dry	5	4/4/2014 19:16
Selenium	1.2	J	0.31	2.4	mg/Kg-dry	5	4/4/2014 19:16
Silver	0.059	J	0.0097	2.4	mg/Kg-dry	5	4/4/2014 19:16
<b>DIESEL RANGE ORGANICS BY GC-MS</b>							
			Method: <b>SW8270</b>		Prep: SW3541 / 4/4/14		Analyst: <b>RM</b>
DRO (C10-C21)	U		1.6	3.6	mg/Kg-dry	1	4/8/2014 08:33
ORO (C21-C35)	U		1.7	3.6	mg/Kg-dry	1	4/8/2014 08:33
Surr: 4-Terphenyl-d14	100			25-137	%REC	1	4/8/2014 08:33
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>							
			Method: <b>SW8270</b>		Prep: SW3541 / 4/4/14		Analyst: <b>RM</b>
1,1'-Biphenyl	U		6.2	410	µg/Kg-dry	1	4/8/2014 20:18
2,4,5-Trichlorophenol	U		10	200	µg/Kg-dry	1	4/8/2014 20:18
2,4,6-Trichlorophenol	U		7.0	200	µg/Kg-dry	1	4/8/2014 20:18
2,4-Dichlorophenol	U		12	200	µg/Kg-dry	1	4/8/2014 20:18
2,4-Dimethylphenol	U		66	410	µg/Kg-dry	1	4/8/2014 20:18
2,4-Dinitrophenol	U		37	820	µg/Kg-dry	1	4/8/2014 20:18
2,4-Dinitrotoluene	U		13	200	µg/Kg-dry	1	4/8/2014 20:18
2,6-Dinitrotoluene	U		21	200	µg/Kg-dry	1	4/8/2014 20:18
2-Chloronaphthalene	U		1.9	8.3	µg/Kg-dry	1	4/8/2014 20:18
2-Chlorophenol	U		12	200	µg/Kg-dry	1	4/8/2014 20:18
2-Methylnaphthalene	U		3.4	8.3	µg/Kg-dry	1	4/8/2014 20:18
2-Methylphenol	U		17	200	µg/Kg-dry	1	4/8/2014 20:18

**Note:** See Qualifiers page for a list of qualifiers and their definitions.



# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-03-D-12-16  
**Collection Date:** 4/1/2014 11:45 AM

**Work Order:** 1404130  
**Lab ID:** 1404130-06  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		16	820	µg/Kg-dry	1	4/8/2014 20:18
2-Nitrophenol	U		14	200	µg/Kg-dry	1	4/8/2014 20:18
3,3'-Dichlorobenzidine	U		510	820	µg/Kg-dry	1	4/8/2014 20:18
3-Nitroaniline	U		14	820	µg/Kg-dry	1	4/8/2014 20:18
4,6-Dinitro-2-methylphenol	U		34	410	µg/Kg-dry	1	4/8/2014 20:18
4-Bromophenyl phenyl ether	U		11	200	µg/Kg-dry	1	4/8/2014 20:18
4-Chloro-3-methylphenol	U		9.6	200	µg/Kg-dry	1	4/8/2014 20:18
4-Chloroaniline	U		12	820	µg/Kg-dry	1	4/8/2014 20:18
4-Chlorophenyl phenyl ether	U		12	200	µg/Kg-dry	1	4/8/2014 20:18
4-Methylphenol	U		20	200	µg/Kg-dry	1	4/8/2014 20:18
4-Nitroaniline	U		11	820	µg/Kg-dry	1	4/8/2014 20:18
4-Nitrophenol	U		8.2	820	µg/Kg-dry	1	4/8/2014 20:18
Acenaphthene	U		1.2	8.3	µg/Kg-dry	1	4/8/2014 20:18
Acenaphthylene	U		1.5	8.3	µg/Kg-dry	1	4/8/2014 20:18
Acetophenone	U		6.2	410	µg/Kg-dry	1	4/8/2014 20:18
Anthracene	U		1.6	8.3	µg/Kg-dry	1	4/8/2014 20:18
Atrazine	U		13	410	µg/Kg-dry	1	4/8/2014 20:18
Benzaldehyde	U		16	410	µg/Kg-dry	1	4/8/2014 20:18
<b>Benzo(a)anthracene</b>	<b>35</b>		<b>1.6</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 20:18
<b>Benzo(a)pyrene</b>	<b>43</b>		<b>2.7</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 20:18
<b>Benzo(b)fluoranthene</b>	<b>46</b>		<b>2.4</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 20:18
<b>Benzo(g,h,i)perylene</b>	<b>33</b>		<b>3.2</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 20:18
Benzo(k)fluoranthene	U		1.7	8.3	µg/Kg-dry	1	4/8/2014 20:18
Bis(2-chloroethoxy)methane	U		13	200	µg/Kg-dry	1	4/8/2014 20:18
Bis(2-chloroethyl)ether	U		13	200	µg/Kg-dry	1	4/8/2014 20:18
Bis(2-chloroisopropyl)ether	U		17	200	µg/Kg-dry	1	4/8/2014 20:18
Bis(2-ethylhexyl)phthalate	U		14	410	µg/Kg-dry	1	4/8/2014 20:18
Butyl benzyl phthalate	U		16	200	µg/Kg-dry	1	4/8/2014 20:18
Caprolactam	U		18	410	µg/Kg-dry	1	4/8/2014 20:18
Carbazole	U		12	200	µg/Kg-dry	1	4/8/2014 20:18
<b>Chrysene</b>	<b>24</b>		<b>2.0</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 20:18
Dibenzo(a,h)anthracene	U		3.1	8.3	µg/Kg-dry	1	4/8/2014 20:18
Dibenzofuran	U		13	200	µg/Kg-dry	1	4/8/2014 20:18
Diethyl phthalate	U		13	410	µg/Kg-dry	1	4/8/2014 20:18
Dimethyl phthalate	U		14	410	µg/Kg-dry	1	4/8/2014 20:18
Di-n-butyl phthalate	U		6.0	410	µg/Kg-dry	1	4/8/2014 20:18
Di-n-octyl phthalate	U		13	200	µg/Kg-dry	1	4/8/2014 20:18
<b>Fluoranthene</b>	<b>63</b>		<b>2.9</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 20:18
Fluorene	U		2.8	8.3	µg/Kg-dry	1	4/8/2014 20:18
Hexachlorobenzene	U		12	200	µg/Kg-dry	1	4/8/2014 20:18

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-03-D-12-16  
**Collection Date:** 4/1/2014 11:45 AM

**Work Order:** 1404130  
**Lab ID:** 1404130-06  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorobutadiene	U		14	200	µg/Kg-dry	1	4/8/2014 20:18
Hexachlorocyclopentadiene	U		13	410	µg/Kg-dry	1	4/8/2014 20:18
Hexachloroethane	U		19	200	µg/Kg-dry	1	4/8/2014 20:18
<b>Indeno(1,2,3-cd)pyrene</b>	<b>53</b>		<b>2.8</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 20:18
Isophorone	U		14	200	µg/Kg-dry	1	4/8/2014 20:18
<b>Naphthalene</b>	<b>24</b>		<b>3.0</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 20:18
Nitrobenzene	U		16	200	µg/Kg-dry	1	4/8/2014 20:18
N-Nitrosodi-n-propylamine	U		16	200	µg/Kg-dry	1	4/8/2014 20:18
N-Nitrosodiphenylamine	U		74	200	µg/Kg-dry	1	4/8/2014 20:18
Pentachlorophenol	U		8.0	410	µg/Kg-dry	1	4/8/2014 20:18
<b>Phenanthrene</b>	<b>55</b>		<b>1.7</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 20:18
Phenol	U		14	200	µg/Kg-dry	1	4/8/2014 20:18
<b>Pyrene</b>	<b>58</b>		<b>2.8</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 20:18
Surr: 2,4,6-Tribromophenol	57.9			34-140	%REC	1	4/8/2014 20:18
Surr: 2-Fluorobiphenyl	73.1			12-100	%REC	1	4/8/2014 20:18
Surr: 2-Fluorophenol	81.4			33-117	%REC	1	4/8/2014 20:18
Surr: 4-Terphenyl-d14	108			25-137	%REC	1	4/8/2014 20:18
Surr: Nitrobenzene-d5	92.5			37-107	%REC	1	4/8/2014 20:18
Surr: Phenol-d6	85.7			40-106	%REC	1	4/8/2014 20:18
<b>GASOLINE RANGE ORGANICS BY GC-MS</b>			Method: <b>SW8260GRO</b>		Prep: SW5035 / 4/3/14		Analyst: <b>BG</b>
GRO (C6-C10)	U		1,600	3,200	µg/Kg-dry	1	4/3/2014 17:59
Surr: Toluene-d8	93.5			70-130	%REC	1	4/3/2014 17:59
<b>VOLATILE ORGANIC COMPOUNDS</b>			Method: <b>SW8260</b>		Analyst: <b>AK</b>		
1,1,1-Trichloroethane	U		0.23	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
1,1,2,2-Tetrachloroethane	U		0.15	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
1,1,2-Trichloroethane	U		0.20	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
1,1,2-Trichlorotrifluoroethane	U		0.29	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
1,1-Dichloroethane	U		0.26	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
1,1-Dichloroethene	U		0.23	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
1,2,4-Trichlorobenzene	U		0.21	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
1,2-Dibromo-3-chloropropane	U		0.21	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
1,2-Dibromoethane	U		0.21	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
1,2-Dichlorobenzene	U		0.21	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
1,2-Dichloroethane	U		0.29	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
1,2-Dichloropropane	U		0.27	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
1,3-Dichlorobenzene	U		0.20	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
1,4-Dichlorobenzene	U		0.22	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
<b>2-Butanone</b>	<b>2.7</b>	J	<b>0.80</b>	<b>10</b>	<b>µg/Kg-dry</b>	0.81	4/9/2014 13:37
2-Hexanone	U		0.31	5.2	µg/Kg-dry	0.81	4/9/2014 13:37

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-03-D-12-16  
**Collection Date:** 4/1/2014 11:45 AM

**Work Order:** 1404130  
**Lab ID:** 1404130-06  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
4-Methyl-2-pentanone	U		0.21	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
<b>Acetone</b>	<b>25</b>		<b>0.97</b>	<b>10</b>	<b>µg/Kg-dry</b>	0.81	4/9/2014 13:37
Benzene	U		0.26	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
Bromodichloromethane	U		0.21	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
Bromoform	U		0.16	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
Bromomethane	U		0.37	10	µg/Kg-dry	0.81	4/9/2014 13:37
Carbon disulfide	U		0.38	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
Carbon tetrachloride	U		0.21	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
Chlorobenzene	U		0.23	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
Chloroethane	U		0.58	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
Chloroform	U		0.27	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
Chloromethane	U		0.32	10	µg/Kg-dry	0.81	4/9/2014 13:37
cis-1,2-Dichloroethene	U		0.31	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
cis-1,3-Dichloropropene	U		0.19	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
Cyclohexane	U		0.33	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
Dibromochloromethane	U		0.18	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
Dichlorodifluoromethane	U		0.34	10	µg/Kg-dry	0.81	4/9/2014 13:37
Ethylbenzene	U		0.20	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
Isopropylbenzene	U		0.20	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
m,p-Xylene	U		0.39	2.6	µg/Kg-dry	0.81	4/9/2014 13:37
Methyl acetate	U		0.84	10	µg/Kg-dry	0.81	4/9/2014 13:37
Methyl tert-butyl ether	U		0.26	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
Methylcyclohexane	U		0.29	10	µg/Kg-dry	0.81	4/9/2014 13:37
<b>Methylene chloride</b>	<b>1.4</b>	<b>J</b>	<b>0.29</b>	<b>5.2</b>	<b>µg/Kg-dry</b>	0.81	4/9/2014 13:37
o-Xylene	U		0.21	2.6	µg/Kg-dry	0.81	4/9/2014 13:37
Styrene	U		0.19	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
Tetrachloroethene	U		0.31	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
<b>Toluene</b>	<b>0.38</b>	<b>J</b>	<b>0.24</b>	<b>5.2</b>	<b>µg/Kg-dry</b>	0.81	4/9/2014 13:37
trans-1,2-Dichloroethene	U		0.30	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
trans-1,3-Dichloropropene	U		0.19	10	µg/Kg-dry	0.81	4/9/2014 13:37
Trichloroethene	U		0.24	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
Trichlorofluoromethane	U		1.2	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
Vinyl chloride	U		0.32	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
Xylenes, Total	U		0.60	5.2	µg/Kg-dry	0.81	4/9/2014 13:37
Surr: 1,2-Dichloroethane-d4	112			70-120	%REC	0.81	4/9/2014 13:37
Surr: 4-Bromofluorobenzene	98.4			75-120	%REC	0.81	4/9/2014 13:37
Surr: Dibromofluoromethane	23.5	<b>S</b>		85-115	%REC	0.81	4/9/2014 13:37
Surr: Toluene-d8	98.6			85-120	%REC	0.81	4/9/2014 13:37

## MOISTURE

Method: A2540 G

Analyst: AT

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

## ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech

**Project:** KCMO Public Works East Garage 3.31-4.1.14

**Sample ID:** SO-03-D-12-16

**Collection Date:** 4/1/2014 11:45 AM

**Work Order:** 1404130

**Lab ID:** 1404130-06

**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Moisture	22		0.025	0.050	% of sample	1	4/2/2014 17:01

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-04-S-0-4  
**Collection Date:** 3/31/2014 11:10 AM

**Work Order:** 1404130  
**Lab ID:** 1404130-07  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>PCBS</b>							
			Method: <b>SW8082</b>		Prep: SW3541 / 4/7/14		Analyst: <b>JD</b>
Aroclor 1016	U		57	100	µg/Kg-dry	1	4/8/2014 17:25
Aroclor 1221	U		57	100	µg/Kg-dry	1	4/8/2014 17:25
Aroclor 1232	U		57	100	µg/Kg-dry	1	4/8/2014 17:25
Aroclor 1242	U		57	100	µg/Kg-dry	1	4/8/2014 17:25
<b>Aroclor 1248</b>	<b>170</b>		<b>57</b>	<b>100</b>	<b>µg/Kg-dry</b>	1	4/8/2014 17:25
Aroclor 1254	U		37	100	µg/Kg-dry	1	4/8/2014 17:25
Aroclor 1260	U		37	100	µg/Kg-dry	1	4/8/2014 17:25
Surr: Decachlorobiphenyl	95.1			40-140	%REC	1	4/8/2014 17:25
Surr: Tetrachloro-m-xylene	100			45-124	%REC	1	4/8/2014 17:25
<b>MERCURY BY CVAA</b>							
			Method: <b>SW7471</b>		Prep: SW7471 / 4/3/14		Analyst: <b>LR</b>
<b>Mercury</b>	<b>0.11</b>		<b>0.00076</b>	<b>0.015</b>	<b>mg/Kg-dry</b>	1	4/3/2014 12:21
<b>METALS BY ICP-MS</b>							
			Method: <b>SW6020A</b>		Prep: SW3050B / 4/4/14		Analyst: <b>ML</b>
<b>Arsenic</b>	<b>9.3</b>		<b>0.32</b>	<b>2.3</b>	<b>mg/Kg-dry</b>	5	4/5/2014 11:13
<b>Barium</b>	<b>260</b>		<b>0.066</b>	<b>2.3</b>	<b>mg/Kg-dry</b>	5	4/5/2014 11:13
<b>Cadmium</b>	<b>2.1</b>		<b>0.0094</b>	<b>0.94</b>	<b>mg/Kg-dry</b>	5	4/5/2014 11:13
<b>Chromium</b>	<b>43</b>		<b>0.38</b>	<b>2.3</b>	<b>mg/Kg-dry</b>	5	4/5/2014 11:13
<b>Lead</b>	<b>130</b>		<b>0.0094</b>	<b>2.3</b>	<b>mg/Kg-dry</b>	5	4/5/2014 11:13
<b>Selenium</b>	<b>1.5</b>	J	<b>0.30</b>	<b>2.3</b>	<b>mg/Kg-dry</b>	5	4/5/2014 11:13
<b>Silver</b>	<b>0.26</b>	J	<b>0.0094</b>	<b>2.3</b>	<b>mg/Kg-dry</b>	5	4/5/2014 11:13
<b>DIESEL RANGE ORGANICS BY GC-MS</b>							
			Method: <b>SW8270</b>		Prep: SW3541 / 4/4/14		Analyst: <b>RM</b>
<b>DRO (C10-C21)</b>	<b>48</b>		<b>1.5</b>	<b>3.5</b>	<b>mg/Kg-dry</b>	1	4/8/2014 11:30
<b>ORO (C21-C35)</b>	<b>65</b>		<b>1.7</b>	<b>3.5</b>	<b>mg/Kg-dry</b>	1	4/8/2014 11:30
Surr: 4-Terphenyl-d14	99.2			25-137	%REC	1	4/8/2014 11:30
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>							
			Method: <b>SW8270</b>		Prep: SW3541 / 4/4/14		Analyst: <b>RM</b>
1,1'-Biphenyl	U		6.0	400	µg/Kg-dry	1	4/8/2014 22:42
2,4,5-Trichlorophenol	U		10	190	µg/Kg-dry	1	4/8/2014 22:42
2,4,6-Trichlorophenol	U		6.8	190	µg/Kg-dry	1	4/8/2014 22:42
2,4-Dichlorophenol	U		12	190	µg/Kg-dry	1	4/8/2014 22:42
2,4-Dimethylphenol	U		65	400	µg/Kg-dry	1	4/8/2014 22:42
2,4-Dinitrophenol	U		36	800	µg/Kg-dry	1	4/8/2014 22:42
2,4-Dinitrotoluene	U		13	190	µg/Kg-dry	1	4/8/2014 22:42
2,6-Dinitrotoluene	U		21	190	µg/Kg-dry	1	4/8/2014 22:42
2-Chloronaphthalene	U		1.9	8.1	µg/Kg-dry	1	4/8/2014 22:42
2-Chlorophenol	U		12	190	µg/Kg-dry	1	4/8/2014 22:42
<b>2-Methylnaphthalene</b>	<b>60</b>		<b>3.4</b>	<b>8.1</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:42
2-Methylphenol	U		16	190	µg/Kg-dry	1	4/8/2014 22:42

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-04-S-0-4  
**Collection Date:** 3/31/2014 11:10 AM

**Work Order:** 1404130  
**Lab ID:** 1404130-07  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		16	800	µg/Kg-dry	1	4/8/2014 22:42
2-Nitrophenol	U		14	190	µg/Kg-dry	1	4/8/2014 22:42
3,3'-Dichlorobenzidine	U		500	800	µg/Kg-dry	1	4/8/2014 22:42
3-Nitroaniline	U		14	800	µg/Kg-dry	1	4/8/2014 22:42
4,6-Dinitro-2-methylphenol	U		34	400	µg/Kg-dry	1	4/8/2014 22:42
4-Bromophenyl phenyl ether	U		11	190	µg/Kg-dry	1	4/8/2014 22:42
4-Chloro-3-methylphenol	U		9.4	190	µg/Kg-dry	1	4/8/2014 22:42
4-Chloroaniline	U		12	800	µg/Kg-dry	1	4/8/2014 22:42
4-Chlorophenyl phenyl ether	U		12	190	µg/Kg-dry	1	4/8/2014 22:42
4-Methylphenol	U		19	190	µg/Kg-dry	1	4/8/2014 22:42
4-Nitroaniline	U		11	800	µg/Kg-dry	1	4/8/2014 22:42
4-Nitrophenol	U		8.0	800	µg/Kg-dry	1	4/8/2014 22:42
<b>Acenaphthene</b>	<b>26</b>		<b>1.2</b>	<b>8.1</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:42
<b>Acenaphthylene</b>	<b>320</b>		<b>1.5</b>	<b>8.1</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:42
Acetophenone	U		6.0	400	µg/Kg-dry	1	4/8/2014 22:42
<b>Anthracene</b>	<b>360</b>		<b>1.6</b>	<b>8.1</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:42
Atrazine	U		12	400	µg/Kg-dry	1	4/8/2014 22:42
Benzaldehyde	U		15	400	µg/Kg-dry	1	4/8/2014 22:42
<b>Benzo(a)anthracene</b>	<b>770</b>		<b>1.6</b>	<b>8.1</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:42
<b>Benzo(a)pyrene</b>	<b>960</b>		<b>2.6</b>	<b>8.1</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:42
<b>Benzo(b)fluoranthene</b>	<b>1,300</b>		<b>2.4</b>	<b>8.1</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:42
<b>Benzo(g,h,i)perylene</b>	<b>880</b>		<b>3.2</b>	<b>8.1</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:42
<b>Benzo(k)fluoranthene</b>	<b>470</b>		<b>1.7</b>	<b>8.1</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:42
Bis(2-chloroethoxy)methane	U		13	190	µg/Kg-dry	1	4/8/2014 22:42
Bis(2-chloroethyl)ether	U		13	190	µg/Kg-dry	1	4/8/2014 22:42
Bis(2-chloroisopropyl)ether	U		17	190	µg/Kg-dry	1	4/8/2014 22:42
<b>Bis(2-ethylhexyl)phthalate</b>	<b>160</b>	J	<b>13</b>	<b>400</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:42
<b>Butyl benzyl phthalate</b>	<b>450</b>		<b>15</b>	<b>190</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:42
Caprolactam	U		18	400	µg/Kg-dry	1	4/8/2014 22:42
<b>Carbazole</b>	<b>78</b>	J	<b>12</b>	<b>190</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:42
<b>Chrysene</b>	<b>850</b>		<b>1.9</b>	<b>8.1</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:42
<b>Dibenzo(a,h)anthracene</b>	<b>210</b>		<b>3.0</b>	<b>8.1</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:42
<b>Dibenzofuran</b>	<b>110</b>	J	<b>13</b>	<b>190</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:42
Diethyl phthalate	U		13	400	µg/Kg-dry	1	4/8/2014 22:42
Dimethyl phthalate	U		14	400	µg/Kg-dry	1	4/8/2014 22:42
Di-n-butyl phthalate	U		5.8	400	µg/Kg-dry	1	4/8/2014 22:42
Di-n-octyl phthalate	U		13	190	µg/Kg-dry	1	4/8/2014 22:42
<b>Fluoranthene</b>	<b>1,700</b>		<b>2.8</b>	<b>8.1</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:42
<b>Fluorene</b>	<b>140</b>		<b>2.7</b>	<b>8.1</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:42
Hexachlorobenzene	U		11	190	µg/Kg-dry	1	4/8/2014 22:42

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-04-S-0-4  
**Collection Date:** 3/31/2014 11:10 AM

**Work Order:** 1404130  
**Lab ID:** 1404130-07  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorobutadiene	U		14	190	µg/Kg-dry	1	4/8/2014 22:42
Hexachlorocyclopentadiene	U		13	400	µg/Kg-dry	1	4/8/2014 22:42
Hexachloroethane	U		19	190	µg/Kg-dry	1	4/8/2014 22:42
<b>Indeno(1,2,3-cd)pyrene</b>	<b>860</b>		<b>2.7</b>	<b>8.1</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:42
Isophorone	U		14	190	µg/Kg-dry	1	4/8/2014 22:42
<b>Naphthalene</b>	<b>140</b>		<b>3.0</b>	<b>8.1</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:42
Nitrobenzene	U		16	190	µg/Kg-dry	1	4/8/2014 22:42
N-Nitrosodi-n-propylamine	U		15	190	µg/Kg-dry	1	4/8/2014 22:42
N-Nitrosodiphenylamine	U		72	190	µg/Kg-dry	1	4/8/2014 22:42
Pentachlorophenol	U		7.8	400	µg/Kg-dry	1	4/8/2014 22:42
<b>Phenanthrene</b>	<b>960</b>		<b>1.6</b>	<b>8.1</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:42
Phenol	U		14	190	µg/Kg-dry	1	4/8/2014 22:42
<b>Pyrene</b>	<b>1,700</b>		<b>2.7</b>	<b>8.1</b>	<b>µg/Kg-dry</b>	1	4/8/2014 22:42
Surr: 2,4,6-Tribromophenol	80.3			34-140	%REC	1	4/8/2014 22:42
Surr: 2-Fluorobiphenyl	71.9			12-100	%REC	1	4/8/2014 22:42
Surr: 2-Fluorophenol	79.6			33-117	%REC	1	4/8/2014 22:42
Surr: 4-Terphenyl-d14	101			25-137	%REC	1	4/8/2014 22:42
Surr: Nitrobenzene-d5	86.9			37-107	%REC	1	4/8/2014 22:42
Surr: Phenol-d6	83.9			40-106	%REC	1	4/8/2014 22:42
<b>GASOLINE RANGE ORGANICS BY GC-MS</b>			Method: <b>SW8260GRO</b>		Prep: SW5035 / 4/3/14		Analyst: <b>BG</b>
GRO (C6-C10)	U		1,500	3,100	µg/Kg-dry	1	4/3/2014 18:25
Surr: Toluene-d8	91.8			70-130	%REC	1	4/3/2014 18:25
<b>VOLATILE ORGANIC COMPOUNDS</b>			Method: <b>SW8260</b>		Analyst: <b>AK</b>		
1,1,1-Trichloroethane	U		0.23	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
1,1,2,2-Tetrachloroethane	U		0.15	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
1,1,2-Trichloroethane	U		0.20	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
1,1,2-Trichlorotrifluoroethane	U		0.30	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
1,1-Dichloroethane	U		0.27	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
1,1-Dichloroethene	U		0.24	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
1,2,4-Trichlorobenzene	U		0.22	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
1,2-Dibromo-3-chloropropane	U		0.21	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
1,2-Dibromoethane	U		0.22	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
1,2-Dichlorobenzene	U		0.22	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
1,2-Dichloroethane	U		0.29	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
1,2-Dichloropropane	U		0.28	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
1,3-Dichlorobenzene	U		0.20	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
1,4-Dichlorobenzene	U		0.22	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
<b>2-Butanone</b>	<b>14</b>		<b>0.82</b>	<b>11</b>	<b>µg/Kg-dry</b>	0.862	4/9/2014 14:03
2-Hexanone	U		0.32	5.3	µg/Kg-dry	0.862	4/9/2014 14:03

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-04-S-0-4  
**Collection Date:** 3/31/2014 11:10 AM

**Work Order:** 1404130  
**Lab ID:** 1404130-07  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
4-Methyl-2-pentanone	U		0.21	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
<b>Acetone</b>	<b>91</b>		<b>1.0</b>	<b>11</b>	<b>µg/Kg-dry</b>	0.862	4/9/2014 14:03
Benzene	U		0.26	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
Bromodichloromethane	U		0.22	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
Bromoform	U		0.16	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
Bromomethane	U		0.37	11	µg/Kg-dry	0.862	4/9/2014 14:03
Carbon disulfide	U		0.39	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
Carbon tetrachloride	U		0.22	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
Chlorobenzene	U		0.24	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
Chloroethane	U		0.60	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
Chloroform	U		0.28	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
Chloromethane	U		0.33	11	µg/Kg-dry	0.862	4/9/2014 14:03
cis-1,2-Dichloroethene	U		0.31	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
cis-1,3-Dichloropropene	U		0.19	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
Cyclohexane	U		0.34	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
Dibromochloromethane	U		0.18	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
Dichlorodifluoromethane	U		0.35	11	µg/Kg-dry	0.862	4/9/2014 14:03
Ethylbenzene	U		0.21	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
Isopropylbenzene	U		0.21	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
m,p-Xylene	U		0.40	2.7	µg/Kg-dry	0.862	4/9/2014 14:03
Methyl acetate	U		0.86	11	µg/Kg-dry	0.862	4/9/2014 14:03
Methyl tert-butyl ether	U		0.27	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
Methylcyclohexane	U		0.30	11	µg/Kg-dry	0.862	4/9/2014 14:03
Methylene chloride	U		0.30	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
o-Xylene	U		0.21	2.7	µg/Kg-dry	0.862	4/9/2014 14:03
Styrene	U		0.19	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
Tetrachloroethene	U		0.32	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
Toluene	U		0.25	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
trans-1,2-Dichloroethene	U		0.31	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
trans-1,3-Dichloropropene	U		0.20	11	µg/Kg-dry	0.862	4/9/2014 14:03
Trichloroethene	U		0.25	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
Trichlorofluoromethane	U		1.2	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
Vinyl chloride	U		0.32	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
Xylenes, Total	U		0.61	5.3	µg/Kg-dry	0.862	4/9/2014 14:03
Surr: 1,2-Dichloroethane-d4	108			70-120	%REC	0.862	4/9/2014 14:03
Surr: 4-Bromofluorobenzene	96.0			75-120	%REC	0.862	4/9/2014 14:03
Surr: Dibromofluoromethane	26.3	S		85-115	%REC	0.862	4/9/2014 14:03
Surr: Toluene-d8	97.4			85-120	%REC	0.862	4/9/2014 14:03

## MOISTURE

Method: A2540 G

Analyst: AT

**Note:** See Qualifiers page for a list of qualifiers and their definitions.



## ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-04-S-0-4  
**Collection Date:** 3/31/2014 11:10 AM

**Work Order:** 1404130  
**Lab ID:** 1404130-07  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Moisture	19		0.025	0.050	% of sample	1	4/2/2014 17:01

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-04-D-16-20  
**Collection Date:** 3/31/2014 12:00 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-08  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>PCBS</b>							
			Method: <b>SW8082</b>		Prep: SW3541 / 4/7/14		Analyst: <b>JD</b>
Aroclor 1016	U		58	100	µg/Kg-dry	1	4/8/2014 17:41
Aroclor 1221	U		58	100	µg/Kg-dry	1	4/8/2014 17:41
Aroclor 1232	U		58	100	µg/Kg-dry	1	4/8/2014 17:41
Aroclor 1242	U		58	100	µg/Kg-dry	1	4/8/2014 17:41
Aroclor 1248	U		58	100	µg/Kg-dry	1	4/8/2014 17:41
Aroclor 1254	U		38	100	µg/Kg-dry	1	4/8/2014 17:41
Aroclor 1260	U		38	100	µg/Kg-dry	1	4/8/2014 17:41
Surr: Decachlorobiphenyl	97.1			40-140	%REC	1	4/8/2014 17:41
Surr: Tetrachloro-m-xylene	101			45-124	%REC	1	4/8/2014 17:41
<b>MERCURY BY CVAA</b>							
			Method: <b>SW7471</b>		Prep: SW7471 / 4/3/14		Analyst: <b>LR</b>
Mercury	<b>0.020</b>		<b>0.00087</b>	<b>0.017</b>	mg/Kg-dry	1	4/3/2014 12:23
<b>METALS BY ICP-MS</b>							
			Method: <b>SW6020A</b>		Prep: SW3050B / 4/4/14		Analyst: <b>ML</b>
Arsenic	<b>9.9</b>		<b>0.31</b>	<b>2.3</b>	mg/Kg-dry	5	4/5/2014 11:19
Barium	<b>530</b>		<b>0.064</b>	<b>2.3</b>	mg/Kg-dry	5	4/5/2014 11:19
Cadmium	<b>0.61</b>	J	<b>0.0091</b>	<b>0.91</b>	mg/Kg-dry	5	4/5/2014 11:19
Chromium	<b>23</b>		<b>0.37</b>	<b>2.3</b>	mg/Kg-dry	5	4/5/2014 11:19
Lead	<b>17</b>		<b>0.0091</b>	<b>2.3</b>	mg/Kg-dry	5	4/5/2014 11:19
Selenium	<b>1.9</b>	J	<b>0.29</b>	<b>2.3</b>	mg/Kg-dry	5	4/5/2014 11:19
Silver	<b>0.087</b>	J	<b>0.0091</b>	<b>2.3</b>	mg/Kg-dry	5	4/5/2014 11:19
<b>DIESEL RANGE ORGANICS BY GC-MS</b>							
			Method: <b>SW8270</b>		Prep: SW3541 / 4/4/14		Analyst: <b>RM</b>
DRO (C10-C21)	<b>25</b>		<b>1.6</b>	<b>3.6</b>	mg/Kg-dry	1	4/8/2014 08:59
ORO (C21-C35)	U		1.7	3.6	mg/Kg-dry	1	4/8/2014 08:59
Surr: 4-Terphenyl-d14	101			25-137	%REC	1	4/8/2014 08:59
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>							
			Method: <b>SW8270</b>		Prep: SW3541 / 4/4/14		Analyst: <b>RM</b>
1,1'-Biphenyl	U		6.2	410	µg/Kg-dry	1	4/8/2014 20:38
2,4,5-Trichlorophenol	U		10	200	µg/Kg-dry	1	4/8/2014 20:38
2,4,6-Trichlorophenol	U		7.0	200	µg/Kg-dry	1	4/8/2014 20:38
2,4-Dichlorophenol	U		12	200	µg/Kg-dry	1	4/8/2014 20:38
2,4-Dimethylphenol	U		67	410	µg/Kg-dry	1	4/8/2014 20:38
2,4-Dinitrophenol	U		38	830	µg/Kg-dry	1	4/8/2014 20:38
2,4-Dinitrotoluene	U		13	200	µg/Kg-dry	1	4/8/2014 20:38
2,6-Dinitrotoluene	U		22	200	µg/Kg-dry	1	4/8/2014 20:38
2-Chloronaphthalene	U		2.0	8.3	µg/Kg-dry	1	4/8/2014 20:38
2-Chlorophenol	U		13	200	µg/Kg-dry	1	4/8/2014 20:38
2-Methylnaphthalene	U		3.5	8.3	µg/Kg-dry	1	4/8/2014 20:38
2-Methylphenol	U		17	200	µg/Kg-dry	1	4/8/2014 20:38

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-04-D-16-20  
**Collection Date:** 3/31/2014 12:00 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-08  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		16	830	µg/Kg-dry	1	4/8/2014 20:38
2-Nitrophenol	U		14	200	µg/Kg-dry	1	4/8/2014 20:38
3,3'-Dichlorobenzidine	U		520	830	µg/Kg-dry	1	4/8/2014 20:38
3-Nitroaniline	U		14	830	µg/Kg-dry	1	4/8/2014 20:38
4,6-Dinitro-2-methylphenol	U		35	410	µg/Kg-dry	1	4/8/2014 20:38
4-Bromophenyl phenyl ether	U		11	200	µg/Kg-dry	1	4/8/2014 20:38
4-Chloro-3-methylphenol	U		9.6	200	µg/Kg-dry	1	4/8/2014 20:38
4-Chloroaniline	U		12	830	µg/Kg-dry	1	4/8/2014 20:38
4-Chlorophenyl phenyl ether	U		12	200	µg/Kg-dry	1	4/8/2014 20:38
4-Methylphenol	U		20	200	µg/Kg-dry	1	4/8/2014 20:38
4-Nitroaniline	U		12	830	µg/Kg-dry	1	4/8/2014 20:38
4-Nitrophenol	U		8.2	830	µg/Kg-dry	1	4/8/2014 20:38
Acenaphthene	U		1.2	8.3	µg/Kg-dry	1	4/8/2014 20:38
Acenaphthylene	U		1.5	8.3	µg/Kg-dry	1	4/8/2014 20:38
Acetophenone	U		6.2	410	µg/Kg-dry	1	4/8/2014 20:38
Anthracene	U		1.6	8.3	µg/Kg-dry	1	4/8/2014 20:38
Atrazine	U		13	410	µg/Kg-dry	1	4/8/2014 20:38
Benzaldehyde	U		16	410	µg/Kg-dry	1	4/8/2014 20:38
<b>Benzo(a)anthracene</b>	<b>30</b>		<b>1.6</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 20:38
<b>Benzo(a)pyrene</b>	<b>38</b>		<b>2.7</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 20:38
<b>Benzo(b)fluoranthene</b>	<b>43</b>		<b>2.4</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 20:38
<b>Benzo(g,h,i)perylene</b>	<b>22</b>		<b>3.3</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 20:38
Benzo(k)fluoranthene	U		1.8	8.3	µg/Kg-dry	1	4/8/2014 20:38
Bis(2-chloroethoxy)methane	U		13	200	µg/Kg-dry	1	4/8/2014 20:38
Bis(2-chloroethyl)ether	U		13	200	µg/Kg-dry	1	4/8/2014 20:38
Bis(2-chloroisopropyl)ether	U		17	200	µg/Kg-dry	1	4/8/2014 20:38
Bis(2-ethylhexyl)phthalate	U		14	410	µg/Kg-dry	1	4/8/2014 20:38
Butyl benzyl phthalate	U		16	200	µg/Kg-dry	1	4/8/2014 20:38
Caprolactam	U		18	410	µg/Kg-dry	1	4/8/2014 20:38
Carbazole	U		12	200	µg/Kg-dry	1	4/8/2014 20:38
<b>Chrysene</b>	<b>23</b>		<b>2.0</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 20:38
Dibenzo(a,h)anthracene	U		3.1	8.3	µg/Kg-dry	1	4/8/2014 20:38
Dibenzofuran	U		13	200	µg/Kg-dry	1	4/8/2014 20:38
Diethyl phthalate	U		13	410	µg/Kg-dry	1	4/8/2014 20:38
Dimethyl phthalate	U		14	410	µg/Kg-dry	1	4/8/2014 20:38
Di-n-butyl phthalate	U		6.0	410	µg/Kg-dry	1	4/8/2014 20:38
Di-n-octyl phthalate	U		13	200	µg/Kg-dry	1	4/8/2014 20:38
<b>Fluoranthene</b>	<b>72</b>		<b>2.9</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 20:38
Fluorene	U		2.8	8.3	µg/Kg-dry	1	4/8/2014 20:38
Hexachlorobenzene	U		12	200	µg/Kg-dry	1	4/8/2014 20:38

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-04-D-16-20  
**Collection Date:** 3/31/2014 12:00 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-08  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorobutadiene	U		14	200	µg/Kg-dry	1	4/8/2014 20:38
Hexachlorocyclopentadiene	U		13	410	µg/Kg-dry	1	4/8/2014 20:38
Hexachloroethane	U		19	200	µg/Kg-dry	1	4/8/2014 20:38
Indeno(1,2,3-cd)pyrene	U		2.8	8.3	µg/Kg-dry	1	4/8/2014 20:38
Isophorone	U		14	200	µg/Kg-dry	1	4/8/2014 20:38
Naphthalene	U		3.1	8.3	µg/Kg-dry	1	4/8/2014 20:38
Nitrobenzene	U		16	200	µg/Kg-dry	1	4/8/2014 20:38
N-Nitrosodi-n-propylamine	U		16	200	µg/Kg-dry	1	4/8/2014 20:38
N-Nitrosodiphenylamine	U		74	200	µg/Kg-dry	1	4/8/2014 20:38
Pentachlorophenol	U		8.0	410	µg/Kg-dry	1	4/8/2014 20:38
<b>Phenanthrene</b>	<b>50</b>		<b>1.7</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 20:38
Phenol	U		14	200	µg/Kg-dry	1	4/8/2014 20:38
<b>Pyrene</b>	<b>63</b>		<b>2.8</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 20:38
Surr: 2,4,6-Tribromophenol	42.6			34-140	%REC	1	4/8/2014 20:38
Surr: 2-Fluorobiphenyl	77.4			12-100	%REC	1	4/8/2014 20:38
Surr: 2-Fluorophenol	62.8			33-117	%REC	1	4/8/2014 20:38
Surr: 4-Terphenyl-d14	107			25-137	%REC	1	4/8/2014 20:38
Surr: Nitrobenzene-d5	97.6			37-107	%REC	1	4/8/2014 20:38
Surr: Phenol-d6	81.4			40-106	%REC	1	4/8/2014 20:38
<b>GASOLINE RANGE ORGANICS BY GC-MS</b>			Method: <b>SW8260GRO</b>		Prep: SW5035 / 4/3/14		Analyst: <b>BG</b>
GRO (C6-C10)	U		1,600	3,200	µg/Kg-dry	1	4/3/2014 18:51
Surr: Toluene-d8	92.9			70-130	%REC	1	4/3/2014 18:51
<b>VOLATILE ORGANIC COMPOUNDS</b>			Method: <b>SW8260</b>				Analyst: <b>AK</b>
1,1,1-Trichloroethane	U		0.24	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
1,1,2,2-Tetrachloroethane	U		0.16	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
1,1,2-Trichloroethane	U		0.21	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
1,1,2-Trichlorotrifluoroethane	U		0.31	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
1,1-Dichloroethane	U		0.28	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
1,1-Dichloroethene	U		0.25	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
1,2,4-Trichlorobenzene	U		0.23	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
1,2-Dibromo-3-chloropropane	U		0.22	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
1,2-Dibromoethane	U		0.22	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
1,2-Dichlorobenzene	U		0.22	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
1,2-Dichloroethane	U		0.31	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
1,2-Dichloropropane	U		0.29	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
1,3-Dichlorobenzene	U		0.21	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
1,4-Dichlorobenzene	U		0.23	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
<b>2-Butanone</b>	<b>4.9</b>	J	<b>0.85</b>	<b>11</b>	<b>µg/Kg-dry</b>	0.87	4/9/2014 14:28
2-Hexanone	U		0.33	5.5	µg/Kg-dry	0.87	4/9/2014 14:28

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-04-D-16-20  
**Collection Date:** 3/31/2014 12:00 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-08  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
4-Methyl-2-pentanone	U		0.22	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
<b>Acetone</b>	<b>47</b>		<b>1.0</b>	<b>11</b>	<b>µg/Kg-dry</b>	0.87	4/9/2014 14:28
Benzene	U		0.27	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
Bromodichloromethane	U		0.23	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
Bromoform	U		0.17	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
Bromomethane	U		0.39	11	µg/Kg-dry	0.87	4/9/2014 14:28
Carbon disulfide	U		0.41	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
Carbon tetrachloride	U		0.22	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
Chlorobenzene	U		0.24	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
Chloroethane	U		0.62	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
Chloroform	U		0.29	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
Chloromethane	U		0.34	11	µg/Kg-dry	0.87	4/9/2014 14:28
cis-1,2-Dichloroethene	U		0.33	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
cis-1,3-Dichloropropene	U		0.20	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
Cyclohexane	U		0.35	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
Dibromochloromethane	U		0.19	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
Dichlorodifluoromethane	U		0.37	11	µg/Kg-dry	0.87	4/9/2014 14:28
Ethylbenzene	U		0.21	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
Isopropylbenzene	U		0.21	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
m,p-Xylene	U		0.42	2.8	µg/Kg-dry	0.87	4/9/2014 14:28
Methyl acetate	U		0.89	11	µg/Kg-dry	0.87	4/9/2014 14:28
Methyl tert-butyl ether	U		0.28	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
Methylcyclohexane	U		0.31	11	µg/Kg-dry	0.87	4/9/2014 14:28
Methylene chloride	U		0.31	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
o-Xylene	U		0.22	2.8	µg/Kg-dry	0.87	4/9/2014 14:28
Styrene	U		0.20	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
Tetrachloroethene	U		0.33	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
Toluene	U		0.26	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
trans-1,2-Dichloroethene	U		0.32	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
trans-1,3-Dichloropropene	U		0.21	11	µg/Kg-dry	0.87	4/9/2014 14:28
Trichloroethene	U		0.26	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
Trichlorofluoromethane	U		1.3	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
Vinyl chloride	U		0.34	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
Xylenes, Total	U		0.64	5.5	µg/Kg-dry	0.87	4/9/2014 14:28
Surr: 1,2-Dichloroethane-d4	108			70-120	%REC	0.87	4/9/2014 14:28
Surr: 4-Bromofluorobenzene	96.7			75-120	%REC	0.87	4/9/2014 14:28
Surr: Dibromofluoromethane	21.0	S		85-115	%REC	0.87	4/9/2014 14:28
Surr: Toluene-d8	98.3			85-120	%REC	0.87	4/9/2014 14:28

## MOISTURE

Method: A2540 G

Analyst: AT

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

## ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech

**Project:** KCMO Public Works East Garage 3.31-4.1.14

**Sample ID:** SO-04-D-16-20

**Collection Date:** 3/31/2014 12:00 PM

**Work Order:** 1404130

**Lab ID:** 1404130-08

**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Moisture	21		0.025	0.050	% of sample	1	4/2/2014 17:01

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-05-S-0-4  
**Collection Date:** 3/31/2014 03:05 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-09  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>PCBS</b>							
			Method: <b>SW8082</b>		Prep: SW3541 / 4/7/14		Analyst: <b>JD</b>
Aroclor 1016	U		57	100	µg/Kg-dry	1	4/8/2014 17:57
Aroclor 1221	U		57	100	µg/Kg-dry	1	4/8/2014 17:57
Aroclor 1232	U		57	100	µg/Kg-dry	1	4/8/2014 17:57
Aroclor 1242	U		57	100	µg/Kg-dry	1	4/8/2014 17:57
Aroclor 1248	U		57	100	µg/Kg-dry	1	4/8/2014 17:57
Aroclor 1254	U		37	100	µg/Kg-dry	1	4/8/2014 17:57
Aroclor 1260	U		37	100	µg/Kg-dry	1	4/8/2014 17:57
Surr: Decachlorobiphenyl	100			40-140	%REC	1	4/8/2014 17:57
Surr: Tetrachloro-m-xylene	104			45-124	%REC	1	4/8/2014 17:57
<b>MERCURY BY CVAA</b>							
			Method: <b>SW7471</b>		Prep: SW7471 / 4/3/14		Analyst: <b>LR</b>
Mercury	0.012	J	0.00096	0.019	mg/Kg-dry	1	4/3/2014 12:26
<b>METALS BY ICP-MS</b>							
			Method: <b>SW6020A</b>		Prep: SW3050B / 4/4/14		Analyst: <b>ML</b>
Arsenic	5.3		0.33	2.5	mg/Kg-dry	5	4/5/2014 11:25
Barium	210		0.069	2.5	mg/Kg-dry	5	4/5/2014 11:25
Cadmium	0.10	J	0.0098	0.98	mg/Kg-dry	5	4/5/2014 11:25
Chromium	20		0.40	2.5	mg/Kg-dry	5	4/5/2014 11:25
Lead	11		0.0098	2.5	mg/Kg-dry	5	4/5/2014 11:25
Selenium	1.9	J	0.31	2.5	mg/Kg-dry	5	4/5/2014 11:25
Silver	0.058	J	0.0098	2.5	mg/Kg-dry	5	4/5/2014 11:25
<b>DIESEL RANGE ORGANICS BY GC-MS</b>							
			Method: <b>SW8270</b>		Prep: SW3541 / 4/4/14		Analyst: <b>RM</b>
DRO (C10-C21)	U		1.5	3.6	mg/Kg-dry	1	4/8/2014 09:26
ORO (C21-C35)	U		1.7	3.6	mg/Kg-dry	1	4/8/2014 09:26
Surr: 4-Terphenyl-d14	103			25-137	%REC	1	4/8/2014 09:26
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>							
			Method: <b>SW8270</b>		Prep: SW3541 / 4/4/14		Analyst: <b>RM</b>
1,1'-Biphenyl	U		6.1	410	µg/Kg-dry	1	4/8/2014 20:59
2,4,5-Trichlorophenol	U		10	200	µg/Kg-dry	1	4/8/2014 20:59
2,4,6-Trichlorophenol	U		6.9	200	µg/Kg-dry	1	4/8/2014 20:59
2,4-Dichlorophenol	U		12	200	µg/Kg-dry	1	4/8/2014 20:59
2,4-Dimethylphenol	U		66	410	µg/Kg-dry	1	4/8/2014 20:59
2,4-Dinitrophenol	U		37	820	µg/Kg-dry	1	4/8/2014 20:59
2,4-Dinitrotoluene	U		13	200	µg/Kg-dry	1	4/8/2014 20:59
2,6-Dinitrotoluene	U		21	200	µg/Kg-dry	1	4/8/2014 20:59
2-Chloronaphthalene	U		1.9	8.3	µg/Kg-dry	1	4/8/2014 20:59
2-Chlorophenol	U		12	200	µg/Kg-dry	1	4/8/2014 20:59
2-Methylnaphthalene	U		3.4	8.3	µg/Kg-dry	1	4/8/2014 20:59
2-Methylphenol	U		17	200	µg/Kg-dry	1	4/8/2014 20:59

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-05-S-0-4  
**Collection Date:** 3/31/2014 03:05 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-09  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		16	820	µg/Kg-dry	1	4/8/2014 20:59
2-Nitrophenol	U		14	200	µg/Kg-dry	1	4/8/2014 20:59
3,3'-Dichlorobenzidine	U		510	820	µg/Kg-dry	1	4/8/2014 20:59
3-Nitroaniline	U		14	820	µg/Kg-dry	1	4/8/2014 20:59
4,6-Dinitro-2-methylphenol	U		34	410	µg/Kg-dry	1	4/8/2014 20:59
4-Bromophenyl phenyl ether	U		11	200	µg/Kg-dry	1	4/8/2014 20:59
4-Chloro-3-methylphenol	U		9.5	200	µg/Kg-dry	1	4/8/2014 20:59
4-Chloroaniline	U		12	820	µg/Kg-dry	1	4/8/2014 20:59
4-Chlorophenyl phenyl ether	U		12	200	µg/Kg-dry	1	4/8/2014 20:59
4-Methylphenol	U		20	200	µg/Kg-dry	1	4/8/2014 20:59
4-Nitroaniline	U		11	820	µg/Kg-dry	1	4/8/2014 20:59
4-Nitrophenol	U		8.2	820	µg/Kg-dry	1	4/8/2014 20:59
Acenaphthene	U		1.2	8.3	µg/Kg-dry	1	4/8/2014 20:59
Acenaphthylene	U		1.5	8.3	µg/Kg-dry	1	4/8/2014 20:59
Acetophenone	U		6.2	410	µg/Kg-dry	1	4/8/2014 20:59
Anthracene	U		1.6	8.3	µg/Kg-dry	1	4/8/2014 20:59
Atrazine	U		13	410	µg/Kg-dry	1	4/8/2014 20:59
Benzaldehyde	U		16	410	µg/Kg-dry	1	4/8/2014 20:59
Benzo(a)anthracene	U		1.6	8.3	µg/Kg-dry	1	4/8/2014 20:59
Benzo(a)pyrene	U		2.7	8.3	µg/Kg-dry	1	4/8/2014 20:59
Benzo(b)fluoranthene	U		2.4	8.3	µg/Kg-dry	1	4/8/2014 20:59
Benzo(g,h,i)perylene	U		3.2	8.3	µg/Kg-dry	1	4/8/2014 20:59
Benzo(k)fluoranthene	U		1.7	8.3	µg/Kg-dry	1	4/8/2014 20:59
Bis(2-chloroethoxy)methane	U		13	200	µg/Kg-dry	1	4/8/2014 20:59
Bis(2-chloroethyl)ether	U		13	200	µg/Kg-dry	1	4/8/2014 20:59
Bis(2-chloroisopropyl)ether	U		17	200	µg/Kg-dry	1	4/8/2014 20:59
Bis(2-ethylhexyl)phthalate	U		13	410	µg/Kg-dry	1	4/8/2014 20:59
Butyl benzyl phthalate	U		15	200	µg/Kg-dry	1	4/8/2014 20:59
Caprolactam	U		18	410	µg/Kg-dry	1	4/8/2014 20:59
Carbazole	U		12	200	µg/Kg-dry	1	4/8/2014 20:59
<b>Chrysene</b>	<b>21</b>		<b>2.0</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 20:59
Dibenzo(a,h)anthracene	U		3.1	8.3	µg/Kg-dry	1	4/8/2014 20:59
Dibenzofuran	U		13	200	µg/Kg-dry	1	4/8/2014 20:59
Diethyl phthalate	U		13	410	µg/Kg-dry	1	4/8/2014 20:59
Dimethyl phthalate	U		14	410	µg/Kg-dry	1	4/8/2014 20:59
Di-n-butyl phthalate	U		6.0	410	µg/Kg-dry	1	4/8/2014 20:59
Di-n-octyl phthalate	U		13	200	µg/Kg-dry	1	4/8/2014 20:59
<b>Fluoranthene</b>	<b>37</b>		<b>2.9</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 20:59
Fluorene	U		2.8	8.3	µg/Kg-dry	1	4/8/2014 20:59
Hexachlorobenzene	U		12	200	µg/Kg-dry	1	4/8/2014 20:59

**Note:** See Qualifiers page for a list of qualifiers and their definitions.



# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-05-S-0-4  
**Collection Date:** 3/31/2014 03:05 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-09  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorobutadiene	U		14	200	µg/Kg-dry	1	4/8/2014 20:59
Hexachlorocyclopentadiene	U		13	410	µg/Kg-dry	1	4/8/2014 20:59
Hexachloroethane	U		19	200	µg/Kg-dry	1	4/8/2014 20:59
Indeno(1,2,3-cd)pyrene	U		2.7	8.3	µg/Kg-dry	1	4/8/2014 20:59
Isophorone	U		14	200	µg/Kg-dry	1	4/8/2014 20:59
Naphthalene	U		3.0	8.3	µg/Kg-dry	1	4/8/2014 20:59
Nitrobenzene	U		16	200	µg/Kg-dry	1	4/8/2014 20:59
N-Nitrosodi-n-propylamine	U		16	200	µg/Kg-dry	1	4/8/2014 20:59
N-Nitrosodiphenylamine	U		73	200	µg/Kg-dry	1	4/8/2014 20:59
Pentachlorophenol	U		8.0	410	µg/Kg-dry	1	4/8/2014 20:59
<b>Phenanthrene</b>	<b>27</b>		<b>1.7</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 20:59
Phenol	U		14	200	µg/Kg-dry	1	4/8/2014 20:59
<b>Pyrene</b>	<b>40</b>		<b>2.8</b>	<b>8.3</b>	<b>µg/Kg-dry</b>	1	4/8/2014 20:59
Surr: 2,4,6-Tribromophenol	49.0			34-140	%REC	1	4/8/2014 20:59
Surr: 2-Fluorobiphenyl	78.4			12-100	%REC	1	4/8/2014 20:59
Surr: 2-Fluorophenol	76.3			33-117	%REC	1	4/8/2014 20:59
Surr: 4-Terphenyl-d14	109			25-137	%REC	1	4/8/2014 20:59
Surr: Nitrobenzene-d5	97.9			37-107	%REC	1	4/8/2014 20:59
Surr: Phenol-d6	85.2			40-106	%REC	1	4/8/2014 20:59
<b>GASOLINE RANGE ORGANICS BY GC-MS</b>			Method: <b>SW8260GRO</b>		Prep: SW5035 / 4/3/14		Analyst: <b>BG</b>
GRO (C6-C10)	U		1,600	3,100	µg/Kg-dry	1	4/3/2014 19:18
Surr: Toluene-d8	93.2			70-130	%REC	1	4/3/2014 19:18
<b>VOLATILE ORGANIC COMPOUNDS</b>			Method: <b>SW8260</b>				Analyst: <b>AK</b>
1,1,1-Trichloroethane	U		0.24	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
1,1,2,2-Tetrachloroethane	U		0.15	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
1,1,2-Trichloroethane	U		0.21	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
1,1,2-Trichlorotrifluoroethane	U		0.30	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
1,1-Dichloroethane	U		0.28	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
1,1-Dichloroethene	U		0.25	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
1,2,4-Trichlorobenzene	U		0.22	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
1,2-Dibromo-3-chloropropane	U		0.21	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
1,2-Dibromoethane	U		0.22	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
1,2-Dichlorobenzene	U		0.22	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
1,2-Dichloroethane	U		0.30	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
1,2-Dichloropropane	U		0.28	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
1,3-Dichlorobenzene	U		0.20	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
1,4-Dichlorobenzene	U		0.23	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
<b>2-Butanone</b>	<b>10</b>	J	<b>0.84</b>	<b>11</b>	<b>µg/Kg-dry</b>	0.864	4/9/2014 14:54
2-Hexanone	U		0.33	5.4	µg/Kg-dry	0.864	4/9/2014 14:54

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-05-S-0-4  
**Collection Date:** 3/31/2014 03:05 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-09  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
4-Methyl-2-pentanone	U		0.21	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
<b>Acetone</b>	<b>88</b>		<b>1.0</b>	<b>11</b>	<b>µg/Kg-dry</b>	0.864	4/9/2014 14:54
Benzene	U		0.27	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
Bromodichloromethane	U		0.22	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
Bromoform	U		0.17	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
Bromomethane	U		0.38	11	µg/Kg-dry	0.864	4/9/2014 14:54
Carbon disulfide	U		0.40	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
Carbon tetrachloride	U		0.22	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
Chlorobenzene	U		0.24	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
Chloroethane	U		0.61	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
Chloroform	U		0.28	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
Chloromethane	U		0.33	11	µg/Kg-dry	0.864	4/9/2014 14:54
cis-1,2-Dichloroethene	U		0.32	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
cis-1,3-Dichloropropene	U		0.20	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
Cyclohexane	U		0.35	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
Dibromochloromethane	U		0.18	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
Dichlorodifluoromethane	U		0.36	11	µg/Kg-dry	0.864	4/9/2014 14:54
Ethylbenzene	U		0.21	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
Isopropylbenzene	U		0.21	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
m,p-Xylene	U		0.41	2.7	µg/Kg-dry	0.864	4/9/2014 14:54
Methyl acetate	U		0.87	11	µg/Kg-dry	0.864	4/9/2014 14:54
Methyl tert-butyl ether	U		0.27	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
Methylcyclohexane	U		0.30	11	µg/Kg-dry	0.864	4/9/2014 14:54
<b>Methylene chloride</b>	<b>0.49</b>	<b>J</b>	<b>0.31</b>	<b>5.4</b>	<b>µg/Kg-dry</b>	0.864	4/9/2014 14:54
o-Xylene	U		0.22	2.7	µg/Kg-dry	0.864	4/9/2014 14:54
Styrene	U		0.20	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
Tetrachloroethene	U		0.33	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
Toluene	U		0.26	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
trans-1,2-Dichloroethene	U		0.32	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
trans-1,3-Dichloropropene	U		0.20	11	µg/Kg-dry	0.864	4/9/2014 14:54
Trichloroethene	U		0.25	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
Trichlorofluoromethane	U		1.3	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
Vinyl chloride	U		0.33	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
Xylenes, Total	U		0.63	5.4	µg/Kg-dry	0.864	4/9/2014 14:54
Surr: 1,2-Dichloroethane-d4	109			70-120	%REC	0.864	4/9/2014 14:54
Surr: 4-Bromofluorobenzene	92.1			75-120	%REC	0.864	4/9/2014 14:54
Surr: Dibromofluoromethane	24.2	<b>S</b>		85-115	%REC	0.864	4/9/2014 14:54
Surr: Toluene-d8	98.4			85-120	%REC	0.864	4/9/2014 14:54

## MOISTURE

Method: A2540 G

Analyst: AT

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

## ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-05-S-0-4  
**Collection Date:** 3/31/2014 03:05 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-09  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Moisture	20		0.025	0.050	% of sample	1	4/2/2014 17:01

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-05-D-16-20  
**Collection Date:** 3/31/2014 03:45 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-10  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>PCBS</b>							
			Method: <b>SW8082</b>		Prep: SW3541 / 4/7/14		Analyst: <b>JD</b>
Aroclor 1016	U		57	100	µg/Kg-dry	1	4/8/2014 18:13
Aroclor 1221	U		57	100	µg/Kg-dry	1	4/8/2014 18:13
Aroclor 1232	U		57	100	µg/Kg-dry	1	4/8/2014 18:13
Aroclor 1242	U		57	100	µg/Kg-dry	1	4/8/2014 18:13
Aroclor 1248	U		57	100	µg/Kg-dry	1	4/8/2014 18:13
Aroclor 1254	U		37	100	µg/Kg-dry	1	4/8/2014 18:13
Aroclor 1260	U		37	100	µg/Kg-dry	1	4/8/2014 18:13
Surr: Decachlorobiphenyl	101			40-140	%REC	1	4/8/2014 18:13
Surr: Tetrachloro-m-xylene	101			45-124	%REC	1	4/8/2014 18:13
<b>MERCURY BY CVAA</b>							
			Method: <b>SW7471</b>		Prep: SW7471 / 4/3/14		Analyst: <b>LR</b>
Mercury	<b>0.017</b>		<b>0.00082</b>	<b>0.016</b>	mg/Kg-dry	1	4/3/2014 12:28
<b>METALS BY ICP-MS</b>							
			Method: <b>SW6020A</b>		Prep: SW3050B / 4/4/14		Analyst: <b>ML</b>
Arsenic	<b>4.9</b>		<b>0.30</b>	<b>2.2</b>	mg/Kg-dry	5	4/5/2014 11:31
Barium	<b>230</b>		<b>0.062</b>	<b>2.2</b>	mg/Kg-dry	5	4/5/2014 11:31
Cadmium	<b>0.37</b>	J	<b>0.0089</b>	<b>0.89</b>	mg/Kg-dry	5	4/5/2014 11:31
Chromium	<b>16</b>		<b>0.36</b>	<b>2.2</b>	mg/Kg-dry	5	4/5/2014 11:31
Lead	<b>13</b>		<b>0.0089</b>	<b>2.2</b>	mg/Kg-dry	5	4/5/2014 11:31
Selenium	<b>1.4</b>	J	<b>0.28</b>	<b>2.2</b>	mg/Kg-dry	5	4/5/2014 11:31
Silver	<b>0.050</b>	J	<b>0.0089</b>	<b>2.2</b>	mg/Kg-dry	5	4/5/2014 11:31
<b>DIESEL RANGE ORGANICS BY GC-MS</b>							
			Method: <b>SW8270</b>		Prep: SW3541 / 4/4/14		Analyst: <b>RM</b>
DRO (C10-C21)	U		1.6	3.7	mg/Kg-dry	1	4/8/2014 09:51
ORO (C21-C35)	U		1.8	3.7	mg/Kg-dry	1	4/8/2014 09:51
Surr: 4-Terphenyl-d14	98.0			25-137	%REC	1	4/8/2014 09:51
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>							
			Method: <b>SW8270</b>		Prep: SW3541 / 4/4/14		Analyst: <b>RM</b>
1,1'-Biphenyl	U		6.3	420	µg/Kg-dry	1	4/8/2014 21:20
2,4,5-Trichlorophenol	U		10	200	µg/Kg-dry	1	4/8/2014 21:20
2,4,6-Trichlorophenol	U		7.1	200	µg/Kg-dry	1	4/8/2014 21:20
2,4-Dichlorophenol	U		12	200	µg/Kg-dry	1	4/8/2014 21:20
2,4-Dimethylphenol	U		67	420	µg/Kg-dry	1	4/8/2014 21:20
2,4-Dinitrophenol	U		38	830	µg/Kg-dry	1	4/8/2014 21:20
2,4-Dinitrotoluene	U		13	200	µg/Kg-dry	1	4/8/2014 21:20
2,6-Dinitrotoluene	U		22	200	µg/Kg-dry	1	4/8/2014 21:20
2-Chloronaphthalene	U		2.0	8.4	µg/Kg-dry	1	4/8/2014 21:20
2-Chlorophenol	U		13	200	µg/Kg-dry	1	4/8/2014 21:20
2-Methylnaphthalene	U		3.5	8.4	µg/Kg-dry	1	4/8/2014 21:20
2-Methylphenol	U		17	200	µg/Kg-dry	1	4/8/2014 21:20

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-05-D-16-20  
**Collection Date:** 3/31/2014 03:45 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-10  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		16	830	µg/Kg-dry	1	4/8/2014 21:20
2-Nitrophenol	U		14	200	µg/Kg-dry	1	4/8/2014 21:20
3,3'-Dichlorobenzidine	U		520	830	µg/Kg-dry	1	4/8/2014 21:20
3-Nitroaniline	U		14	830	µg/Kg-dry	1	4/8/2014 21:20
4,6-Dinitro-2-methylphenol	U		35	420	µg/Kg-dry	1	4/8/2014 21:20
4-Bromophenyl phenyl ether	U		11	200	µg/Kg-dry	1	4/8/2014 21:20
4-Chloro-3-methylphenol	U		9.7	200	µg/Kg-dry	1	4/8/2014 21:20
4-Chloroaniline	U		13	830	µg/Kg-dry	1	4/8/2014 21:20
4-Chlorophenyl phenyl ether	U		12	200	µg/Kg-dry	1	4/8/2014 21:20
4-Methylphenol	U		20	200	µg/Kg-dry	1	4/8/2014 21:20
4-Nitroaniline	U		12	830	µg/Kg-dry	1	4/8/2014 21:20
4-Nitrophenol	U		8.3	830	µg/Kg-dry	1	4/8/2014 21:20
Acenaphthene	U		1.3	8.4	µg/Kg-dry	1	4/8/2014 21:20
Acenaphthylene	U		1.5	8.4	µg/Kg-dry	1	4/8/2014 21:20
Acetophenone	U		6.3	420	µg/Kg-dry	1	4/8/2014 21:20
Anthracene	U		1.7	8.4	µg/Kg-dry	1	4/8/2014 21:20
Atrazine	U		13	420	µg/Kg-dry	1	4/8/2014 21:20
Benzaldehyde	U		16	420	µg/Kg-dry	1	4/8/2014 21:20
Benzo(a)anthracene	U		1.7	8.4	µg/Kg-dry	1	4/8/2014 21:20
Benzo(a)pyrene	U		2.7	8.4	µg/Kg-dry	1	4/8/2014 21:20
Benzo(b)fluoranthene	U		2.5	8.4	µg/Kg-dry	1	4/8/2014 21:20
Benzo(g,h,i)perylene	U		3.3	8.4	µg/Kg-dry	1	4/8/2014 21:20
Benzo(k)fluoranthene	U		1.8	8.4	µg/Kg-dry	1	4/8/2014 21:20
Bis(2-chloroethoxy)methane	U		13	200	µg/Kg-dry	1	4/8/2014 21:20
Bis(2-chloroethyl)ether	U		13	200	µg/Kg-dry	1	4/8/2014 21:20
Bis(2-chloroisopropyl)ether	U		18	200	µg/Kg-dry	1	4/8/2014 21:20
Bis(2-ethylhexyl)phthalate	U		14	420	µg/Kg-dry	1	4/8/2014 21:20
Butyl benzyl phthalate	U		16	200	µg/Kg-dry	1	4/8/2014 21:20
Caprolactam	U		18	420	µg/Kg-dry	1	4/8/2014 21:20
Carbazole	U		13	200	µg/Kg-dry	1	4/8/2014 21:20
Chrysene	U		2.0	8.4	µg/Kg-dry	1	4/8/2014 21:20
Dibenzo(a,h)anthracene	U		3.1	8.4	µg/Kg-dry	1	4/8/2014 21:20
Dibenzofuran	U		13	200	µg/Kg-dry	1	4/8/2014 21:20
Diethyl phthalate	U		13	420	µg/Kg-dry	1	4/8/2014 21:20
Dimethyl phthalate	U		14	420	µg/Kg-dry	1	4/8/2014 21:20
Di-n-butyl phthalate	U		6.1	420	µg/Kg-dry	1	4/8/2014 21:20
Di-n-octyl phthalate	U		14	200	µg/Kg-dry	1	4/8/2014 21:20
Fluoranthene	U		2.9	8.4	µg/Kg-dry	1	4/8/2014 21:20
Fluorene	U		2.8	8.4	µg/Kg-dry	1	4/8/2014 21:20
Hexachlorobenzene	U		12	200	µg/Kg-dry	1	4/8/2014 21:20

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-05-D-16-20  
**Collection Date:** 3/31/2014 03:45 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-10  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorobutadiene	U		14	200	µg/Kg-dry	1	4/8/2014 21:20
Hexachlorocyclopentadiene	U		13	420	µg/Kg-dry	1	4/8/2014 21:20
Hexachloroethane	U		20	200	µg/Kg-dry	1	4/8/2014 21:20
Indeno(1,2,3-cd)pyrene	U		2.8	8.4	µg/Kg-dry	1	4/8/2014 21:20
Isophorone	U		14	200	µg/Kg-dry	1	4/8/2014 21:20
Naphthalene	U		3.1	8.4	µg/Kg-dry	1	4/8/2014 21:20
Nitrobenzene	U		16	200	µg/Kg-dry	1	4/8/2014 21:20
N-Nitrosodi-n-propylamine	U		16	200	µg/Kg-dry	1	4/8/2014 21:20
N-Nitrosodiphenylamine	U		75	200	µg/Kg-dry	1	4/8/2014 21:20
Pentachlorophenol	U		8.1	420	µg/Kg-dry	1	4/8/2014 21:20
Phenanthrene	U		1.7	8.4	µg/Kg-dry	1	4/8/2014 21:20
Phenol	U		14	200	µg/Kg-dry	1	4/8/2014 21:20
Pyrene	U		2.8	8.4	µg/Kg-dry	1	4/8/2014 21:20
Surr: 2,4,6-Tribromophenol	33.6	S		34-140	%REC	1	4/8/2014 21:20
Surr: 2-Fluorobiphenyl	63.5			12-100	%REC	1	4/8/2014 21:20
Surr: 2-Fluorophenol	49.9			33-117	%REC	1	4/8/2014 21:20
Surr: 4-Terphenyl-d14	102			25-137	%REC	1	4/8/2014 21:20
Surr: Nitrobenzene-d5	82.2			37-107	%REC	1	4/8/2014 21:20
Surr: Phenol-d6	66.6			40-106	%REC	1	4/8/2014 21:20
<b>GASOLINE RANGE ORGANICS BY GC-MS</b>			Method: <b>SW8260GRO</b>		Prep: SW5035 / 4/3/14		Analyst: <b>BG</b>
GRO (C6-C10)	U		1,600	3,200	µg/Kg-dry	1	4/3/2014 19:44
Surr: Toluene-d8	90.7			70-130	%REC	1	4/3/2014 19:44
<b>VOLATILE ORGANIC COMPOUNDS</b>			Method: <b>SW8260</b>		Analyst: <b>AK</b>		
1,1,1-Trichloroethane	U		0.24	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
1,1,2,2-Tetrachloroethane	U		0.16	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
1,1,2-Trichloroethane	U		0.21	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
1,1,2-Trichlorotrifluoroethane	U		0.30	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
1,1-Dichloroethane	U		0.28	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
1,1-Dichloroethene	U		0.25	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
1,2,4-Trichlorobenzene	U		0.23	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
1,2-Dibromo-3-chloropropane	U		0.22	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
1,2-Dibromoethane	U		0.22	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
1,2-Dichlorobenzene	U		0.22	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
1,2-Dichloroethane	U		0.30	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
1,2-Dichloropropane	U		0.28	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
1,3-Dichlorobenzene	U		0.21	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
1,4-Dichlorobenzene	U		0.23	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
2-Butanone	2.7	J	0.84	11	µg/Kg-dry	0.862	4/9/2014 15:20
2-Hexanone	U		0.33	5.5	µg/Kg-dry	0.862	4/9/2014 15:20

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-05-D-16-20  
**Collection Date:** 3/31/2014 03:45 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-10  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
4-Methyl-2-pentanone	U		0.22	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
<b>Acetone</b>	<b>32</b>		<b>1.0</b>	<b>11</b>	<b>µg/Kg-dry</b>	0.862	4/9/2014 15:20
Benzene	U		0.27	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
Bromodichloromethane	U		0.23	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
Bromoform	U		0.17	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
Bromomethane	U		0.38	11	µg/Kg-dry	0.862	4/9/2014 15:20
Carbon disulfide	U		0.40	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
Carbon tetrachloride	U		0.22	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
Chlorobenzene	U		0.24	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
Chloroethane	U		0.61	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
Chloroform	U		0.29	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
Chloromethane	U		0.34	11	µg/Kg-dry	0.862	4/9/2014 15:20
cis-1,2-Dichloroethene	U		0.32	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
cis-1,3-Dichloropropene	U		0.20	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
Cyclohexane	U		0.35	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
Dibromochloromethane	U		0.18	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
Dichlorodifluoromethane	U		0.36	11	µg/Kg-dry	0.862	4/9/2014 15:20
Ethylbenzene	U		0.21	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
Isopropylbenzene	U		0.21	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
m,p-Xylene	U		0.41	2.7	µg/Kg-dry	0.862	4/9/2014 15:20
Methyl acetate	U		0.88	11	µg/Kg-dry	0.862	4/9/2014 15:20
Methyl tert-butyl ether	U		0.28	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
Methylcyclohexane	U		0.30	11	µg/Kg-dry	0.862	4/9/2014 15:20
<b>Methylene chloride</b>	<b>1.2</b>	<b>J</b>	<b>0.31</b>	<b>5.5</b>	<b>µg/Kg-dry</b>	0.862	4/9/2014 15:20
o-Xylene	U		0.22	2.7	µg/Kg-dry	0.862	4/9/2014 15:20
Styrene	U		0.20	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
Tetrachloroethene	U		0.33	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
Toluene	U		0.26	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
trans-1,2-Dichloroethene	U		0.32	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
trans-1,3-Dichloropropene	U		0.20	11	µg/Kg-dry	0.862	4/9/2014 15:20
Trichloroethene	U		0.25	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
Trichlorofluoromethane	U		1.3	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
Vinyl chloride	U		0.33	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
Xylenes, Total	U		0.63	5.5	µg/Kg-dry	0.862	4/9/2014 15:20
Surr: 1,2-Dichloroethane-d4	109			70-120	%REC	0.862	4/9/2014 15:20
Surr: 4-Bromofluorobenzene	97.5			75-120	%REC	0.862	4/9/2014 15:20
Surr: Dibromofluoromethane	22.8	<b>S</b>		85-115	%REC	0.862	4/9/2014 15:20
Surr: Toluene-d8	100			85-120	%REC	0.862	4/9/2014 15:20

## MOISTURE

Method: A2540 G

Analyst: AT

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

## ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech

**Project:** KCMO Public Works East Garage 3.31-4.1.14

**Sample ID:** SO-05-D-16-20

**Collection Date:** 3/31/2014 03:45 PM

**Work Order:** 1404130

**Lab ID:** 1404130-10

**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Moisture	21		0.025	0.050	% of sample	1	4/2/2014 17:01

**Note:** See Qualifiers page for a list of qualifiers and their definitions.



# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-06-S-0-4  
**Collection Date:** 3/31/2014 04:00 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-11  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>PCBS</b>							
			Method: <b>SW8082</b>		Prep: SW3541 / 4/7/14		Analyst: <b>JD</b>
Aroclor 1016	U		56	98	µg/Kg-dry	1	4/8/2014 18:29
Aroclor 1221	U		56	98	µg/Kg-dry	1	4/8/2014 18:29
Aroclor 1232	U		56	98	µg/Kg-dry	1	4/8/2014 18:29
Aroclor 1242	U		56	98	µg/Kg-dry	1	4/8/2014 18:29
Aroclor 1248	U		56	98	µg/Kg-dry	1	4/8/2014 18:29
Aroclor 1254	U		36	98	µg/Kg-dry	1	4/8/2014 18:29
Aroclor 1260	U		36	98	µg/Kg-dry	1	4/8/2014 18:29
Surr: Decachlorobiphenyl	102			40-140	%REC	1	4/8/2014 18:29
Surr: Tetrachloro-m-xylene	98.1			45-124	%REC	1	4/8/2014 18:29
<b>MERCURY BY CVAA</b>							
			Method: <b>SW7471</b>		Prep: SW7471 / 4/3/14		Analyst: <b>LR</b>
Mercury	<b>0.018</b>		<b>0.00077</b>	<b>0.015</b>	mg/Kg-dry	1	4/3/2014 12:30
<b>METALS BY ICP-MS</b>							
			Method: <b>SW6020A</b>		Prep: SW3050B / 4/4/14		Analyst: <b>ML</b>
Arsenic	<b>5.7</b>		<b>0.26</b>	<b>1.9</b>	mg/Kg-dry	5	4/5/2014 12:13
Barium	<b>150</b>		<b>0.054</b>	<b>1.9</b>	mg/Kg-dry	5	4/5/2014 12:13
Cadmium	<b>0.13</b>	J	<b>0.0077</b>	<b>0.77</b>	mg/Kg-dry	5	4/5/2014 12:13
Chromium	<b>17</b>		<b>0.32</b>	<b>1.9</b>	mg/Kg-dry	5	4/5/2014 12:13
Lead	<b>12</b>		<b>0.0077</b>	<b>1.9</b>	mg/Kg-dry	5	4/5/2014 12:13
Selenium	<b>1.3</b>	J	<b>0.25</b>	<b>1.9</b>	mg/Kg-dry	5	4/5/2014 12:13
Silver	<b>0.11</b>	J	<b>0.0077</b>	<b>1.9</b>	mg/Kg-dry	5	4/5/2014 12:13
<b>DIESEL RANGE ORGANICS BY GC-MS</b>							
			Method: <b>SW8270</b>		Prep: SW3541 / 4/4/14		Analyst: <b>RM</b>
DRO (C10-C21)	U		1.5	3.5	mg/Kg-dry	1	4/8/2014 10:16
ORO (C21-C35)	U		1.7	3.5	mg/Kg-dry	1	4/8/2014 10:16
Surr: 4-Terphenyl-d14	98.2			25-137	%REC	1	4/8/2014 10:16
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>							
			Method: <b>SW8270</b>		Prep: SW3541 / 4/4/14		Analyst: <b>RM</b>
1,1'-Biphenyl	U		6.0	400	µg/Kg-dry	1	4/8/2014 21:40
2,4,5-Trichlorophenol	U		10	190	µg/Kg-dry	1	4/8/2014 21:40
2,4,6-Trichlorophenol	U		6.8	190	µg/Kg-dry	1	4/8/2014 21:40
2,4-Dichlorophenol	U		12	190	µg/Kg-dry	1	4/8/2014 21:40
2,4-Dimethylphenol	U		65	400	µg/Kg-dry	1	4/8/2014 21:40
2,4-Dinitrophenol	U		36	800	µg/Kg-dry	1	4/8/2014 21:40
2,4-Dinitrotoluene	U		13	190	µg/Kg-dry	1	4/8/2014 21:40
2,6-Dinitrotoluene	U		21	190	µg/Kg-dry	1	4/8/2014 21:40
2-Chloronaphthalene	U		1.9	8.1	µg/Kg-dry	1	4/8/2014 21:40
2-Chlorophenol	U		12	190	µg/Kg-dry	1	4/8/2014 21:40
2-Methylnaphthalene	U		3.3	8.1	µg/Kg-dry	1	4/8/2014 21:40
2-Methylphenol	U		16	190	µg/Kg-dry	1	4/8/2014 21:40

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-06-S-0-4  
**Collection Date:** 3/31/2014 04:00 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-11  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		16	800	µg/Kg-dry	1	4/8/2014 21:40
2-Nitrophenol	U		14	190	µg/Kg-dry	1	4/8/2014 21:40
3,3'-Dichlorobenzidine	U		500	800	µg/Kg-dry	1	4/8/2014 21:40
3-Nitroaniline	U		14	800	µg/Kg-dry	1	4/8/2014 21:40
4,6-Dinitro-2-methylphenol	U		33	400	µg/Kg-dry	1	4/8/2014 21:40
4-Bromophenyl phenyl ether	U		11	190	µg/Kg-dry	1	4/8/2014 21:40
4-Chloro-3-methylphenol	U		9.3	190	µg/Kg-dry	1	4/8/2014 21:40
4-Chloroaniline	U		12	800	µg/Kg-dry	1	4/8/2014 21:40
4-Chlorophenyl phenyl ether	U		12	190	µg/Kg-dry	1	4/8/2014 21:40
4-Methylphenol	U		19	190	µg/Kg-dry	1	4/8/2014 21:40
4-Nitroaniline	U		11	800	µg/Kg-dry	1	4/8/2014 21:40
4-Nitrophenol	U		8.0	800	µg/Kg-dry	1	4/8/2014 21:40
Acenaphthene	U		1.2	8.1	µg/Kg-dry	1	4/8/2014 21:40
Acenaphthylene	U		1.5	8.1	µg/Kg-dry	1	4/8/2014 21:40
Acetophenone	U		6.0	400	µg/Kg-dry	1	4/8/2014 21:40
Anthracene	U		1.6	8.1	µg/Kg-dry	1	4/8/2014 21:40
Atrazine	U		12	400	µg/Kg-dry	1	4/8/2014 21:40
Benzaldehyde	U		15	400	µg/Kg-dry	1	4/8/2014 21:40
Benzo(a)anthracene	U		1.6	8.1	µg/Kg-dry	1	4/8/2014 21:40
Benzo(a)pyrene	U		2.6	8.1	µg/Kg-dry	1	4/8/2014 21:40
Benzo(b)fluoranthene	U		2.4	8.1	µg/Kg-dry	1	4/8/2014 21:40
Benzo(g,h,i)perylene	U		3.2	8.1	µg/Kg-dry	1	4/8/2014 21:40
Benzo(k)fluoranthene	U		1.7	8.1	µg/Kg-dry	1	4/8/2014 21:40
Bis(2-chloroethoxy)methane	U		13	190	µg/Kg-dry	1	4/8/2014 21:40
Bis(2-chloroethyl)ether	U		13	190	µg/Kg-dry	1	4/8/2014 21:40
Bis(2-chloroisopropyl)ether	U		17	190	µg/Kg-dry	1	4/8/2014 21:40
Bis(2-ethylhexyl)phthalate	U		13	400	µg/Kg-dry	1	4/8/2014 21:40
Butyl benzyl phthalate	U		15	190	µg/Kg-dry	1	4/8/2014 21:40
Caprolactam	U		18	400	µg/Kg-dry	1	4/8/2014 21:40
Carbazole	U		12	190	µg/Kg-dry	1	4/8/2014 21:40
Chrysene	U		1.9	8.1	µg/Kg-dry	1	4/8/2014 21:40
Dibenzo(a,h)anthracene	U		3.0	8.1	µg/Kg-dry	1	4/8/2014 21:40
Dibenzofuran	U		13	190	µg/Kg-dry	1	4/8/2014 21:40
Diethyl phthalate	U		13	400	µg/Kg-dry	1	4/8/2014 21:40
Dimethyl phthalate	U		14	400	µg/Kg-dry	1	4/8/2014 21:40
Di-n-butyl phthalate	U		5.8	400	µg/Kg-dry	1	4/8/2014 21:40
Di-n-octyl phthalate	U		13	190	µg/Kg-dry	1	4/8/2014 21:40
Fluoranthene	U		2.8	8.1	µg/Kg-dry	1	4/8/2014 21:40
Fluorene	U		2.7	8.1	µg/Kg-dry	1	4/8/2014 21:40
Hexachlorobenzene	U		11	190	µg/Kg-dry	1	4/8/2014 21:40

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-06-S-0-4  
**Collection Date:** 3/31/2014 04:00 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-11  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorobutadiene	U		14	190	µg/Kg-dry	1	4/8/2014 21:40
Hexachlorocyclopentadiene	U		13	400	µg/Kg-dry	1	4/8/2014 21:40
Hexachloroethane	U		19	190	µg/Kg-dry	1	4/8/2014 21:40
Indeno(1,2,3-cd)pyrene	U		2.7	8.1	µg/Kg-dry	1	4/8/2014 21:40
Isophorone	U		13	190	µg/Kg-dry	1	4/8/2014 21:40
Naphthalene	U		3.0	8.1	µg/Kg-dry	1	4/8/2014 21:40
Nitrobenzene	U		16	190	µg/Kg-dry	1	4/8/2014 21:40
N-Nitrosodi-n-propylamine	U		15	190	µg/Kg-dry	1	4/8/2014 21:40
N-Nitrosodiphenylamine	U		72	190	µg/Kg-dry	1	4/8/2014 21:40
Pentachlorophenol	U		7.8	400	µg/Kg-dry	1	4/8/2014 21:40
Phenanthrene	U		1.6	8.1	µg/Kg-dry	1	4/8/2014 21:40
Phenol	U		14	190	µg/Kg-dry	1	4/8/2014 21:40
Pyrene	U		2.7	8.1	µg/Kg-dry	1	4/8/2014 21:40
Surr: 2,4,6-Tribromophenol	55.2			34-140	%REC	1	4/8/2014 21:40
Surr: 2-Fluorobiphenyl	73.9			12-100	%REC	1	4/8/2014 21:40
Surr: 2-Fluorophenol	83.6			33-117	%REC	1	4/8/2014 21:40
Surr: 4-Terphenyl-d14	100			25-137	%REC	1	4/8/2014 21:40
Surr: Nitrobenzene-d5	95.0			37-107	%REC	1	4/8/2014 21:40
Surr: Phenol-d6	84.6			40-106	%REC	1	4/8/2014 21:40
<b>GASOLINE RANGE ORGANICS BY GC-MS</b>			Method: <b>SW8260GRO</b>		Prep: SW5035 / 4/3/14		Analyst: <b>BG</b>
GRO (C6-C10)	U		1,500	3,100	µg/Kg-dry	1	4/3/2014 20:10
Surr: Toluene-d8	92.0			70-130	%REC	1	4/3/2014 20:10
<b>VOLATILE ORGANIC COMPOUNDS</b>			Method: <b>SW8260</b>		Analyst: <b>AK</b>		
1,1,1-Trichloroethane	U		0.22	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
1,1,2,2-Tetrachloroethane	U		0.14	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
1,1,2-Trichloroethane	U		0.20	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
1,1,2-Trichlorotrifluoroethane	U		0.28	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
1,1-Dichloroethane	U		0.26	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
1,1-Dichloroethene	U		0.23	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
1,2,4-Trichlorobenzene	U		0.21	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
1,2-Dibromo-3-chloropropane	U		0.20	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
1,2-Dibromoethane	U		0.21	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
1,2-Dichlorobenzene	U		0.21	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
1,2-Dichloroethane	U		0.28	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
1,2-Dichloropropane	U		0.26	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
1,3-Dichlorobenzene	U		0.19	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
1,4-Dichlorobenzene	U		0.21	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
<b>2-Butanone</b>	<b>5.3</b>	<b>J</b>	<b>0.78</b>	<b>10</b>	<b>µg/Kg-dry</b>	0.832	4/9/2014 15:46
2-Hexanone	U		0.31	5.1	µg/Kg-dry	0.832	4/9/2014 15:46

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-06-S-0-4  
**Collection Date:** 3/31/2014 04:00 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-11  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
4-Methyl-2-pentanone	U		0.20	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
<b>Acetone</b>	<b>57</b>		<b>0.95</b>	<b>10</b>	<b>µg/Kg-dry</b>	0.832	4/9/2014 15:46
Benzene	U		0.25	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
Bromodichloromethane	U		0.21	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
Bromoform	U		0.16	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
Bromomethane	U		0.36	10	µg/Kg-dry	0.832	4/9/2014 15:46
Carbon disulfide	U		0.37	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
Carbon tetrachloride	U		0.21	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
Chlorobenzene	U		0.22	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
Chloroethane	U		0.57	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
Chloroform	U		0.27	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
Chloromethane	U		0.31	10	µg/Kg-dry	0.832	4/9/2014 15:46
cis-1,2-Dichloroethene	U		0.30	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
cis-1,3-Dichloropropene	U		0.18	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
Cyclohexane	U		0.32	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
Dibromochloromethane	U		0.17	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
Dichlorodifluoromethane	U		0.34	10	µg/Kg-dry	0.832	4/9/2014 15:46
Ethylbenzene	U		0.20	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
Isopropylbenzene	U		0.20	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
m,p-Xylene	U		0.38	2.5	µg/Kg-dry	0.832	4/9/2014 15:46
Methyl acetate	U		0.82	10	µg/Kg-dry	0.832	4/9/2014 15:46
Methyl tert-butyl ether	U		0.26	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
Methylcyclohexane	U		0.28	10	µg/Kg-dry	0.832	4/9/2014 15:46
<b>Methylene chloride</b>	<b>0.83</b>	J	<b>0.29</b>	<b>5.1</b>	<b>µg/Kg-dry</b>	0.832	4/9/2014 15:46
o-Xylene	U		0.20	2.5	µg/Kg-dry	0.832	4/9/2014 15:46
Styrene	U		0.19	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
Tetrachloroethene	U		0.31	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
<b>Toluene</b>	<b>0.38</b>	J	<b>0.24</b>	<b>5.1</b>	<b>µg/Kg-dry</b>	0.832	4/9/2014 15:46
trans-1,2-Dichloroethene	U		0.30	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
trans-1,3-Dichloropropene	U		0.19	10	µg/Kg-dry	0.832	4/9/2014 15:46
Trichloroethene	U		0.24	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
Trichlorofluoromethane	U		1.2	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
Vinyl chloride	U		0.31	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
Xylenes, Total	U		0.59	5.1	µg/Kg-dry	0.832	4/9/2014 15:46
Surr: 1,2-Dichloroethane-d4	112			70-120	%REC	0.832	4/9/2014 15:46
Surr: 4-Bromofluorobenzene	96.3			75-120	%REC	0.832	4/9/2014 15:46
Surr: Dibromofluoromethane	27.8	S		85-115	%REC	0.832	4/9/2014 15:46
Surr: Toluene-d8	99.2			85-120	%REC	0.832	4/9/2014 15:46

## MOISTURE

Method: A2540 G

Analyst: AT

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

## ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech

**Project:** KCMO Public Works East Garage 3.31-4.1.14

**Sample ID:** SO-06-S-0-4

**Collection Date:** 3/31/2014 04:00 PM

**Work Order:** 1404130

**Lab ID:** 1404130-11

**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Moisture	18		0.025	0.050	% of sample	1	4/2/2014 17:01

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-06-D-16-20  
**Collection Date:** 3/31/2014 04:30 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-12  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>PCBS</b>							
			Method: <b>SW8082</b>		Prep: SW3541 / 4/7/14		Analyst: <b>JD</b>
Aroclor 1016	U		62	110	µg/Kg-dry	1	4/8/2014 18:46
Aroclor 1221	U		62	110	µg/Kg-dry	1	4/8/2014 18:46
Aroclor 1232	U		62	110	µg/Kg-dry	1	4/8/2014 18:46
Aroclor 1242	U		62	110	µg/Kg-dry	1	4/8/2014 18:46
Aroclor 1248	U		62	110	µg/Kg-dry	1	4/8/2014 18:46
Aroclor 1254	U		40	110	µg/Kg-dry	1	4/8/2014 18:46
Aroclor 1260	U		40	110	µg/Kg-dry	1	4/8/2014 18:46
Surr: Decachlorobiphenyl	105			40-140	%REC	1	4/8/2014 18:46
Surr: Tetrachloro-m-xylene	101			45-124	%REC	1	4/8/2014 18:46
<b>MERCURY BY CVAA</b>							
			Method: <b>SW7471</b>		Prep: SW7471 / 4/3/14		Analyst: <b>LR</b>
Mercury	0.024		0.00094	0.019	mg/Kg-dry	1	4/3/2014 12:32
<b>METALS BY ICP-MS</b>							
			Method: <b>SW6020A</b>		Prep: SW3050B / 4/4/14		Analyst: <b>ML</b>
Arsenic	11		0.30	2.2	mg/Kg-dry	5	4/5/2014 12:20
Barium	430		0.062	2.2	mg/Kg-dry	5	4/5/2014 12:20
Cadmium	0.74	J	0.0089	0.89	mg/Kg-dry	5	4/5/2014 12:20
Chromium	21		0.37	2.2	mg/Kg-dry	5	4/5/2014 12:20
Lead	16		0.0089	2.2	mg/Kg-dry	5	4/5/2014 12:20
Selenium	1.9	J	0.29	2.2	mg/Kg-dry	5	4/5/2014 12:20
Silver	0.095	J	0.0089	2.2	mg/Kg-dry	5	4/5/2014 12:20
<b>DIESEL RANGE ORGANICS BY GC-MS</b>							
			Method: <b>SW8270</b>		Prep: SW3541 / 4/4/14		Analyst: <b>RM</b>
DRO (C10-C21)	U		1.6	3.7	mg/Kg-dry	1	4/8/2014 10:41
ORO (C21-C35)	U		1.8	3.7	mg/Kg-dry	1	4/8/2014 10:41
Surr: 4-Terphenyl-d14	99.4			25-137	%REC	1	4/8/2014 10:41
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>							
			Method: <b>SW8270</b>		Prep: SW3541 / 4/4/14		Analyst: <b>RM</b>
1,1'-Biphenyl	U		6.4	420	µg/Kg-dry	1	4/8/2014 22:01
2,4,5-Trichlorophenol	U		11	210	µg/Kg-dry	1	4/8/2014 22:01
2,4,6-Trichlorophenol	U		7.2	210	µg/Kg-dry	1	4/8/2014 22:01
2,4-Dichlorophenol	U		12	210	µg/Kg-dry	1	4/8/2014 22:01
2,4-Dimethylphenol	U		69	420	µg/Kg-dry	1	4/8/2014 22:01
2,4-Dinitrophenol	U		39	850	µg/Kg-dry	1	4/8/2014 22:01
2,4-Dinitrotoluene	U		14	210	µg/Kg-dry	1	4/8/2014 22:01
2,6-Dinitrotoluene	U		22	210	µg/Kg-dry	1	4/8/2014 22:01
2-Chloronaphthalene	U		2.0	8.6	µg/Kg-dry	1	4/8/2014 22:01
2-Chlorophenol	U		13	210	µg/Kg-dry	1	4/8/2014 22:01
2-Methylnaphthalene	U		3.5	8.6	µg/Kg-dry	1	4/8/2014 22:01
2-Methylphenol	U		17	210	µg/Kg-dry	1	4/8/2014 22:01

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-06-D-16-20  
**Collection Date:** 3/31/2014 04:30 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-12  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		17	850	µg/Kg-dry	1	4/8/2014 22:01
2-Nitrophenol	U		14	210	µg/Kg-dry	1	4/8/2014 22:01
3,3'-Dichlorobenzidine	U		530	850	µg/Kg-dry	1	4/8/2014 22:01
3-Nitroaniline	U		14	850	µg/Kg-dry	1	4/8/2014 22:01
4,6-Dinitro-2-methylphenol	U		35	420	µg/Kg-dry	1	4/8/2014 22:01
4-Bromophenyl phenyl ether	U		12	210	µg/Kg-dry	1	4/8/2014 22:01
4-Chloro-3-methylphenol	U		9.9	210	µg/Kg-dry	1	4/8/2014 22:01
4-Chloroaniline	U		13	850	µg/Kg-dry	1	4/8/2014 22:01
4-Chlorophenyl phenyl ether	U		13	210	µg/Kg-dry	1	4/8/2014 22:01
4-Methylphenol	U		20	210	µg/Kg-dry	1	4/8/2014 22:01
4-Nitroaniline	U		12	850	µg/Kg-dry	1	4/8/2014 22:01
4-Nitrophenol	U		8.5	850	µg/Kg-dry	1	4/8/2014 22:01
Acenaphthene	U		1.3	8.6	µg/Kg-dry	1	4/8/2014 22:01
Acenaphthylene	U		1.6	8.6	µg/Kg-dry	1	4/8/2014 22:01
Acetophenone	U		6.4	420	µg/Kg-dry	1	4/8/2014 22:01
Anthracene	U		1.7	8.6	µg/Kg-dry	1	4/8/2014 22:01
Atrazine	U		13	420	µg/Kg-dry	1	4/8/2014 22:01
Benzaldehyde	U		16	420	µg/Kg-dry	1	4/8/2014 22:01
Benzo(a)anthracene	U		1.7	8.6	µg/Kg-dry	1	4/8/2014 22:01
Benzo(a)pyrene	U		2.8	8.6	µg/Kg-dry	1	4/8/2014 22:01
Benzo(b)fluoranthene	U		2.5	8.6	µg/Kg-dry	1	4/8/2014 22:01
Benzo(g,h,i)perylene	U		3.4	8.6	µg/Kg-dry	1	4/8/2014 22:01
Benzo(k)fluoranthene	U		1.8	8.6	µg/Kg-dry	1	4/8/2014 22:01
Bis(2-chloroethoxy)methane	U		13	210	µg/Kg-dry	1	4/8/2014 22:01
Bis(2-chloroethyl)ether	U		13	210	µg/Kg-dry	1	4/8/2014 22:01
Bis(2-chloroisopropyl)ether	U		18	210	µg/Kg-dry	1	4/8/2014 22:01
Bis(2-ethylhexyl)phthalate	U		14	420	µg/Kg-dry	1	4/8/2014 22:01
Butyl benzyl phthalate	U		16	210	µg/Kg-dry	1	4/8/2014 22:01
Caprolactam	U		19	420	µg/Kg-dry	1	4/8/2014 22:01
Carbazole	U		13	210	µg/Kg-dry	1	4/8/2014 22:01
Chrysene	U		2.0	8.6	µg/Kg-dry	1	4/8/2014 22:01
Dibenzo(a,h)anthracene	U		3.2	8.6	µg/Kg-dry	1	4/8/2014 22:01
Dibenzofuran	U		13	210	µg/Kg-dry	1	4/8/2014 22:01
Diethyl phthalate	U		14	420	µg/Kg-dry	1	4/8/2014 22:01
Dimethyl phthalate	U		14	420	µg/Kg-dry	1	4/8/2014 22:01
Di-n-butyl phthalate	U		6.2	420	µg/Kg-dry	1	4/8/2014 22:01
Di-n-octyl phthalate	U		14	210	µg/Kg-dry	1	4/8/2014 22:01
Fluoranthene	U		3.0	8.6	µg/Kg-dry	1	4/8/2014 22:01
Fluorene	U		2.9	8.6	µg/Kg-dry	1	4/8/2014 22:01
Hexachlorobenzene	U		12	210	µg/Kg-dry	1	4/8/2014 22:01

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-06-D-16-20  
**Collection Date:** 3/31/2014 04:30 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-12  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorobutadiene	U		14	210	µg/Kg-dry	1	4/8/2014 22:01
Hexachlorocyclopentadiene	U		13	420	µg/Kg-dry	1	4/8/2014 22:01
Hexachloroethane	U		20	210	µg/Kg-dry	1	4/8/2014 22:01
Indeno(1,2,3-cd)pyrene	U		2.8	8.6	µg/Kg-dry	1	4/8/2014 22:01
Isophorone	U		14	210	µg/Kg-dry	1	4/8/2014 22:01
Naphthalene	U		3.1	8.6	µg/Kg-dry	1	4/8/2014 22:01
Nitrobenzene	U		17	210	µg/Kg-dry	1	4/8/2014 22:01
N-Nitrosodi-n-propylamine	U		16	210	µg/Kg-dry	1	4/8/2014 22:01
N-Nitrosodiphenylamine	U		76	210	µg/Kg-dry	1	4/8/2014 22:01
Pentachlorophenol	U		8.2	420	µg/Kg-dry	1	4/8/2014 22:01
Phenanthrene	U		1.7	8.6	µg/Kg-dry	1	4/8/2014 22:01
Phenol	U		15	210	µg/Kg-dry	1	4/8/2014 22:01
Pyrene	U		2.9	8.6	µg/Kg-dry	1	4/8/2014 22:01
Surr: 2,4,6-Tribromophenol	65.0			34-140	%REC	1	4/8/2014 22:01
Surr: 2-Fluorobiphenyl	78.9			12-100	%REC	1	4/8/2014 22:01
Surr: 2-Fluorophenol	92.3			33-117	%REC	1	4/8/2014 22:01
Surr: 4-Terphenyl-d14	105			25-137	%REC	1	4/8/2014 22:01
Surr: Nitrobenzene-d5	101			37-107	%REC	1	4/8/2014 22:01
Surr: Phenol-d6	89.9			40-106	%REC	1	4/8/2014 22:01
<b>GASOLINE RANGE ORGANICS BY GC-MS</b>			Method: <b>SW8260GRO</b>		Prep: SW5035 / 4/3/14		Analyst: <b>BG</b>
GRO (C6-C10)	U		1,700	3,300	µg/Kg-dry	1	4/3/2014 20:35
Surr: Toluene-d8	91.8			70-130	%REC	1	4/3/2014 20:35
<b>VOLATILE ORGANIC COMPOUNDS</b>			Method: <b>SW8260</b>		Analyst: <b>AK</b>		
1,1,1-Trichloroethane	U		0.44	10	µg/Kg-dry	1.51	4/9/2014 16:11
1,1,2,2-Tetrachloroethane	U		0.28	10	µg/Kg-dry	1.51	4/9/2014 16:11
1,1,2-Trichloroethane	U		0.38	10	µg/Kg-dry	1.51	4/9/2014 16:11
1,1,2-Trichlorotrifluoroethane	U		0.55	10	µg/Kg-dry	1.51	4/9/2014 16:11
1,1-Dichloroethane	U		0.51	10	µg/Kg-dry	1.51	4/9/2014 16:11
1,1-Dichloroethene	U		0.45	10	µg/Kg-dry	1.51	4/9/2014 16:11
1,2,4-Trichlorobenzene	U		0.41	10	µg/Kg-dry	1.51	4/9/2014 16:11
1,2-Dibromo-3-chloropropane	U		0.39	10	µg/Kg-dry	1.51	4/9/2014 16:11
1,2-Dibromoethane	U		0.40	10	µg/Kg-dry	1.51	4/9/2014 16:11
1,2-Dichlorobenzene	U		0.40	10	µg/Kg-dry	1.51	4/9/2014 16:11
1,2-Dichloroethane	U		0.55	10	µg/Kg-dry	1.51	4/9/2014 16:11
1,2-Dichloropropane	U		0.52	10	µg/Kg-dry	1.51	4/9/2014 16:11
1,3-Dichlorobenzene	U		0.37	10	µg/Kg-dry	1.51	4/9/2014 16:11
1,4-Dichlorobenzene	U		0.42	10	µg/Kg-dry	1.51	4/9/2014 16:11
<b>2-Butanone</b>	<b>7.7</b>	<b>J</b>	<b>1.5</b>	<b>20</b>	<b>µg/Kg-dry</b>	1.51	4/9/2014 16:11
2-Hexanone	U		0.60	10	µg/Kg-dry	1.51	4/9/2014 16:11

**Note:** See Qualifiers page for a list of qualifiers and their definitions.



# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SO-06-D-16-20  
**Collection Date:** 3/31/2014 04:30 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-12  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
4-Methyl-2-pentanone	U		0.39	10	µg/Kg-dry	1.51	4/9/2014 16:11
<b>Acetone</b>	<b>88</b>		<b>1.9</b>	<b>20</b>	<b>µg/Kg-dry</b>	1.51	4/9/2014 16:11
Benzene	U		0.49	10	µg/Kg-dry	1.51	4/9/2014 16:11
Bromodichloromethane	U		0.41	10	µg/Kg-dry	1.51	4/9/2014 16:11
Bromoform	U		0.31	10	µg/Kg-dry	1.51	4/9/2014 16:11
Bromomethane	U		0.70	20	µg/Kg-dry	1.51	4/9/2014 16:11
Carbon disulfide	U		0.73	10	µg/Kg-dry	1.51	4/9/2014 16:11
Carbon tetrachloride	U		0.40	10	µg/Kg-dry	1.51	4/9/2014 16:11
Chlorobenzene	U		0.44	10	µg/Kg-dry	1.51	4/9/2014 16:11
Chloroethane	U		1.1	10	µg/Kg-dry	1.51	4/9/2014 16:11
Chloroform	U		0.52	10	µg/Kg-dry	1.51	4/9/2014 16:11
Chloromethane	U		0.61	20	µg/Kg-dry	1.51	4/9/2014 16:11
cis-1,2-Dichloroethene	U		0.59	10	µg/Kg-dry	1.51	4/9/2014 16:11
cis-1,3-Dichloropropene	U		0.36	10	µg/Kg-dry	1.51	4/9/2014 16:11
Cyclohexane	U		0.64	10	µg/Kg-dry	1.51	4/9/2014 16:11
Dibromochloromethane	U		0.34	10	µg/Kg-dry	1.51	4/9/2014 16:11
Dichlorodifluoromethane	U		0.66	20	µg/Kg-dry	1.51	4/9/2014 16:11
Ethylbenzene	U		0.38	10	µg/Kg-dry	1.51	4/9/2014 16:11
Isopropylbenzene	U		0.38	10	µg/Kg-dry	1.51	4/9/2014 16:11
m,p-Xylene	U		0.75	5.0	µg/Kg-dry	1.51	4/9/2014 16:11
Methyl acetate	U		1.6	20	µg/Kg-dry	1.51	4/9/2014 16:11
Methyl tert-butyl ether	U		0.50	10	µg/Kg-dry	1.51	4/9/2014 16:11
Methylcyclohexane	U		0.55	20	µg/Kg-dry	1.51	4/9/2014 16:11
<b>Methylene chloride</b>	<b>0.70</b>	<b>J</b>	<b>0.57</b>	<b>10</b>	<b>µg/Kg-dry</b>	1.51	4/9/2014 16:11
o-Xylene	U		0.40	5.0	µg/Kg-dry	1.51	4/9/2014 16:11
Styrene	U		0.36	10	µg/Kg-dry	1.51	4/9/2014 16:11
Tetrachloroethene	U		0.60	10	µg/Kg-dry	1.51	4/9/2014 16:11
Toluene	U		0.47	10	µg/Kg-dry	1.51	4/9/2014 16:11
trans-1,2-Dichloroethene	U		0.58	10	µg/Kg-dry	1.51	4/9/2014 16:11
trans-1,3-Dichloropropene	U		0.37	20	µg/Kg-dry	1.51	4/9/2014 16:11
Trichloroethene	U		0.46	10	µg/Kg-dry	1.51	4/9/2014 16:11
Trichlorofluoromethane	U		2.3	10	µg/Kg-dry	1.51	4/9/2014 16:11
Vinyl chloride	U		0.61	10	µg/Kg-dry	1.51	4/9/2014 16:11
Xylenes, Total	U		1.1	10	µg/Kg-dry	1.51	4/9/2014 16:11
Surr: 1,2-Dichloroethane-d4	112			70-120	%REC	1.51	4/9/2014 16:11
Surr: 4-Bromofluorobenzene	96.6			75-120	%REC	1.51	4/9/2014 16:11
Surr: Dibromofluoromethane	16.4	<b>S</b>		85-115	%REC	1.51	4/9/2014 16:11
Surr: Toluene-d8	98.7			85-120	%REC	1.51	4/9/2014 16:11

## MOISTURE

Method: A2540 G

Analyst: AT

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

## ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech

**Project:** KCMO Public Works East Garage 3.31-4.1.14

**Sample ID:** SO-06-D-16-20

**Collection Date:** 3/31/2014 04:30 PM

**Work Order:** 1404130

**Lab ID:** 1404130-12

**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Moisture	24		0.025	0.050	% of sample	1	4/2/2014 17:01

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SED-01  
**Collection Date:** 3/31/2014 04:35 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-13  
**Matrix:** SEDIMENT

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>HERBICIDES</b>							
			Method: <b>SW8151</b>		Prep: SW8151M / 4/1/14		Analyst: <b>JD</b>
2,4,5-T	U		6.3	320	µg/Kg-dry	5	4/10/2014 17:26
2,4,5-TP (Silvex)	U		4.3	640	µg/Kg-dry	5	4/10/2014 17:26
2,4-D	U		4.6	320	µg/Kg-dry	5	4/10/2014 17:26
2,4-DB	U		21	320	µg/Kg-dry	5	4/10/2014 17:26
Dalapon	U		21	320	µg/Kg-dry	5	4/10/2014 17:26
Dicamba	U		21	320	µg/Kg-dry	5	4/10/2014 17:26
Dichlorprop	U		21	320	µg/Kg-dry	5	4/10/2014 17:26
Dinoseb	U		21	320	µg/Kg-dry	5	4/10/2014 17:26
MCPA	U		2,100	11,000	µg/Kg-dry	5	4/10/2014 17:26
MCPP	U		2,100	11,000	µg/Kg-dry	5	4/10/2014 17:26
Surr: DCAA	42.0			30-150	%REC	5	4/10/2014 17:26
<b>PCBS</b>							
			Method: <b>SW8082</b>		Prep: SW3541 / 4/7/14		Analyst: <b>JD</b>
Aroclor 1016	U		59	100	µg/Kg-dry	1	4/8/2014 19:18
Aroclor 1221	U		59	100	µg/Kg-dry	1	4/8/2014 19:18
Aroclor 1232	U		59	100	µg/Kg-dry	1	4/8/2014 19:18
Aroclor 1242	U		59	100	µg/Kg-dry	1	4/8/2014 19:18
Aroclor 1248	U		59	100	µg/Kg-dry	1	4/8/2014 19:18
Aroclor 1254	U		38	100	µg/Kg-dry	1	4/8/2014 19:18
Aroclor 1260	U		38	100	µg/Kg-dry	1	4/8/2014 19:18
Surr: Decachlorobiphenyl	93.1			40-140	%REC	1	4/8/2014 19:18
Surr: Tetrachloro-m-xylene	87.1			45-124	%REC	1	4/8/2014 19:18
<b>PESTICIDES</b>							
			Method: <b>SW8081</b>		Prep: SW3541 / 4/9/14		Analyst: <b>JD</b>
4,4'-DDD	U		16	51	µg/Kg-dry	4	4/10/2014 11:59
4,4'-DDE	U		10	51	µg/Kg-dry	4	4/10/2014 11:59
4,4'-DDT	U		12	51	µg/Kg-dry	4	4/10/2014 11:59
Aldrin	U		4.6	51	µg/Kg-dry	4	4/10/2014 11:59
alpha-BHC	U		17	51	µg/Kg-dry	4	4/10/2014 11:59
alpha-Chlordane	U		14	51	µg/Kg-dry	4	4/10/2014 11:59
beta-BHC	U		19	51	µg/Kg-dry	4	4/10/2014 11:59
Chlordane, Technical	U		51	130	µg/Kg-dry	4	4/10/2014 11:59
delta-BHC	U		19	51	µg/Kg-dry	4	4/10/2014 11:59
Dieldrin	U		4.4	51	µg/Kg-dry	4	4/10/2014 11:59
Endosulfan I	U		6.7	51	µg/Kg-dry	4	4/10/2014 11:59
Endosulfan II	U		5.7	51	µg/Kg-dry	4	4/10/2014 11:59
Endosulfan sulfate	U		6.3	51	µg/Kg-dry	4	4/10/2014 11:59
Endrin	U		15	51	µg/Kg-dry	4	4/10/2014 11:59
Endrin aldehyde	U		13	51	µg/Kg-dry	4	4/10/2014 11:59

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SED-01  
**Collection Date:** 3/31/2014 04:35 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-13  
**Matrix:** SEDIMENT

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Endrin ketone	U		20	51	µg/Kg-dry	4	4/10/2014 11:59
gamma-BHC (Lindane)	U		24	51	µg/Kg-dry	4	4/10/2014 11:59
gamma-Chlordane	U		8.6	51	µg/Kg-dry	4	4/10/2014 11:59
Heptachlor	U		26	51	µg/Kg-dry	4	4/10/2014 11:59
Heptachlor epoxide	U		8.1	51	µg/Kg-dry	4	4/10/2014 11:59
Methoxychlor	U		13	51	µg/Kg-dry	4	4/10/2014 11:59
Toxaphene	U		60	310	µg/Kg-dry	4	4/10/2014 11:59
Surr: Decachlorobiphenyl	76.1			45-135	%REC	4	4/10/2014 11:59
Surr: Tetrachloro-m-xylene	80.1			45-124	%REC	4	4/10/2014 11:59
<b>MERCURY BY CVAA</b>			Method: SW7471		Prep: SW7471 / 4/3/14		Analyst: LR
Mercury	0.069		0.00092	0.018	mg/Kg-dry	1	4/3/2014 12:35
<b>METALS BY ICP-MS</b>			Method: SW6020A		Prep: SW3050B / 4/4/14		Analyst: ML
Arsenic	6.2		0.28	2.1	mg/Kg-dry	5	4/5/2014 12:26
Barium	150		0.058	2.1	mg/Kg-dry	5	4/5/2014 12:26
Cadmium	1.4		0.0083	0.83	mg/Kg-dry	5	4/5/2014 12:26
Chromium	31		0.34	2.1	mg/Kg-dry	5	4/5/2014 12:26
Lead	59		0.0083	2.1	mg/Kg-dry	5	4/5/2014 12:26
Selenium	1.4	J	0.27	2.1	mg/Kg-dry	5	4/5/2014 12:26
Silver	0.19	J	0.0083	2.1	mg/Kg-dry	5	4/5/2014 12:26
<b>MOISTURE</b>			Method: A2540 G				Analyst: AT
Moisture	24		0.025	0.050	% of sample	1	4/3/2014 14:05

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SED-02  
**Collection Date:** 3/31/2014 04:00 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-14  
**Matrix:** SEDIMENT

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>HERBICIDES</b>							
			Method: <b>SW8151</b>		Prep: SW8151M / 4/1/14		Analyst: <b>JD</b>
2,4,5-T	U		6.2	320	µg/Kg-dry	5	4/10/2014 17:43
2,4,5-TP (Silvex)	U		4.2	640	µg/Kg-dry	5	4/10/2014 17:43
2,4-D	U		4.6	320	µg/Kg-dry	5	4/10/2014 17:43
2,4-DB	U		21	320	µg/Kg-dry	5	4/10/2014 17:43
Dalapon	U		21	320	µg/Kg-dry	5	4/10/2014 17:43
Dicamba	U		21	320	µg/Kg-dry	5	4/10/2014 17:43
Dichlorprop	U		21	320	µg/Kg-dry	5	4/10/2014 17:43
Dinoseb	U		21	320	µg/Kg-dry	5	4/10/2014 17:43
MCPA	U		2,100	11,000	µg/Kg-dry	5	4/10/2014 17:43
MCPP	U		2,100	11,000	µg/Kg-dry	5	4/10/2014 17:43
Surr: DCAA	36.0			30-150	%REC	5	4/10/2014 17:43
<b>PCBS</b>							
			Method: <b>SW8082</b>		Prep: SW3541 / 4/7/14		Analyst: <b>JD</b>
Aroclor 1016	U		60	110	µg/Kg-dry	1	4/8/2014 20:06
Aroclor 1221	U		60	110	µg/Kg-dry	1	4/8/2014 20:06
Aroclor 1232	U		60	110	µg/Kg-dry	1	4/8/2014 20:06
Aroclor 1242	U		60	110	µg/Kg-dry	1	4/8/2014 20:06
Aroclor 1248	U		60	110	µg/Kg-dry	1	4/8/2014 20:06
Aroclor 1254	U		39	110	µg/Kg-dry	1	4/8/2014 20:06
Aroclor 1260	U		39	110	µg/Kg-dry	1	4/8/2014 20:06
Surr: Decachlorobiphenyl	100			40-140	%REC	1	4/8/2014 20:06
Surr: Tetrachloro-m-xylene	93.1			45-124	%REC	1	4/8/2014 20:06
<b>PESTICIDES</b>							
			Method: <b>SW8081</b>		Prep: SW3541 / 4/9/14		Analyst: <b>JD</b>
4,4'-DDD	U		8.0	25	µg/Kg-dry	2	4/10/2014 12:15
4,4'-DDE	U		4.9	25	µg/Kg-dry	2	4/10/2014 12:15
4,4'-DDT	U		5.8	25	µg/Kg-dry	2	4/10/2014 12:15
Aldrin	U		2.3	25	µg/Kg-dry	2	4/10/2014 12:15
alpha-BHC	U		8.1	25	µg/Kg-dry	2	4/10/2014 12:15
alpha-Chlordane	U		6.9	25	µg/Kg-dry	2	4/10/2014 12:15
beta-BHC	U		9.5	25	µg/Kg-dry	2	4/10/2014 12:15
Chlordane, Technical	U		25	63	µg/Kg-dry	2	4/10/2014 12:15
delta-BHC	U		9.3	25	µg/Kg-dry	2	4/10/2014 12:15
Dieldrin	U		2.1	25	µg/Kg-dry	2	4/10/2014 12:15
Endosulfan I	U		3.3	25	µg/Kg-dry	2	4/10/2014 12:15
Endosulfan II	U		2.8	25	µg/Kg-dry	2	4/10/2014 12:15
Endosulfan sulfate	U		3.1	25	µg/Kg-dry	2	4/10/2014 12:15
Endrin	U		7.3	25	µg/Kg-dry	2	4/10/2014 12:15
Endrin aldehyde	U		6.1	25	µg/Kg-dry	2	4/10/2014 12:15

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** SED-02  
**Collection Date:** 3/31/2014 04:00 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-14  
**Matrix:** SEDIMENT

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Endrin ketone	U		9.7	25	µg/Kg-dry	2	4/10/2014 12:15
gamma-BHC (Lindane)	U		12	25	µg/Kg-dry	2	4/10/2014 12:15
gamma-Chlordane	U		4.2	25	µg/Kg-dry	2	4/10/2014 12:15
Heptachlor	U		13	25	µg/Kg-dry	2	4/10/2014 12:15
Heptachlor epoxide	U		4.0	25	µg/Kg-dry	2	4/10/2014 12:15
Methoxychlor	U		6.2	25	µg/Kg-dry	2	4/10/2014 12:15
Toxaphene	U		30	150	µg/Kg-dry	2	4/10/2014 12:15
Surr: Decachlorobiphenyl	80.1			45-135	%REC	2	4/10/2014 12:15
Surr: Tetrachloro-m-xylene	88.1			45-124	%REC	2	4/10/2014 12:15
<b>MERCURY BY CVAA</b>			Method: SW7471		Prep: SW7471 / 4/3/14		Analyst: LR
Mercury	0.075		0.00087	0.017	mg/Kg-dry	1	4/3/2014 12:37
<b>METALS BY ICP-MS</b>			Method: SW6020A		Prep: SW3050B / 4/4/14		Analyst: ML
Arsenic	6.0		0.28	2.1	mg/Kg-dry	5	4/5/2014 12:32
Barium	190		0.057	2.1	mg/Kg-dry	5	4/5/2014 12:32
Cadmium	1.8		0.0082	0.82	mg/Kg-dry	5	4/5/2014 12:32
Chromium	27		0.34	2.1	mg/Kg-dry	5	4/5/2014 12:32
Lead	73		0.0082	2.1	mg/Kg-dry	5	4/5/2014 12:32
Selenium	1.5	J	0.26	2.1	mg/Kg-dry	5	4/5/2014 12:32
Silver	0.19	J	0.0082	2.1	mg/Kg-dry	5	4/5/2014 12:32
<b>MOISTURE</b>			Method: A2540 G				Analyst: AT
Moisture	22		0.025	0.050	% of sample	1	4/3/2014 14:05

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** GW-04  
**Collection Date:** 3/31/2014 12:00 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-15  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>PCBS</b>							
			Method:SW8082		Prep: SW3510 / 4/4/14		Analyst: JD
Aroclor 1016	U		0.067	0.20	µg/L	1	4/7/2014 14:11
Aroclor 1221	U		0.067	0.20	µg/L	1	4/7/2014 14:11
Aroclor 1232	U		0.067	0.20	µg/L	1	4/7/2014 14:11
Aroclor 1242	U		0.067	0.20	µg/L	1	4/7/2014 14:11
Aroclor 1248	U		0.067	0.20	µg/L	1	4/7/2014 14:11
Aroclor 1254	U		0.058	0.20	µg/L	1	4/7/2014 14:11
Aroclor 1260	U		0.058	0.20	µg/L	1	4/7/2014 14:11
Surr: Decachlorobiphenyl	58.0			40-110	%REC	1	4/7/2014 14:11
Surr: Tetrachloro-m-xylene	57.0			40-110	%REC	1	4/7/2014 14:11
<b>MERCURY BY CVAA</b>							
			Method:SW7470		Prep: SW7470 / 4/4/14		Analyst: LR
Mercury	0.00015	J	0.00010	0.00020	mg/L	1	4/7/2014 15:03
<b>MERCURY BY CVAA (DISSOLVED)</b>							
			Method:SW7470		Prep: SW7470 / 4/4/14		Analyst: LR
Mercury	U		0.00010	0.00020	mg/L	1	4/7/2014 15:05
<b>METALS BY ICP-MS</b>							
			Method:SW6020A		Prep: SW3005A / 4/7/14		Analyst: ML
Arsenic	0.045		0.00058	0.0050	mg/L	1	4/9/2014 01:56
Barium	0.65		0.000063	0.0050	mg/L	1	4/9/2014 01:56
Cadmium	0.0064		0.000045	0.0020	mg/L	1	4/9/2014 01:56
Chromium	0.10		0.00027	0.0050	mg/L	1	4/9/2014 01:56
Lead	0.11		0.000051	0.0050	mg/L	1	4/9/2014 01:56
Selenium	0.0061		0.00064	0.0050	mg/L	1	4/9/2014 01:56
Silver	0.00057	J	0.000042	0.0050	mg/L	1	4/9/2014 01:56
<b>METALS BY ICP-MS (DISSOLVED)</b>							
			Method:SW6020A				Analyst: ML
Arsenic	0.026		0.00058	0.0050	mg/L	1	4/10/2014 15:22
Barium	0.29		0.000063	0.0050	mg/L	1	4/10/2014 15:22
Cadmium	0.000087	J	0.000045	0.0020	mg/L	1	4/10/2014 15:22
Chromium	U		0.00027	0.0050	mg/L	1	4/10/2014 15:22
Lead	U		0.000051	0.0030	mg/L	1	4/10/2014 15:22
Selenium	0.00066	J	0.00064	0.0050	mg/L	1	4/10/2014 15:22
Silver	0.000075	J	0.000042	0.00020	mg/L	1	4/10/2014 15:22
<b>DIESEL RANGE ORGANICS BY GC-MS</b>							
			Method:SW8270		Prep: SW3510 / 4/3/14		Analyst: RM
DRO (C10-C21)	U		0.013	0.10	mg/L	1	4/8/2014 05:02
ORO (C21-C35)	U		0.027	0.10	mg/L	1	4/8/2014 05:02
Surr: 4-Terphenyl-d14	88.2			23-112	%REC	1	4/8/2014 05:02
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>							
			Method:SW8270		Prep: SW3510 / 4/3/14		Analyst: RM
1,1'-Biphenyl	U		0.095	5.0	µg/L	1	4/4/2014 14:29

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** GW-04  
**Collection Date:** 3/31/2014 12:00 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-15  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2,4,5-Trichlorophenol	U		0.25	5.0	µg/L	1	4/4/2014 14:29
2,4,6-Trichlorophenol	U		0.27	5.0	µg/L	1	4/4/2014 14:29
2,4-Dichlorophenol	U		0.22	10	µg/L	1	4/4/2014 14:29
2,4-Dimethylphenol	U		1.8	5.0	µg/L	1	4/4/2014 14:29
2,4-Dinitrophenol	U		0.67	5.0	µg/L	1	4/4/2014 14:29
2,4-Dinitrotoluene	U		0.27	5.0	µg/L	1	4/4/2014 14:29
2,6-Dinitrotoluene	U		0.23	5.0	µg/L	1	4/4/2014 14:29
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	4/4/2014 14:29
2-Chlorophenol	U		0.32	5.0	µg/L	1	4/4/2014 14:29
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	4/4/2014 14:29
2-Methylphenol	U		0.20	5.0	µg/L	1	4/4/2014 14:29
2-Nitroaniline	U		0.34	20	µg/L	1	4/4/2014 14:29
2-Nitrophenol	U		0.28	5.0	µg/L	1	4/4/2014 14:29
3,3'-Dichlorobenzidine	U		3.9	5.0	µg/L	1	4/4/2014 14:29
3-Nitroaniline	U		0.34	20	µg/L	1	4/4/2014 14:29
4,6-Dinitro-2-methylphenol	U		1.2	20	µg/L	1	4/4/2014 14:29
4-Bromophenyl phenyl ether	U		0.23	5.0	µg/L	1	4/4/2014 14:29
4-Chloro-3-methylphenol	U		0.31	5.0	µg/L	1	4/4/2014 14:29
4-Chloroaniline	U		0.32	20	µg/L	1	4/4/2014 14:29
4-Chlorophenyl phenyl ether	U		0.23	5.0	µg/L	1	4/4/2014 14:29
4-Methylphenol	U		0.20	5.0	µg/L	1	4/4/2014 14:29
4-Nitroaniline	U		0.30	20	µg/L	1	4/4/2014 14:29
4-Nitrophenol	U		0.51	20	µg/L	1	4/4/2014 14:29
Acenaphthene	U		0.11	5.0	µg/L	1	4/4/2014 14:29
Acenaphthylene	U		0.12	5.0	µg/L	1	4/4/2014 14:29
Acetophenone	U		0.090	1.0	µg/L	1	4/4/2014 14:29
Anthracene	U		0.72	5.0	µg/L	1	4/4/2014 14:29
Atrazine	U		0.13	1.0	µg/L	1	4/4/2014 14:29
Benzaldehyde	U		0.46	1.0	µg/L	1	4/4/2014 14:29
Benzo(a)anthracene	U		0.57	5.0	µg/L	1	4/4/2014 14:29
Benzo(a)pyrene	U		0.10	5.0	µg/L	1	4/4/2014 14:29
Benzo(b)fluoranthene	U		0.74	5.0	µg/L	1	4/4/2014 14:29
Benzo(g,h,i)perylene	U		0.70	5.0	µg/L	1	4/4/2014 14:29
Benzo(k)fluoranthene	U		0.17	5.0	µg/L	1	4/4/2014 14:29
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	4/4/2014 14:29
Bis(2-chloroethyl)ether	U		0.34	5.0	µg/L	1	4/4/2014 14:29
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	4/4/2014 14:29
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	4/4/2014 14:29
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	4/4/2014 14:29
Caprolactam	U		4.7	10	µg/L	1	4/4/2014 14:29

**Note:** See Qualifiers page for a list of qualifiers and their definitions.



# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** GW-04  
**Collection Date:** 3/31/2014 12:00 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-15  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Carbazole	U		0.16	10	µg/L	1	4/4/2014 14:29
Chrysene	U		0.71	5.0	µg/L	1	4/4/2014 14:29
Dibenzo(a,h)anthracene	U		0.67	5.0	µg/L	1	4/4/2014 14:29
Dibenzofuran	U		0.28	5.0	µg/L	1	4/4/2014 14:29
Diethyl phthalate	U		0.24	20	µg/L	1	4/4/2014 14:29
Dimethyl phthalate	U		0.27	20	µg/L	1	4/4/2014 14:29
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	4/4/2014 14:29
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	4/4/2014 14:29
Fluoranthene	U		0.77	5.0	µg/L	1	4/4/2014 14:29
Fluorene	U		0.10	5.0	µg/L	1	4/4/2014 14:29
Hexachlorobenzene	U		0.22	5.0	µg/L	1	4/4/2014 14:29
Hexachlorobutadiene	U		0.24	5.0	µg/L	1	4/4/2014 14:29
Hexachlorocyclopentadiene	U		0.18	20	µg/L	1	4/4/2014 14:29
Hexachloroethane	U		0.47	5.0	µg/L	1	4/4/2014 14:29
Indeno(1,2,3-cd)pyrene	U		0.69	5.0	µg/L	1	4/4/2014 14:29
Isophorone	U		0.30	5.0	µg/L	1	4/4/2014 14:29
Naphthalene	U		0.12	5.0	µg/L	1	4/4/2014 14:29
Nitrobenzene	U		0.33	5.0	µg/L	1	4/4/2014 14:29
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	4/4/2014 14:29
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	4/4/2014 14:29
Pentachlorophenol	U		0.22	20	µg/L	1	4/4/2014 14:29
Phenanthrene	U		0.86	5.0	µg/L	1	4/4/2014 14:29
Phenol	U		0.32	5.0	µg/L	1	4/4/2014 14:29
Pyrene	U		0.65	5.0	µg/L	1	4/4/2014 14:29
Surr: 2,4,6-Tribromophenol	71.9			32-115	%REC	1	4/4/2014 14:29
Surr: 2-Fluorobiphenyl	70.0			32-100	%REC	1	4/4/2014 14:29
Surr: 2-Fluorophenol	50.4			22-59	%REC	1	4/4/2014 14:29
Surr: 4-Terphenyl-d14	97.8			23-112	%REC	1	4/4/2014 14:29
Surr: Nitrobenzene-d5	79.2			31-93	%REC	1	4/4/2014 14:29
Surr: Phenol-d6	34.0			13-36	%REC	1	4/4/2014 14:29
<b>GASOLINE RANGE ORGANICS BY GC-MS</b>			Method: <b>SW8260GRO</b>				Analyst: <b>BG</b>
GRO (C6-C10)	U		25	50	µg/L	1	4/3/2014 21:02
Surr: Toluene-d8	91.7			70-130	%REC	1	4/3/2014 21:02
<b>VOLATILE ORGANIC COMPOUNDS</b>			Method: <b>SW8260</b>				Analyst: <b>BG</b>
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	4/3/2014 21:02
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	4/3/2014 21:02
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	4/3/2014 21:02
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	4/3/2014 21:02
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	4/3/2014 21:02

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** GW-04  
**Collection Date:** 3/31/2014 12:00 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-15  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	4/3/2014 21:02
1,2,4-Trichlorobenzene	U		0.096	1.0	µg/L	1	4/3/2014 21:02
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	4/3/2014 21:02
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	4/3/2014 21:02
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	4/3/2014 21:02
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	4/3/2014 21:02
1,2-Dichloropropane	U		0.12	2.0	µg/L	1	4/3/2014 21:02
1,3-Dichlorobenzene	U		0.15	2.0	µg/L	1	4/3/2014 21:02
1,4-Dichlorobenzene	U		0.15	2.0	µg/L	1	4/3/2014 21:02
2-Butanone	U		0.64	5.0	µg/L	1	4/3/2014 21:02
2-Hexanone	U		0.19	5.0	µg/L	1	4/3/2014 21:02
4-Methyl-2-pentanone	U		0.20	5.0	µg/L	1	4/3/2014 21:02
Acetone	U		3.0	20	µg/L	1	4/3/2014 21:02
Benzene	U		0.14	1.0	µg/L	1	4/3/2014 21:02
Bromodichloromethane	U		0.22	1.0	µg/L	1	4/3/2014 21:02
Bromoform	U		0.18	1.0	µg/L	1	4/3/2014 21:02
Bromomethane	U		0.38	1.0	µg/L	1	4/3/2014 21:02
Carbon disulfide	U		0.26	2.5	µg/L	1	4/3/2014 21:02
Carbon tetrachloride	U		0.16	1.0	µg/L	1	4/3/2014 21:02
Chlorobenzene	U		0.12	1.0	µg/L	1	4/3/2014 21:02
Chloroethane	U		0.25	1.0	µg/L	1	4/3/2014 21:02
Chloroform	U		0.15	1.0	µg/L	1	4/3/2014 21:02
Chloromethane	U		0.29	1.0	µg/L	1	4/3/2014 21:02
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	4/3/2014 21:02
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	4/3/2014 21:02
Cyclohexane	U		0.20	5.0	µg/L	1	4/3/2014 21:02
Dibromochloromethane	U		0.12	1.0	µg/L	1	4/3/2014 21:02
Dichlorodifluoromethane	U		0.18	1.0	µg/L	1	4/3/2014 21:02
Ethylbenzene	U		0.12	1.0	µg/L	1	4/3/2014 21:02
Isopropylbenzene	U		0.11	1.0	µg/L	1	4/3/2014 21:02
m,p-Xylene	U		0.19	2.0	µg/L	1	4/3/2014 21:02
Methyl acetate	U		0.76	2.0	µg/L	1	4/3/2014 21:02
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	4/3/2014 21:02
Methylcyclohexane	U		0.19	5.0	µg/L	1	4/3/2014 21:02
Methylene chloride	U		0.75	5.0	µg/L	1	4/3/2014 21:02
o-Xylene	U		0.12	1.0	µg/L	1	4/3/2014 21:02
Styrene	U		0.12	1.0	µg/L	1	4/3/2014 21:02
Tetrachloroethene	U		0.098	2.0	µg/L	1	4/3/2014 21:02
<b>Toluene</b>	<b>0.30</b>	<b>J</b>	<b>0.13</b>	<b>1.0</b>	<b>µg/L</b>	1	4/3/2014 21:02
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	4/3/2014 21:02

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group USA, Corp****Date:** 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** GW-04  
**Collection Date:** 3/31/2014 12:00 PM

**Work Order:** 1404130  
**Lab ID:** 1404130-15  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	4/3/2014 21:02
Trichloroethene	U		0.16	1.0	µg/L	1	4/3/2014 21:02
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	4/3/2014 21:02
Vinyl chloride	U		0.15	1.0	µg/L	1	4/3/2014 21:02
Xylenes, Total	U		0.30	3.0	µg/L	1	4/3/2014 21:02
Surr: 1,2-Dichloroethane-d4	98.5			70-120	%REC	1	4/3/2014 21:02
Surr: 4-Bromofluorobenzene	95.9			75-120	%REC	1	4/3/2014 21:02
Surr: Dibromofluoromethane	94.0			85-115	%REC	1	4/3/2014 21:02
Surr: Toluene-d8	105			85-120	%REC	1	4/3/2014 21:02

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** Trip Blank  
**Collection Date:** 4/1/2014

**Work Order:** 1404130  
**Lab ID:** 1404130-16  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>			Method: <b>SW8260</b>			Analyst: <b>AK</b>	
1,1,1-Trichloroethane	U		0.22	5.0	µg/Kg	1	4/3/2014 20:37
1,1,2,2-Tetrachloroethane	U		0.14	5.0	µg/Kg	1	4/3/2014 20:37
1,1,2-Trichloroethane	U		0.19	5.0	µg/Kg	1	4/3/2014 20:37
1,1,2-Trichlorotrifluoroethane	U		0.28	5.0	µg/Kg	1	4/3/2014 20:37
1,1-Dichloroethane	U		0.26	5.0	µg/Kg	1	4/3/2014 20:37
1,1-Dichloroethene	U		0.23	5.0	µg/Kg	1	4/3/2014 20:37
1,2,4-Trichlorobenzene	U		0.21	5.0	µg/Kg	1	4/3/2014 20:37
1,2-Dibromo-3-chloropropane	U		0.20	5.0	µg/Kg	1	4/3/2014 20:37
1,2-Dibromoethane	U		0.20	5.0	µg/Kg	1	4/3/2014 20:37
1,2-Dichlorobenzene	U		0.20	5.0	µg/Kg	1	4/3/2014 20:37
1,2-Dichloroethane	U		0.28	5.0	µg/Kg	1	4/3/2014 20:37
1,2-Dichloropropane	U		0.26	5.0	µg/Kg	1	4/3/2014 20:37
1,3-Dichlorobenzene	U		0.19	5.0	µg/Kg	1	4/3/2014 20:37
1,4-Dichlorobenzene	U		0.21	5.0	µg/Kg	1	4/3/2014 20:37
2-Butanone	U		0.77	10	µg/Kg	1	4/3/2014 20:37
2-Hexanone	U		0.30	5.0	µg/Kg	1	4/3/2014 20:37
4-Methyl-2-pentanone	U		0.20	5.0	µg/Kg	1	4/3/2014 20:37
<b>Acetone</b>	<b>10</b>		<b>0.94</b>	<b>10</b>	<b>µg/Kg</b>	1	4/3/2014 20:37
Benzene	U		0.25	5.0	µg/Kg	1	4/3/2014 20:37
Bromodichloromethane	U		0.21	5.0	µg/Kg	1	4/3/2014 20:37
Bromoform	U		0.15	5.0	µg/Kg	1	4/3/2014 20:37
Bromomethane	U		0.35	10	µg/Kg	1	4/3/2014 20:37
Carbon disulfide	U		0.37	5.0	µg/Kg	1	4/3/2014 20:37
Carbon tetrachloride	U		0.20	5.0	µg/Kg	1	4/3/2014 20:37
Chlorobenzene	U		0.22	5.0	µg/Kg	1	4/3/2014 20:37
Chloroethane	U		0.56	5.0	µg/Kg	1	4/3/2014 20:37
Chloroform	U		0.26	5.0	µg/Kg	1	4/3/2014 20:37
Chloromethane	U		0.31	10	µg/Kg	1	4/3/2014 20:37
cis-1,2-Dichloroethene	U		0.30	5.0	µg/Kg	1	4/3/2014 20:37
cis-1,3-Dichloropropene	U		0.18	5.0	µg/Kg	1	4/3/2014 20:37
Cyclohexane	U		0.32	5.0	µg/Kg	1	4/3/2014 20:37
Dibromochloromethane	U		0.17	5.0	µg/Kg	1	4/3/2014 20:37
Dichlorodifluoromethane	U		0.33	10	µg/Kg	1	4/3/2014 20:37
Ethylbenzene	U		0.19	5.0	µg/Kg	1	4/3/2014 20:37
Isopropylbenzene	U		0.19	5.0	µg/Kg	1	4/3/2014 20:37
m,p-Xylene	U		0.38	2.5	µg/Kg	1	4/3/2014 20:37
Methyl acetate	U		0.80	10	µg/Kg	1	4/3/2014 20:37
Methyl tert-butyl ether	U		0.25	5.0	µg/Kg	1	4/3/2014 20:37

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** Trip Blank  
**Collection Date:** 4/1/2014

**Work Order:** 1404130  
**Lab ID:** 1404130-16  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methylcyclohexane	U		0.28	10	µg/Kg	1	4/3/2014 20:37
<b>Methylene chloride</b>	<b>2.0</b>	J	<b>0.28</b>	<b>5.0</b>	<b>µg/Kg</b>	1	4/3/2014 20:37
o-Xylene	U		0.20	2.5	µg/Kg	1	4/3/2014 20:37
Styrene	U		0.18	5.0	µg/Kg	1	4/3/2014 20:37
Tetrachloroethene	U		0.30	5.0	µg/Kg	1	4/3/2014 20:37
<b>Toluene</b>	<b>0.70</b>	J	<b>0.24</b>	<b>5.0</b>	<b>µg/Kg</b>	1	4/3/2014 20:37
trans-1,2-Dichloroethene	U		0.29	5.0	µg/Kg	1	4/3/2014 20:37
trans-1,3-Dichloropropene	U		0.19	10	µg/Kg	1	4/3/2014 20:37
Trichloroethene	U		0.23	5.0	µg/Kg	1	4/3/2014 20:37
Trichlorofluoromethane	U		1.2	5.0	µg/Kg	1	4/3/2014 20:37
Vinyl chloride	U		0.30	5.0	µg/Kg	1	4/3/2014 20:37
Xylenes, Total	U		0.58	5.0	µg/Kg	1	4/3/2014 20:37
Surr: 1,2-Dichloroethane-d4	109			70-120	%REC	1	4/3/2014 20:37
Surr: 4-Bromofluorobenzene	96.0			75-120	%REC	1	4/3/2014 20:37
Surr: Dibromofluoromethane	12.6	S		85-115	%REC	1	4/3/2014 20:37
Surr: Toluene-d8	99.4			85-120	%REC	1	4/3/2014 20:37

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 14-Apr-14

**Client:** Tetra Tech  
**Project:** KCMO Public Works East Garage 3.31-4.1.14  
**Sample ID:** Trip Blank  
**Collection Date:** 3/31/2014

**Work Order:** 1404130  
**Lab ID:** 1404130-17  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>			Method: SW8260			Analyst: BG	
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	4/3/2014 15:22
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	4/3/2014 15:22
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	4/3/2014 15:22
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	4/3/2014 15:22
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	4/3/2014 15:22
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	4/3/2014 15:22
1,2,4-Trichlorobenzene	U		0.096	1.0	µg/L	1	4/3/2014 15:22
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	4/3/2014 15:22
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	4/3/2014 15:22
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	4/3/2014 15:22
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	4/3/2014 15:22
1,2-Dichloropropane	U		0.12	2.0	µg/L	1	4/3/2014 15:22
1,3-Dichlorobenzene	U		0.15	2.0	µg/L	1	4/3/2014 15:22
1,4-Dichlorobenzene	U		0.15	2.0	µg/L	1	4/3/2014 15:22
2-Butanone	U		0.64	5.0	µg/L	1	4/3/2014 15:22
2-Hexanone	U		0.19	5.0	µg/L	1	4/3/2014 15:22
4-Methyl-2-pentanone	U		0.20	5.0	µg/L	1	4/3/2014 15:22
Acetone	U		3.0	20	µg/L	1	4/3/2014 15:22
Benzene	U		0.14	1.0	µg/L	1	4/3/2014 15:22
Bromodichloromethane	U		0.22	1.0	µg/L	1	4/3/2014 15:22
Bromoform	U		0.18	1.0	µg/L	1	4/3/2014 15:22
Bromomethane	U		0.38	1.0	µg/L	1	4/3/2014 15:22
Carbon disulfide	U		0.26	2.5	µg/L	1	4/3/2014 15:22
Carbon tetrachloride	U		0.16	1.0	µg/L	1	4/3/2014 15:22
Chlorobenzene	U		0.12	1.0	µg/L	1	4/3/2014 15:22
Chloroethane	U		0.25	1.0	µg/L	1	4/3/2014 15:22
Chloroform	U		0.15	1.0	µg/L	1	4/3/2014 15:22
Chloromethane	U		0.29	1.0	µg/L	1	4/3/2014 15:22
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	4/3/2014 15:22
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	4/3/2014 15:22
Cyclohexane	U		0.20	5.0	µg/L	1	4/3/2014 15:22
Dibromochloromethane	U		0.12	1.0	µg/L	1	4/3/2014 15:22
Dichlorodifluoromethane	U		0.18	1.0	µg/L	1	4/3/2014 15:22
Ethylbenzene	U		0.12	1.0	µg/L	1	4/3/2014 15:22
Isopropylbenzene	U		0.11	1.0	µg/L	1	4/3/2014 15:22
m,p-Xylene	U		0.19	2.0	µg/L	1	4/3/2014 15:22
Methyl acetate	U		0.76	2.0	µg/L	1	4/3/2014 15:22
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	4/3/2014 15:22

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group USA, Corp**

Date: 14-Apr-14

**Client:** Tetra Tech**Project:** KCMO Public Works East Garage 3.31-4.1.14**Work Order:** 1404130**Sample ID:** Trip Blank**Lab ID:** 1404130-17**Collection Date:** 3/31/2014**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methylcyclohexane	U		0.19	5.0	µg/L	1	4/3/2014 15:22
Methylene chloride	U		0.75	5.0	µg/L	1	4/3/2014 15:22
o-Xylene	U		0.12	1.0	µg/L	1	4/3/2014 15:22
Styrene	U		0.12	1.0	µg/L	1	4/3/2014 15:22
Tetrachloroethene	U		0.098	2.0	µg/L	1	4/3/2014 15:22
Toluene	U		0.13	1.0	µg/L	1	4/3/2014 15:22
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	4/3/2014 15:22
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	4/3/2014 15:22
Trichloroethene	U		0.16	1.0	µg/L	1	4/3/2014 15:22
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	4/3/2014 15:22
Vinyl chloride	U		0.15	1.0	µg/L	1	4/3/2014 15:22
Xylenes, Total	U		0.30	3.0	µg/L	1	4/3/2014 15:22
Surr: 1,2-Dichloroethane-d4	100			70-120	%REC	1	4/3/2014 15:22
Surr: 4-Bromofluorobenzene	94.2			75-120	%REC	1	4/3/2014 15:22
Surr: Dibromofluoromethane	86.8			85-115	%REC	1	4/3/2014 15:22
Surr: Toluene-d8	104			85-120	%REC	1	4/3/2014 15:22

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

Client: Tetra Tech

Work Order: 1404130

Project: KCMO Public Works East Garage 3.31-4.1.14

# QC BATCH REPORT

Batch ID: 57117

Instrument ID GC7

Method: SW8151

MBLK		Sample ID: HBLKS1-57117-57117				Units: µg/Kg		Analysis Date: 4/10/2014 04:53 PM		
Client ID:		Run ID: GC7_140410A				SeqNo: 2708497		Prep Date: 4/1/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-T	U	50	0	0	0	0-0	0			
2,4,5-TP (Silvex)	U	100	0	0	0	0-0	0			
2,4-D	U	50	0	0	0	0-0	0			
2,4-DB	U	50	0	0	0	0-0	0			
Dalapon	U	50	0	0	0	0-0	0			
Dicamba	U	50	0	0	0	0-0	0			
Dichlorprop	U	50	0	0	0	0-0	0			
Dinoseb	U	50	0	0	0	0-0	0			
MCPA	U	1,700	0	0	0	0-0	0			
MCP	U	1,700	0	0	0	0-0	0			
Surr: DCAA	101.7	0	166.7	0	61	30-150	0			

LCS		Sample ID: HLCSS1-57117-57117				Units: µg/Kg		Analysis Date: 4/10/2014 05:09 PM		
Client ID:		Run ID: GC7_140410A				SeqNo: 2708498		Prep Date: 4/1/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-T	120	50	166.7	0	72	30-150	0			
2,4,5-TP (Silvex)	119.3	100	166.7	0	71.6	30-150	0			
2,4-D	127.7	50	166.7	0	76.6	20-130	0			
2,4-DB	117	50	166.7	0	70.2	30-150	0			
Dalapon	106.7	50	166.7	0	64	30-150	0			
Dicamba	121	50	166.7	0	72.6	30-150	0			
Dichlorprop	109.7	50	166.7	0	65.8	30-150	0			
Dinoseb	149.7	50	166.7	0	89.8	10-110	0			
MCPA	13220	1,700	16670	0	79.3	20-130	0			
MCP	11500	1,700	16670	0	69	20-130	0			
Surr: DCAA	124	0	166.7	0	74.4	30-150	0			

The following samples were analyzed in this batch:

1404130-13A 1404130-14A



Client: Tetra Tech  
 Work Order: 1404130  
 Project: KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: 57218 Instrument ID GC14 Method: SW8082

MBLK		Sample ID: PBLKW1-57218-57218				Units: µg/L		Analysis Date: 4/7/2014 12:34 PM		
Client ID:		Run ID: GC14_140407A				SeqNo: 2703135		Prep Date: 4/4/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	U	0.20								
Aroclor 1221	U	0.20								
Aroclor 1232	U	0.20								
Aroclor 1242	U	0.20								
Aroclor 1248	U	0.20								
Aroclor 1254	U	0.20								
Aroclor 1260	U	0.20								
Surr: Decachlorobiphenyl	0.059	0	0.1	0	59	40-110	0			
Surr: Tetrachloro-m-xylene	0.056	0	0.1	0	56	40-110	0			

LCS		Sample ID: PLCSW1-57218-57218				Units: µg/L		Analysis Date: 4/7/2014 12:50 PM		
Client ID:		Run ID: GC14_140407A				SeqNo: 2703136		Prep Date: 4/4/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	1.653	0.20	2.5	0	66.1	50-130	0			
Aroclor 1260	1.792	0.20	2.5	0	71.7	50-130	0			
Surr: Decachlorobiphenyl	0.062	0	0.1	0	62	40-110	0			
Surr: Tetrachloro-m-xylene	0.055	0	0.1	0	55	40-110	0			

MS		Sample ID: 1404109-01D MS				Units: µg/L		Analysis Date: 4/7/2014 01:23 PM		
Client ID:		Run ID: GC14_140407A				SeqNo: 2703138		Prep Date: 4/4/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	14.86	2.0	25	0	59.4	40-140	0			
Aroclor 1260	16.32	2.0	25	0	65.3	40-140	0			
Surr: Decachlorobiphenyl	0.49	0	1	0	49	40-110	0			
Surr: Tetrachloro-m-xylene	0.5	0	1	0	50	40-110	0			

MSD		Sample ID: 1404109-01D MSD				Units: µg/L		Analysis Date: 4/7/2014 01:39 PM		
Client ID:		Run ID: GC14_140407A				SeqNo: 2703139		Prep Date: 4/4/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	14.4	2.0	25	0	57.6	40-140	14.86	3.14	50	
Aroclor 1260	15.32	2.0	25	0	61.3	40-140	16.32	6.32	50	
Surr: Decachlorobiphenyl	0.53	0	1	0	53	40-110	0.49	7.84	50	
Surr: Tetrachloro-m-xylene	0.5	0	1	0	50	40-110	0.5	0	50	

The following samples were analyzed in this batch:

1404130-15B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech  
 Work Order: 1404130  
 Project: KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **57299** Instrument ID **GC14** Method: **SW8082**

MBLK				Sample ID: PBLKS1-57299-57299				Units: µg/Kg			Analysis Date: 4/8/2014 02:43 PM		
Client ID:			Run ID: GC14_140408B				SeqNo: 2704909			Prep Date: 4/7/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Aroclor 1016	U	83											
Aroclor 1221	U	83											
Aroclor 1232	U	83											
Aroclor 1242	U	83											
Aroclor 1248	U	83											
Aroclor 1254	U	83											
Aroclor 1260	U	83											
Surr: Decachlorobiphenyl	32.67	0	33.3	0	98.1	40-140	0						
Surr: Tetrachloro-m-xylene	32.33	0	33.3	0	97.1	45-124	0						

LCS				Sample ID: <b>PLCSS1-57299-57299</b>				Units: <b>µg/Kg</b>			Analysis Date: <b>4/8/2014 02:59 PM</b>		
Client ID:			Run ID: <b>GC14_140408B</b>				SeqNo: <b>2704910</b>			Prep Date: <b>4/7/2014</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Aroclor 1016	964.7	83	833	0	116	50-130	0						
Aroclor 1260	1008	83	833	0	121	50-130	0						
<i>Surr: Decachlorobiphenyl</i>	34.33	0	33.3	0	103	40-140	0						
<i>Surr: Tetrachloro-m-xylene</i>	32.33	0	33.3	0	97.1	45-124	0						

MS				Sample ID: 1404130-13A MS				Units: µg/Kg		Analysis Date: 4/8/2014 07:34 PM	
Client ID: SED-01			Run ID: GC14_140408B			SeqNo: 2704925		Prep Date: 4/7/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aroclor 1016	934.1	81	809.4	0	115	40-140	0				
Aroclor 1260	952.8	81	809.4	0	118	40-140	0				
Surr: Decachlorobiphenyl	30.12	0	32.36	0	93.1	40-140	0				
Surr: Tetrachloro-m-xylene	29.15	0	32.36	0	90.1	45-124	0				

MSD					Sample ID: 1404130-13A MSD			Units: µg/Kg		Analysis Date: 4/8/2014 07:50 PM	
Client ID: SED-01			Run ID: GC14_140408B			SeqNo: 2704926		Prep Date: 4/7/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aroclor 1016	919.8	80	799.5	0	115	40-140	934.1	1.54	50		
Aroclor 1260	939.9	80	799.5	0	118	40-140	952.8	1.37	50		
Surr: Decachlorobiphenyl	30.71	0	31.96	0	96.1	40-140	30.12	1.95	50		
Surr: Tetrachloro-m-xylene	29.43	0	31.96	0	92.1	45-124	29.15	0.968	50		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

**QC BATCH REPORT**

Batch ID: **57299**      Instrument ID **GC14**      Method: **SW8082**

The following samples were analyzed in this batch:

1404130-01C	1404130-02C	1404130-03C
1404130-04C	1404130-05C	1404130-06C
1404130-07C	1404130-08C	1404130-09C
1404130-10C	1404130-11C	1404130-12C
1404130-13A	1404130-14A	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech  
 Work Order: 1404130  
 Project: KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **57368** Instrument ID **GC12** Method: **SW8081**

MBLK		Sample ID: PBLKS1-57368-57368				Units: µg/Kg		Analysis Date: 4/10/2014 11:28 AM		
Client ID:		Run ID: GC12_140410A				SeqNo: 2706720		Prep Date: 4/9/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4´-DDD	U	10								
4,4´-DDE	U	10								
4,4´-DDT	U	10								
Aldrin	U	10								
alpha-BHC	U	10								
alpha-Chlordane	U	10								
beta-BHC	U	10								
Chlordane, Technical	U	25								
delta-BHC	U	10								
Dieldrin	U	10								
Endosulfan I	U	10								
Endosulfan II	U	10								
Endosulfan sulfate	U	10								
Endrin	U	10								
Endrin aldehyde	U	10								
Endrin ketone	U	10								
gamma-BHC (Lindane)	U	10								
gamma-Chlordane	U	10								
Heptachlor	U	10								
Heptachlor epoxide	U	10								
Methoxychlor	U	10								
Toxaphene	U	60								
Surr: Decachlorobiphenyl	26.67	0	33.3	0	80.1	45-135		0		
Surr: Tetrachloro-m-xylene	29	0	33.3	0	87.1	45-124		0		

LCS				Sample ID: <b>PLCSS1-57368-57368</b>				Units: <b>µg/Kg</b>			Analysis Date: <b>4/10/2014 11:43 AM</b>			
Client ID:				Run ID: <b>GC12_140410A</b>				SeqNo: <b>2706721</b>			Prep Date: <b>4/9/2014</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Dieldrin	31.33	10	33.33	0	94	65-125	0							
Endosulfan I	31.33	10	33.33	0	94	15-135	0							
Endosulfan II	31	10	33.33	0	93	35-140	0							
Endosulfan sulfate	31.67	10	33.33	0	95	60-135	0							
Endrin	29	10	33.33	0	87	60-135	0							
Endrin aldehyde	29.67	10	33.33	0	89	35-145	0							
Endrin ketone	32	10	33.33	0	96	50-150	0							
Methoxychlor	32.67	10	33.33	0	98	55-145	0							

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **57368**      Instrument ID **GC12**      Method: **SW8081**

LCS				Sample ID: <b>PLCSS1-57368-57368</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>4/10/2014 06:32 PM</b>		
Client ID:		Run ID: <b>GC12_140410A</b>			SeqNo: <b>2708595</b>		Prep Date: <b>4/9/2014</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
4,4´-DDD	33.67	10	33.33	0	101	30-135	0				
4,4´-DDE	30.33	10	33.33	0	91	70-125	0				
4,4´-DDT	26.33	10	33.33	0	79	45-140	0				
Aldrin	29.67	10	33.33	0	89	45-140	0				
alpha-BHC	30	10	33.33	0	90	60-125	0				
alpha-Chlordane	30.67	10	33.33	0	92	50-150	0				
gamma-BHC (Lindane)	31	10	33.33	0	93	60-125	0				
Heptachlor	28.33	10	33.33	0	85	50-140	0				
Heptachlor epoxide	27	10	33.33	0	81	65-130	0				
<i>Surr: Decachlorobiphenyl</i>	24.33	0	33.3	0	73.1	45-135	0				
<i>Surr: Tetrachloro-m-xylene</i>	29.67	0	33.3	0	89.1	45-124	0				

MS				Sample ID: 1404329-07C MS			Units: µg/Kg		Analysis Date: 4/10/2014 04:11 PM		
Client ID:			Run ID: GC12_140410A			SeqNo: 2708679		Prep Date: 4/9/2014		DF: 4	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
4,4'-DDD	29.82	39	32.41	0	92	30-135	0			J	
4,4'-DDE	28.53	39	32.41	0	88	70-125	0			J	
4,4'-DDT	35.01	39	32.41	0	108	45-140	0			J	
Aldrin	27.23	39	32.41	0	84	45-140	0			J	
alpha-BHC	28.53	39	32.41	0	88	60-125	0			J	
alpha-Chlordane	27.23	39	32.41	0	84	50-150	0			J	
beta-BHC	23.34	39	32.41	0	72	60-125	0			J	
delta-BHC	32.42	39	32.41	0	100	55-130	0			J	
Dieldrin	28.53	39	32.41	0	88	65-125	0			J	
Endosulfan I	28.53	39	32.41	0	88	15-135	0			J	
Endosulfan II	29.82	39	32.41	0	92	35-140	0			J	
Endosulfan sulfate	32.42	39	32.41	0	100	60-135	0			J	
Endrin	28.53	39	32.41	0	88	60-135	0			J	
Endrin aldehyde	27.23	39	32.41	0	84	35-145	0			J	
Endrin ketone	31.12	39	32.41	0	96	50-150	0			J	
gamma-BHC (Lindane)	28.53	39	32.41	0	88	60-125	0			J	
gamma-Chlordane	27.23	39	32.41	0	84	50-150	0			J	
Heptachlor	28.53	39	32.41	0	88	50-140	0			J	
Heptachlor epoxide	28.53	39	32.41	0	88	65-130	0			J	
Methoxychlor	33.71	39	32.41	0	104	55-145	0			J	
Surr: Decachlorobiphenyl	25.93	0	32.38	0	80.1	45-135	0				
Surr: Tetrachloro-m-xylene	27.23	0	32.38	0	84.1	45-124	0				

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **57368**      Instrument ID **GC12**      Method: **SW8081**

MSD				Sample ID: 1404329-07C MSD			Units: µg/Kg		Analysis Date: 4/10/2014 04:26 PM		
Client ID:		Run ID: GC12_140410A			SeqNo: 2708681		Prep Date: 4/9/2014		DF: 4		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
4,4´-DDD	29.72	39	32.3	0	92	30-135	29.82	0	35	J	
4,4´-DDE	27.14	39	32.3	0	84	70-125	28.53	0	35	J	
4,4´-DDT	36.18	39	32.3	0	112	45-140	35.01	0	35	J	
Aldrin	27.14	39	32.3	0	84	45-140	27.23	0	35	J	
alpha-BHC	28.43	39	32.3	0	88	60-125	28.53	0	35	J	
alpha-Chlordane	28.43	39	32.3	0	88	50-150	27.23	0	35	J	
beta-BHC	24.55	39	32.3	0	76	60-125	23.34	0	35	J	
delta-BHC	32.31	39	32.3	0	100	55-130	32.42	0	35	J	
Dieldrin	29.72	39	32.3	0	92	65-125	28.53	0	35	J	
Endosulfan I	27.14	39	32.3	0	84	15-135	28.53	0	35	J	
Endosulfan II	29.72	39	32.3	0	92	35-140	29.82	0	35	J	
Endosulfan sulfate	31.01	39	32.3	0	96	60-135	32.42	0	35	J	
Endrin	29.72	39	32.3	0	92	60-135	28.53	0	35	J	
Endrin aldehyde	27.14	39	32.3	0	84	35-145	27.23	0	35	J	
Endrin ketone	31.01	39	32.3	0	96	50-150	31.12	0	35	J	
gamma-BHC (Lindane)	29.72	39	32.3	0	92	60-125	28.53	0	35	J	
gamma-Chlordane	28.43	39	32.3	0	88	50-150	27.23	0	35	J	
Heptachlor	29.72	39	32.3	0	92	50-140	28.53	0	35	J	
Heptachlor epoxide	28.43	39	32.3	0	88	65-130	28.53	0	35	J	
Methoxychlor	33.6	39	32.3	0	104	55-145	33.71	0	35	J	
Surr: Decachlorobiphenyl	25.84	0	32.27	0	80.1	45-135	25.93	0.343	35		
Surr: Tetrachloro-m-xylene	28.43	0	32.27	0	88.1	45-124	27.23	4.31	35		

The following samples were analyzed in this batch:

1404130-13A      1404130-14A

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **57171**      Instrument ID **HG1**      Method: **SW7471**

MBLK		Sample ID: MBLK-57171-57171				Units: mg/Kg		Analysis Date: 4/3/2014 11:35 AM			
Client ID:		Run ID: HG1_140403A				SeqNo: 2697909		Prep Date: 4/3/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury      U      0.020

LCS		Sample ID: LCS-57171-57171					Units: mg/Kg		Analysis Date: 4/3/2014 11:37 AM		
Client ID:			Run ID: HG1_140403A			SeqNo: 2697910		Prep Date: 4/3/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury      0.1697      0.020      0.1665      0      102      80-120      0

<b>MS</b>		Sample ID: <b>1404093-01AMS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>4/3/2014 11:56 AM</b>		
Client ID:		Run ID: <b>HG1_140403A</b>			SeqNo: <b>2697930</b>		Prep Date: <b>4/3/2014</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury      0.1404      0.014      0.1144      0.02161      104      75-125      0

MSD		Sample ID: 1404093-01AMSD					Units: mg/Kg		Analysis Date: 4/3/2014 11:58 AM		
Client ID:			Run ID: HG1_140403A			SeqNo: 2697931		Prep Date: 4/3/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury      0.1347      0.013      0.1098      0.02161      103      75-125      0.1404      4.15      35

The following samples were analyzed in this batch:

1404130-01C	1404130-02C	1404130-03C
1404130-04C	1404130-05C	1404130-06C
1404130-07C	1404130-08C	1404130-09C
1404130-10C	1404130-11C	1404130-12C
1404130-13A	1404130-14A	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech  
 Work Order: 1404130  
 Project: KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **57254** Instrument ID **HG1** Method: **SW7470**

MBLK		Sample ID: MBLK-57254-57254					Units: mg/L		Analysis Date: 4/7/2014 02:33 PM		
Client ID:		Run ID: HG1_140407A					SeqNo: 2701501		Prep Date: 4/4/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury U 0.00020

LCS		Sample ID: LCS-57254-57254				Units: mg/L		Analysis Date: 4/7/2014 02:35 PM		
Client ID:		Run ID: HG1_140407A				SeqNo: 2701502		Prep Date: 4/4/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.00193 0.00020 0.002 0 96.5 80-120 0

MS		Sample ID: 1404057-01CMS					Units: mg/L		Analysis Date: 4/7/2014 02:47 PM		
Client ID:			Run ID: HG1_140407A			SeqNo: 2701509		Prep Date: 4/4/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury 0.002061 0.00020 0.002 -0.000023 104 75-125 0

MSD		Sample ID: 1404057-01CMSD					Units: mg/L		Analysis Date: 4/7/2014 02:56 PM		
Client ID:			Run ID: HG1_140407A			SeqNo: 2701518		Prep Date: 4/4/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury 0.002032 0.00020 0.002 -0.000023 103 75-125 0.002061 1.42 20

The following samples were analyzed in this batch:

1404130-15C 1404130-15D

Note: See Qualifiers Page for a list of Qualifiers and their explanation.



**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **57215**      Instrument ID **ICPMS1**      Method: **SW6020A**

<b>MBLK</b>		Sample ID: <b>MBLK-57215-57215</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>4/4/2014 04:40 PM</b>		
Client ID:		Run ID: <b>ICPMS1_140404A</b>				SeqNo: <b>2700801</b>		Prep Date: <b>4/4/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.25								
Barium	0.008145	0.25								J
Cadmium	U	0.10								
Chromium	U	0.25								
Lead	0.0179	0.25								J
Selenium	U	0.25								
Silver	U	0.25								

<b>LCS</b>		Sample ID: <b>LCS-57215-57215</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>4/4/2014 04:46 PM</b>		
Client ID:		Run ID: <b>ICPMS1_140404A</b>				SeqNo: <b>2700802</b>		Prep Date: <b>4/4/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.504	0.25	5	0	90.1	80-120	0			
Barium	4.582	0.25	5	0	91.6	80-120	0			
Cadmium	4.588	0.10	5	0	91.8	80-120	0			
Chromium	4.66	0.25	5	0	93.2	80-120	0			
Lead	4.64	0.25	5	0	92.8	80-120	0			
Selenium	4.266	0.25	5	0	85.3	80-120	0			

<b>LCS</b>		Sample ID: <b>LCS-57215-57215</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>4/7/2014 03:27 PM</b>		
Client ID:		Run ID: <b>ICPMS1_140407A</b>				SeqNo: <b>2701676</b>		Prep Date: <b>4/4/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Silver	4.432	0.25	5	0	88.6	80-120	0			

<b>MS</b>		Sample ID: <b>1404130-05CMS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>4/4/2014 05:43 PM</b>		
Client ID: <b>SO-03-S-0-4</b>		Run ID: <b>ICPMS1_140404A</b>				SeqNo: <b>2700811</b>		Prep Date: <b>4/4/2014</b>		DF: <b>5</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.743	1.6	6.596	3.319	97.4	75-125	0			
Barium	144.6	1.6	6.596	119.2	385	75-125	0			SO
Cadmium	6.534	0.66	6.596	0.095	97.6	75-125	0			
Chromium	23.51	1.6	6.596	13.72	148	75-125	0			S
Lead	14.08	1.6	6.596	8.445	85.4	75-125	0			
Selenium	6.88	1.6	6.596	1.061	88.2	75-125	0			

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech  
 Work Order: 1404130  
 Project: KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: 57215 Instrument ID ICPMS1 Method: SW6020A

MS				Sample ID: 1404130-05CMS			Units: mg/Kg		Analysis Date: 4/7/2014 03:46 PM		
Client ID: SO-03-S-0-4			Run ID: ICPMS1_140407A			SeqNo: 2701679		Prep Date: 4/4/2014		DF: 50	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Silver	5.419	16	6.596	-0.1085	83.8	75-125	0			J	

MSD				Sample ID: 1404130-05CMSD			Units: mg/Kg		Analysis Date: 4/4/2014 05:50 PM		
Client ID: SO-03-S-0-4			Run ID: ICPMS1_140404A			SeqNo: 2700812		Prep Date: 4/4/2014		DF: 5	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	9.297	1.6	6.274	3.319	95.3	75-125	9.743	4.68	25	SO	
Barium	173.9	1.6	6.274	119.2	872	75-125	144.6	18.4	25		
Cadmium	5.932	0.63	6.274	0.095	93	75-125	6.534	9.66	25	S	
Chromium	21.83	1.6	6.274	13.72	129	75-125	23.51	7.4	25		
Lead	13.25	1.6	6.274	8.445	76.5	75-125	14.08	6.1	25		
Selenium	5.8	1.6	6.274	1.061	75.5	75-125	6.88	17	25		

MSD				Sample ID: 1404130-05CMSD				Units: mg/Kg			Analysis Date: 4/7/2014 03:52 PM			
Client ID: SO-03-S-0-4				Run ID: ICPMS1_140407A				SeqNo: 2701680			Prep Date: 4/4/2014		DF: 50	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Silver	4.868	16	6.274	-0.1085	79.3	75-125	5.419	0	25	J				

The following samples were analyzed in this batch:

1404130-01C	1404130-02C	1404130-03C
1404130-04C	1404130-05C	1404130-06C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **57252**      Instrument ID **ICPMS1**      Method: **SW6020A**

<b>MBLK</b>		Sample ID: <b>MBLK-57252-57252</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>4/5/2014 10:55 AM</b>		
Client ID:		Run ID: <b>ICPMS1_140404A</b>				SeqNo: <b>2701054</b>		Prep Date: <b>4/4/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.25								
Barium	U	0.25								
Cadmium	U	0.10								
Chromium	U	0.25								
Lead	U	0.25								
Selenium	U	0.25								
Silver	U	0.25								

<b>LCS</b>		Sample ID: <b>LCS-57252-57252</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>4/5/2014 11:01 AM</b>		
Client ID:		Run ID: <b>ICPMS1_140404A</b>				SeqNo: <b>2701056</b>		Prep Date: <b>4/4/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	6.185	0.34	6.868	0	90	80-120	0			
Barium	6.312	0.34	6.868	0	91.9	80-120	0			
Cadmium	6.245	0.14	6.868	0	90.9	80-120	0			
Chromium	6.345	0.34	6.868	0	92.4	80-120	0			
Lead	6.338	0.34	6.868	0	92.3	80-120	0			
Selenium	5.8	0.34	6.868	0	84.4	80-120	0			
Silver	6.081	0.34	6.868	0	88.5	80-120	0			

<b>MS</b>		Sample ID: <b>1404130-10CMS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>4/5/2014 11:55 AM</b>		
Client ID: <b>SO-05-D-16-20</b>		Run ID: <b>ICPMS1_140404A</b>				SeqNo: <b>2701065</b>		Prep Date: <b>4/4/2014</b>		DF: <b>5</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.296	1.7	6.868	3.86	79.1	75-125	0			
Barium	108.9	1.7	6.868	179.3	-1020	75-125	0			SO
Cadmium	6.528	0.69	6.868	0.2909	90.8	75-125	0			
Chromium	22.08	1.7	6.868	12.58	138	75-125	0			S
Lead	13.91	1.7	6.868	10.06	56	75-125	0			S
Selenium	7.136	1.7	6.868	1.136	87.4	75-125	0			
Silver	6.016	1.7	6.868	0.03976	87	75-125	0			

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **57252**      Instrument ID **ICPMS1**      Method: **SW6020A**

MSD		Sample ID: 1404130-10CMSD				Units: mg/Kg		Analysis Date: 4/5/2014 12:01 PM		
Client ID: SO-05-D-16-20		Run ID: ICPMS1_140404A				SeqNo: 2701066		Prep Date: 4/4/2014		DF: 5
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.56	1.8	7.072	3.86	109	75-125	9.296	21.7	25	
Barium	223.8	1.8	7.072	179.3	630	75-125	108.9	69.1	25	SRO
Cadmium	7.73	0.71	7.072	0.2909	105	75-125	6.528	16.9	25	
Chromium	25.55	1.8	7.072	12.58	183	75-125	22.08	14.6	25	S
Lead	17.71	1.8	7.072	10.06	108	75-125	13.91	24	25	
Selenium	7.705	1.8	7.072	1.136	92.9	75-125	7.136	7.67	25	
Silver	6.952	1.8	7.072	0.03976	97.7	75-125	6.016	14.4	25	

The following samples were analyzed in this batch:

1404130-07C	1404130-08C	1404130-09C
1404130-10C	1404130-11C	1404130-12C
1404130-13A	1404130-14A	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **57297**      Instrument ID **ICPMS1**      Method: **SW6020A**

<b>MBLK</b>		Sample ID: <b>MBLK-57297-57297</b>				Units: <b>mg/L</b>		Analysis Date: <b>4/8/2014 09:50 AM</b>		
Client ID:		Run ID: <b>ICPMS1_140407A</b>				SeqNo: <b>2702370</b>		Prep Date: <b>4/7/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.0050								
Barium	0.0002534	0.0050								J
Cadmium	U	0.0020								
Chromium	0.0008322	0.0050								J
Lead	0.000101	0.0050								J
Selenium	U	0.0050								
Silver	U	0.0050								

<b>LCS</b>		Sample ID: <b>LCS-57297-57297</b>				Units: <b>mg/L</b>		Analysis Date: <b>4/8/2014 09:58 AM</b>		
Client ID:		Run ID: <b>ICPMS1_140407A</b>				SeqNo: <b>2702371</b>		Prep Date: <b>4/7/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.09578	0.0050	0.1	0	95.8	80-120	0			
Barium	0.09271	0.0050	0.1	0	92.7	80-120	0			
Cadmium	0.09439	0.0020	0.1	0	94.4	80-120	0			
Chromium	0.09374	0.0050	0.1	0	93.7	80-120	0			
Lead	0.09257	0.0050	0.1	0	92.6	80-120	0			
Selenium	0.09228	0.0050	0.1	0	92.3	80-120	0			
Silver	0.09358	0.0050	0.1	0	93.6	80-120	0			

<b>MS</b>		Sample ID: <b>1404326-01CMS</b>				Units: <b>mg/L</b>		Analysis Date: <b>4/8/2014 10:42 AM</b>		
Client ID:		Run ID: <b>ICPMS1_140407A</b>				SeqNo: <b>2702534</b>		Prep Date: <b>4/7/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.0947	0.0050	0.1	0.0006322	94.1	75-125	0			
Barium	0.1106	0.0050	0.1	0.02147	89.1	75-125	0			
Cadmium	0.09042	0.0020	0.1	0.00007987	90.3	75-125	0			
Chromium	0.09224	0.0050	0.1	0.002304	89.9	75-125	0			
Lead	0.09006	0.0050	0.1	0.0004396	89.6	75-125	0			
Selenium	0.08904	0.0050	0.1	0.0002382	88.8	75-125	0			
Silver	0.08843	0.0050	0.1	0.00001462	88.4	75-125	0			

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **57297** Instrument ID **ICPMS1** Method: **SW6020A**

MSD		Sample ID: 1404326-01CMSD				Units: mg/L		Analysis Date: 4/8/2014 10:48 AM		
Client ID:		Run ID: ICPMS1_140407A				SeqNo: 2702535		Prep Date: 4/7/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.0956	0.0050	0.1	0.0006322	95	75-125	0.0947	0.946	20	
Barium	0.1107	0.0050	0.1	0.02147	89.2	75-125	0.1106	0.0904	20	
Cadmium	0.09067	0.0020	0.1	0.00007987	90.6	75-125	0.09042	0.276	20	
Chromium	0.09312	0.0050	0.1	0.002304	90.8	75-125	0.09224	0.95	20	
Lead	0.09001	0.0050	0.1	0.0004396	89.6	75-125	0.09006	0.0555	20	
Selenium	0.08876	0.0050	0.1	0.0002382	88.5	75-125	0.08904	0.315	20	
Silver	0.08998	0.0050	0.1	0.00001462	90	75-125	0.08843	1.74	20	

The following samples were analyzed in this batch:

1404130-15C

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech  
 Work Order: 1404130  
 Project: KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **R138699A** Instrument ID **ICPMS1** Method: **SW6020A** (Dissolve)

<b>MBLK</b>		Sample ID: <b>MBLK-R138699A-R138699A</b>				Units: <b>mg/L</b>		Analysis Date: <b>4/10/2014 03:46 PM</b>		
Client ID:		Run ID: <b>ICPMS1_140410A</b>				SeqNo: <b>2706958</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.0050								
Barium	0.0001685	0.0050								J
Cadmium	0.0001249	0.0020								J
Chromium	U	0.0050								
Lead	U	0.0050								
Selenium	U	0.0050								
Silver	0.0002782	0.0050								J

<b>LCS</b>		Sample ID: <b>LCS-R138699A-R138699A</b>				Units: <b>mg/L</b>		Analysis Date: <b>4/10/2014 03:40 PM</b>		
Client ID:		Run ID: <b>ICPMS1_140410A</b>				SeqNo: <b>2706957</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.09447	0.0050	0.1	0	94.5	80-120	0			
Barium	0.09604	0.0050	0.1	0	96	80-120	0			
Cadmium	0.09617	0.0020	0.1	0	96.2	80-120	0			
Chromium	0.09403	0.0050	0.1	0	94	80-120	0			
Lead	0.09378	0.0050	0.1	0	93.8	80-120	0			
Selenium	0.09498	0.0050	0.1	0	95	80-120	0			
Silver	0.09643	0.0050	0.1	0	96.4	80-120	0			

<b>MS</b>		Sample ID: <b>1404130-15DMS</b>				Units: <b>mg/L</b>		Analysis Date: <b>4/10/2014 03:28 PM</b>		
Client ID: <b>GW-04</b>		Run ID: <b>ICPMS1_140410A</b>				SeqNo: <b>2706914</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1237	0.0050	0.1	0.02635	97.4	75-125	0			
Barium	0.382	0.0050	0.1	0.2941	87.9	75-125	0			
Cadmium	0.09376	0.0020	0.1	0.0000867	93.7	75-125	0			
Chromium	0.09033	0.0050	0.1	-9.275E-05	90.4	75-125	0			
Lead	0.09159	0.0050	0.1	0.00003449	91.6	75-125	0			
Selenium	0.09921	0.0050	0.1	0.000658	98.6	75-125	0			
Silver	0.0773	0.0050	0.1	0.00007477	77.2	75-125	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **R138699A** Instrument ID **ICPMS1** Method: **SW6020A (Dissolve)**

MSD		Sample ID: 1404130-15DMSD				Units: mg/L		Analysis Date: 4/10/2014 03:34 PM		
Client ID: GW-04		Run ID: ICPMS1_140410A				SeqNo: 2706915		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1272	0.0050	0.1	0.02635	101	75-125	0.1237	2.79	20	
Barium	0.3898	0.0050	0.1	0.2941	95.7	75-125	0.382	2.02	20	
Cadmium	0.09694	0.0020	0.1	0.0000867	96.9	75-125	0.09376	3.34	20	
Chromium	0.09263	0.0050	0.1	-9.275E-05	92.7	75-125	0.09033	2.51	20	
Lead	0.09475	0.0050	0.1	0.00003449	94.7	75-125	0.09159	3.39	20	
Selenium	0.1037	0.0050	0.1	0.000658	103	75-125	0.09921	4.43	20	
Silver	0.08143	0.0050	0.1	0.00007477	81.4	75-125	0.0773	5.2	20	

The following samples were analyzed in this batch:

1404130-15D

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.



**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **57176**      Instrument ID **SVMS8**      Method: **SW8270**

MBLK		Sample ID: <b>SBLKW1-57176-57176</b>				Units: <b>µg/L</b>		Analysis Date: <b>4/4/2014 11:02 AM</b>		
Client ID:		Run ID: <b>SVMS8_140404A</b>				SeqNo: <b>2700280</b>		Prep Date: <b>4/3/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	U	5.0								
2,4,5-Trichlorophenol	U	5.0								
2,4,6-Trichlorophenol	U	5.0								
2,4-Dichlorophenol	U	10								
2,4-Dimethylphenol	U	5.0								
2,4-Dinitrophenol	U	5.0								
2,4-Dinitrotoluene	U	5.0								
2,6-Dinitrotoluene	U	5.0								
2-Chloronaphthalene	U	5.0								
2-Chlorophenol	U	5.0								
2-Methylnaphthalene	U	5.0								
2-Methylphenol	U	5.0								
2-Nitroaniline	U	20								
2-Nitrophenol	U	5.0								
3,3'-Dichlorobenzidine	U	5.0								
3-Nitroaniline	U	20								
4,6-Dinitro-2-methylphenol	U	20								
4-Bromophenyl phenyl ether	U	5.0								
4-Chloro-3-methylphenol	U	5.0								
4-Chloroaniline	U	20								
4-Chlorophenyl phenyl ether	U	5.0								
4-Methylphenol	U	5.0								
4-Nitroaniline	U	20								
4-Nitrophenol	U	20								
Acenaphthene	U	5.0								
Acenaphthylene	U	5.0								
Acetophenone	U	1.0								
Anthracene	U	5.0								
Atrazine	U	1.0								
Benzaldehyde	U	1.0								
Benzo(a)anthracene	U	5.0								
Benzo(a)pyrene	U	5.0								
Benzo(b)fluoranthene	U	5.0								
Benzo(g,h,i)perylene	U	5.0								
Benzo(k)fluoranthene	U	5.0								
Bis(2-chloroethoxy)methane	U	5.0								
Bis(2-chloroethyl)ether	U	5.0								
Bis(2-chloroisopropyl)ether	U	5.0								
Bis(2-ethylhexyl)phthalate	U	5.0								
Butyl benzyl phthalate	U	5.0								
Caprolactam	U	10								
Carbazole	U	10								

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: <b>57176</b>		Instrument ID <b>SVMS8</b>		Method: <b>SW8270</b>				
Chrysene	U	5.0						
Dibenzo(a,h)anthracene	U	5.0						
Dibenzofuran	U	5.0						
Diethyl phthalate	U	20						
Dimethyl phthalate	U	20						
Di-n-butyl phthalate	U	5.0						
Di-n-octyl phthalate	U	5.0						
Fluoranthene	U	5.0						
Fluorene	U	5.0						
Hexachlorobenzene	U	5.0						
Hexachlorobutadiene	U	5.0						
Hexachlorocyclopentadiene	U	20						
Hexachloroethane	U	5.0						
Indeno(1,2,3-cd)pyrene	U	5.0						
Isophorone	U	5.0						
Naphthalene	U	5.0						
Nitrobenzene	U	5.0						
N-Nitrosodi-n-propylamine	U	5.0						
N-Nitrosodiphenylamine	U	5.0						
Pentachlorophenol	U	20						
Phenanthrene	U	5.0						
Phenol	U	5.0						
Pyrene	U	5.0						
<i>Surr: 2,4,6-Tribromophenol</i>	30.23	0	50	0	60.5	38-115	0	
<i>Surr: 2-Fluorobiphenyl</i>	31.72	0	50	0	63.4	32-100	0	
<i>Surr: 2-Fluorophenol</i>	19.15	0	50	0	38.3	22-59	0	
<i>Surr: 4-Terphenyl-d14</i>	45.82	0	50	0	91.6	23-112	0	
<i>Surr: Nitrobenzene-d5</i>	35.48	0	50	0	71	31-93	0	
<i>Surr: Phenol-d6</i>	11.82	0	50	0	23.6	13-36	0	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **57176**      Instrument ID **SVMS8**      Method: **SW8270**

LCS		Sample ID: <b>SLCSW1-57176-57176</b>				Units: <b>µg/L</b>		Analysis Date: <b>4/4/2014 11:23 AM</b>		
Client ID:		Run ID: <b>SVMS8_140404A</b>				SeqNo: <b>2700281</b>		Prep Date: <b>4/3/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	14.37	5.0	20	0	71.8	50-110	0			
2,4,6-Trichlorophenol	13.79	5.0	20	0	69	50-115	0			
2,4-Dichlorophenol	13.07	10	20	0	65.4	50-105	0			
2,4-Dimethylphenol	12.01	5.0	20	0	60	30-110	0			
2,4-Dinitrophenol	12.48	5.0	20	0	62.4	15-140	0			
2,4-Dinitrotoluene	15.08	5.0	20	0	75.4	50-120	0			
2,6-Dinitrotoluene	14.77	5.0	20	0	73.8	50-115	0			
2-Chloronaphthalene	14.49	5.0	20	0	72.4	50-105	0			
2-Chlorophenol	12.81	5.0	20	0	64	35-105	0			
2-Methylnaphthalene	13.81	5.0	20	0	69	45-105	0			
2-Methylphenol	11.55	5.0	20	0	57.8	40-110	0			
2-Nitroaniline	15.92	20	20	0	79.6	50-115	0			J
2-Nitrophenol	13.9	5.0	20	0	69.5	40-115	0			
3-Nitroaniline	14.59	20	20	0	73	20-125	0			J
4,6-Dinitro-2-methylphenol	14.74	20	20	0	73.7	40-130	0			J
4-Bromophenyl phenyl ether	15.89	5.0	20	0	79.4	50-115	0			
4-Chloro-3-methylphenol	13.72	5.0	20	0	68.6	45-110	0			
4-Chloroaniline	15.23	20	20	0	76.2	15-110	0			J
4-Chlorophenyl phenyl ether	14.5	5.0	20	0	72.5	50-110	0			
4-Methylphenol	9.9	5.0	20	0	49.5	30-110	0			
4-Nitroaniline	14.13	20	20	0	70.6	35-150	0			J
4-Nitrophenol	5.09	20	20	0	25.4	1-58	0			J
Acenaphthene	14.04	5.0	20	0	70.2	45-110	0			
Acenaphthylene	15.42	5.0	20	0	77.1	50-105	0			
Anthracene	16.78	5.0	20	0	83.9	55-110	0			
Benzo(a)anthracene	15.81	5.0	20	0	79	55-110	0			
Benzo(a)pyrene	16.25	5.0	20	0	81.2	55-110	0			
Benzo(b)fluoranthene	16.8	5.0	20	0	84	45-120	0			
Benzo(g,h,i)perylene	16.33	5.0	20	0	81.6	40-125	0			
Benzo(k)fluoranthene	16.98	5.0	20	0	84.9	45-125	0			
Bis(2-chloroethoxy)methane	14.59	5.0	20	0	73	45-105	0			
Bis(2-chloroethyl)ether	15.9	5.0	20	0	79.5	35-110	0			
Bis(2-chloroisopropyl)ether	16.54	5.0	20	0	82.7	25-130	0			
Bis(2-ethylhexyl)phthalate	15.67	5.0	20	0	78.4	40-125	0			
Butyl benzyl phthalate	15.7	5.0	20	0	78.5	45-115	0			
Carbazole	16.76	10	20	0	83.8	50-150	0			
Chrysene	16.62	5.0	20	0	83.1	55-110	0			
Dibenzo(a,h)anthracene	15.19	5.0	20	0	76	40-125	0			
Dibenzofuran	14.33	5.0	20	0	71.6	55-105	0			
Diethyl phthalate	16.12	20	20	0	80.6	40-120	0			J
Dimethyl phthalate	15.49	20	20	0	77.4	25-125	0			J
Di-n-butyl phthalate	16.73	5.0	20	0	83.6	55-115	0			

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: <b>57176</b>		Instrument ID <b>SVMS8</b>		Method: <b>SW8270</b>				
Di-n-octyl phthalate	15.68	5.0	20	0	78.4	35-135	0	
Fluoranthene	16.77	5.0	20	0	83.8	55-115	0	
Fluorene	14.9	5.0	20	0	74.5	50-110	0	
Hexachlorobenzene	15.32	5.0	20	0	76.6	50-110	0	
Hexachlorobutadiene	12.26	5.0	20	0	61.3	25-105	0	
Hexachlorocyclopentadiene	10.97	20	20	0	54.8	25-105	0	J
Hexachloroethane	12.73	5.0	20	0	63.6	30-95	0	
Indeno(1,2,3-cd)pyrene	18.13	5.0	20	0	90.6	45-125	0	
Isophorone	15.65	5.0	20	0	78.2	50-110	0	
Naphthalene	13.15	5.0	20	0	65.8	40-100	0	
Nitrobenzene	14.96	5.0	20	0	74.8	45-110	0	
N-Nitrosodi-n-propylamine	15.72	5.0	20	0	78.6	35-130	0	
N-Nitrosodiphenylamine	16.13	5.0	20	0	80.6	50-110	0	
Pentachlorophenol	13.13	20	20	0	65.6	40-115	0	J
Phenanthrene	15.83	5.0	20	0	79.2	50-115	0	
Phenol	5.19	5.0	20	0	26	12-43	0	
Pyrene	17.65	5.0	20	0	88.2	50-130	0	
<i>Surr: 2,4,6-Tribromophenol</i>	37.35	0	50	0	74.7	38-115	0	
<i>Surr: 2-Fluorobiphenyl</i>	34.28	0	50	0	68.6	32-100	0	
<i>Surr: 2-Fluorophenol</i>	19.09	0	50	0	38.2	22-59	0	
<i>Surr: 4-Terphenyl-d14</i>	46.26	0	50	0	92.5	23-112	0	
<i>Surr: Nitrobenzene-d5</i>	41.24	0	50	0	82.5	31-93	0	
<i>Surr: Phenol-d6</i>	12.93	0	50	0	25.9	13-36	0	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **57176**      Instrument ID **SVMS8**      Method: **SW8270**

MS				Sample ID: 1404130-15B MS			Units: µg/L		Analysis Date: 4/4/2014 01:49 PM	
Client ID: GW-04				Run ID: SVMS8_140404A			SeqNo: 2700286		Prep Date: 4/3/2014	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	159	50	200	0	79.5	50-110	0			
2,4,6-Trichlorophenol	157.7	50	200	0	78.8	50-115	0			
2,4-Dichlorophenol	144.9	100	200	0	72.4	50-105	0			
2,4-Dimethylphenol	155.7	50	200	0	77.8	30-110	0			
2,4-Dinitrophenol	16.1	50	200	0	8.05	15-140	0			JS
2,4-Dinitrotoluene	157.9	50	200	0	79	50-120	0			
2,6-Dinitrotoluene	151.9	50	200	0	76	50-115	0			
2-Chloronaphthalene	148.4	50	200	0	74.2	50-105	0			
2-Chlorophenol	146.9	50	200	0	73.4	35-105	0			
2-Methylnaphthalene	140.6	50	200	0	70.3	45-105	0			
2-Methylphenol	131.2	50	200	0	65.6	40-110	0			
2-Nitroaniline	171.6	200	200	0	85.8	50-115	0			J
2-Nitrophenol	140.1	50	200	0	70	40-115	0			
3-Nitroaniline	150.2	200	200	0	75.1	20-125	0			J
4,6-Dinitro-2-methylphenol	45.8	200	200	0	22.9	40-130	0			JS
4-Bromophenyl phenyl ether	162.6	50	200	0	81.3	50-115	0			
4-Chloro-3-methylphenol	157.2	50	200	0	78.6	45-110	0			
4-Chloroaniline	121.6	200	200	0	60.8	15-110	0			J
4-Chlorophenyl phenyl ether	150.4	50	200	0	75.2	50-110	0			
4-Methylphenol	116	50	200	0	58	30-110	0			
4-Nitroaniline	144.2	200	200	0	72.1	35-150	0			J
4-Nitrophenol	38.7	200	200	0	19.4	1-58	0			J
Acenaphthene	130.2	50	200	0	65.1	45-110	0			
Acenaphthylene	156.9	50	200	0	78.4	50-105	0			
Anthracene	171.4	50	200	0	85.7	55-110	0			
Benzo(a)anthracene	169.6	50	200	0	84.8	55-110	0			
Benzo(a)pyrene	179.6	50	200	0	89.8	55-110	0			
Benzo(b)fluoranthene	191.3	50	200	0	95.6	45-120	0			
Benzo(g,h,i)perylene	157.5	50	200	0	78.8	40-125	0			
Benzo(k)fluoranthene	189.2	50	200	0	94.6	45-125	0			
Bis(2-chloroethoxy)methane	147.6	50	200	0	73.8	45-105	0			
Bis(2-chloroethyl)ether	151.5	50	200	0	75.8	35-110	0			
Bis(2-chloroisopropyl)ether	154.4	50	200	0	77.2	25-130	0			
Bis(2-ethylhexyl)phthalate	195.7	50	200	0	97.8	40-125	0			
Butyl benzyl phthalate	197.1	50	200	0	98.6	45-115	0			
Carbazole	171.8	100	200	0	85.9	50-150	0			
Chrysene	163.2	50	200	0	81.6	55-110	0			
Dibenzo(a,h)anthracene	153.8	50	200	0	76.9	40-125	0			
Dibenzofuran	147.6	50	200	0	73.8	55-105	0			
Diethyl phthalate	164.6	200	200	0	82.3	40-120	0			J
Dimethyl phthalate	160.7	200	200	0	80.4	25-125	0			J
Di-n-butyl phthalate	179.7	50	200	0	89.8	55-115	0			

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: <b>57176</b>		Instrument ID <b>SVMS8</b>		Method: <b>SW8270</b>			
Di-n-octyl phthalate	258.7	50	200	0	129	35-135	0
Fluoranthene	173.7	50	200	0	86.8	55-115	0
Fluorene	152.1	50	200	0	76	50-110	0
Hexachlorobenzene	152.5	50	200	0	76.2	50-110	0
Hexachlorobutadiene	128	50	200	0	64	25-105	0
Hexachlorocyclopentadiene	67.1	200	200	0	33.6	25-105	0
Hexachloroethane	131.3	50	200	0	65.6	30-95	0
Indeno(1,2,3-cd)pyrene	195.2	50	200	0	97.6	45-125	0
Isophorone	159.6	50	200	0	79.8	50-110	0
Naphthalene	134.5	50	200	0	67.2	40-100	0
Nitrobenzene	153	50	200	0	76.5	45-110	0
N-Nitrosodi-n-propylamine	162	50	200	0	81	35-130	0
N-Nitrosodiphenylamine	162.5	50	200	0	81.2	50-110	0
Pentachlorophenol	113.5	200	200	0	56.8	40-115	0
Phenanthrene	155.9	50	200	0	78	50-115	0
Phenol	53.1	50	200	0	26.6	12-43	0
Pyrene	211	50	200	0	106	50-130	0
<i>Surr: 2,4,6-Tribromophenol</i>	<i>394.5</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>78.9</i>	<i>38-115</i>	<i>0</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>347.5</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>69.5</i>	<i>32-100</i>	<i>0</i>
<i>Surr: 2-Fluorophenol</i>	<i>210.2</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>42</i>	<i>22-59</i>	<i>0</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>555</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>111</i>	<i>23-112</i>	<i>0</i>
<i>Surr: Nitrobenzene-d5</i>	<i>413.4</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>82.7</i>	<i>31-93</i>	<i>0</i>
<i>Surr: Phenol-d6</i>	<i>135.5</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>27.1</i>	<i>13-36</i>	<i>0</i>

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **57176**      Instrument ID **SVMS8**      Method: **SW8270**

MSD				Sample ID: 1404130-15B MSD			Units: µg/L		Analysis Date: 4/4/2014 02:09 PM	
Client ID: GW-04				Run ID: SVMS8_140404A			SeqNo: 2700287		Prep Date: 4/3/2014	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	163.6	50	200	0	81.8	50-110	159	2.85	30	
2,4,6-Trichlorophenol	166	50	200	0	83	50-115	157.7	5.13	30	
2,4-Dichlorophenol	150.5	100	200	0	75.2	50-105	144.9	3.79	30	
2,4-Dimethylphenol	137.9	50	200	0	69	30-110	155.7	12.1	30	
2,4-Dinitrophenol	28.2	50	200	0	14.1	15-140	16.1	0	30	JS
2,4-Dinitrotoluene	160.6	50	200	0	80.3	50-120	157.9	1.7	30	
2,6-Dinitrotoluene	159.3	50	200	0	79.6	50-115	151.9	4.76	30	
2-Chloronaphthalene	152.6	50	200	0	76.3	50-105	148.4	2.79	30	
2-Chlorophenol	148.8	50	200	0	74.4	35-105	146.9	1.29	30	
2-Methylnaphthalene	145.5	50	200	0	72.8	45-105	140.6	3.43	30	
2-Methylphenol	135.5	50	200	0	67.8	40-110	131.2	3.22	30	
2-Nitroaniline	174.4	200	200	0	87.2	50-115	171.6	0	30	J
2-Nitrophenol	149.1	50	200	0	74.6	40-115	140.1	6.22	30	
3-Nitroaniline	166	200	200	0	83	20-125	150.2	0	30	J
4,6-Dinitro-2-methylphenol	60.7	200	200	0	30.4	40-130	45.8	0	30	JS
4-Bromophenyl phenyl ether	160.1	50	200	0	80	50-115	162.6	1.55	30	
4-Chloro-3-methylphenol	170.5	50	200	0	85.2	45-110	157.2	8.12	30	
4-Chloroaniline	154.7	200	200	0	77.4	15-110	121.6	0	30	J
4-Chlorophenyl phenyl ether	151.7	50	200	0	75.8	50-110	150.4	0.861	30	
4-Methylphenol	126.6	50	200	0	63.3	30-110	116	8.74	30	
4-Nitroaniline	157.8	200	200	0	78.9	35-150	144.2	0	30	J
4-Nitrophenol	50.4	200	200	0	25.2	1-58	38.7	0	0	J
Acenaphthene	133.9	50	200	0	67	45-110	130.2	2.8	30	
Acenaphthylene	158.5	50	200	0	79.2	50-105	156.9	1.01	30	
Anthracene	168.8	50	200	0	84.4	55-110	171.4	1.53	30	
Benzo(a)anthracene	170.7	50	200	0	85.4	55-110	169.6	0.646	30	
Benzo(a)pyrene	179.4	50	200	0	89.7	55-110	179.6	0.111	30	
Benzo(b)fluoranthene	192.7	50	200	0	96.4	45-120	191.3	0.729	30	
Benzo(g,h,i)perylene	152	50	200	0	76	40-125	157.5	3.55	30	
Benzo(k)fluoranthene	190.5	50	200	0	95.2	45-125	189.2	0.685	30	
Bis(2-chloroethoxy)methane	150.7	50	200	0	75.4	45-105	147.6	2.08	30	
Bis(2-chloroethyl)ether	157.6	50	200	0	78.8	35-110	151.5	3.95	30	
Bis(2-chloroisopropyl)ether	157.9	50	200	0	79	25-130	154.4	2.24	30	
Bis(2-ethylhexyl)phthalate	191.8	50	200	0	95.9	40-125	195.7	2.01	30	
Butyl benzyl phthalate	189.3	50	200	0	94.6	45-115	197.1	4.04	30	
Carbazole	175.1	100	200	0	87.6	50-150	171.8	1.9	30	
Chrysene	166.8	50	200	0	83.4	55-110	163.2	2.18	30	
Dibenzo(a,h)anthracene	149.1	50	200	0	74.6	40-125	153.8	3.1	30	
Dibenzofuran	149.8	50	200	0	74.9	55-105	147.6	1.48	30	
Diethyl phthalate	173	200	200	0	86.5	40-120	164.6	0	30	J
Dimethyl phthalate	165.4	200	200	0	82.7	25-125	160.7	0	30	J
Di-n-butyl phthalate	180	50	200	0	90	55-115	179.7	0.167	30	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: <b>57176</b>		Instrument ID <b>SVMS8</b>		Method: <b>SW8270</b>					
Di-n-octyl phthalate	251.8	50	200	0	126	35-135	258.7	2.7	30
Fluoranthene	174.7	50	200	0	87.4	55-115	173.7	0.574	30
Fluorene	154.8	50	200	0	77.4	50-110	152.1	1.76	30
Hexachlorobenzene	154.6	50	200	0	77.3	50-110	152.5	1.37	30
Hexachlorobutadiene	132.1	50	200	0	66	25-105	128	3.15	30
Hexachlorocyclopentadiene	63.3	200	200	0	31.6	25-105	67.1	0	30 J
Hexachloroethane	129.1	50	200	0	64.6	30-95	131.3	1.69	30
Indeno(1,2,3-cd)pyrene	189.1	50	200	0	94.6	45-125	195.2	3.17	30
Isophorone	165.1	50	200	0	82.6	50-110	159.6	3.39	30
Naphthalene	138.2	50	200	0	69.1	40-100	134.5	2.71	30
Nitrobenzene	160.2	50	200	0	80.1	45-110	153	4.6	30
N-Nitrosodi-n-propylamine	168.4	50	200	0	84.2	35-130	162	3.87	30
N-Nitrosodiphenylamine	164.2	50	200	0	82.1	50-110	162.5	1.04	30
Pentachlorophenol	117.4	200	200	0	58.7	40-115	113.5	0	30 J
Phenanthrene	161.2	50	200	0	80.6	50-115	155.9	3.34	30
Phenol	62.7	50	200	0	31.4	12-43	53.1	16.6	30
Pyrene	199.9	50	200	0	100	50-130	211	5.4	30
<i>Surr: 2,4,6-Tribromophenol</i>	397.5	0	500	0	79.5	38-115	394.5	0.758	40
<i>Surr: 2-Fluorobiphenyl</i>	349.2	0	500	0	69.8	32-100	347.5	0.488	40
<i>Surr: 2-Fluorophenol</i>	235.1	0	500	0	47	22-59	210.2	11.2	40
<i>Surr: 4-Terphenyl-d14</i>	528.4	0	500	0	106	23-112	555	4.91	40
<i>Surr: Nitrobenzene-d5</i>	420.8	0	500	0	84.2	31-93	413.4	1.77	40
<i>Surr: Phenol-d6</i>	159.6	0	500	0	31.9	13-36	135.5	16.3	40

The following samples were analyzed in this batch:

1404130-15B

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.



Client: Tetra Tech  
 Work Order: 1404130  
 Project: KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: 57179 Instrument ID SVMS8 Method: SW8270

<b>MBLK</b>		Sample ID: <b>DBLKW1-57179-57179</b>				Units: <b>mg/L</b>		Analysis Date: <b>4/8/2014 02:52 AM</b>		
Client ID:		Run ID: <b>SVMS8_140407B</b>				SeqNo: <b>2705962</b>		Prep Date: <b>4/3/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C21)	U	0.10								
ORO (C21-C35)	U	0.10								
<i>Surr: 4-Terphenyl-d14</i>	<i>0.04784</i>	<i>0</i>	<i>0.05</i>	<i>0</i>	<i>95.7</i>	<i>23-112</i>	<i>0</i>			

<b>LCS</b>		Sample ID: <b>DLCSW1-57179-57179</b>				Units: <b>mg/L</b>		Analysis Date: <b>4/8/2014 03:44 AM</b>		
Client ID:		Run ID: <b>SVMS8_140407B</b>				SeqNo: <b>2705963</b>		Prep Date: <b>4/3/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C21)	3.545	0.10	5	0	70.9	44-116	0			
ORO (C21-C35)	3.786	0.10	5	0	75.7	44-116	0			
<i>Surr: 4-Terphenyl-d14</i>	<i>0.04071</i>	<i>0</i>	<i>0.05</i>	<i>0</i>	<i>81.4</i>	<i>23-112</i>	<i>0</i>			

<b>MS</b>		Sample ID: <b>1404130-15B MS</b>				Units: <b>mg/L</b>		Analysis Date: <b>4/8/2014 04:10 AM</b>		
Client ID: <b>GW-04</b>		Run ID: <b>SVMS8_140407B</b>				SeqNo: <b>2705960</b>		Prep Date: <b>4/3/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C21)	32.16	1.0	50	0	64.3	44-116	0			
ORO (C21-C35)	35.54	1.0	50	0	71.1	44-116	0			
<i>Surr: 4-Terphenyl-d14</i>	<i>0.2738</i>	<i>0</i>	<i>0.5</i>	<i>0</i>	<i>54.8</i>	<i>23-112</i>	<i>0</i>			

<b>MSD</b>		Sample ID: <b>1404130-15B MSD</b>				Units: <b>mg/L</b>		Analysis Date: <b>4/8/2014 04:36 AM</b>		
Client ID: <b>GW-04</b>		Run ID: <b>SVMS8_140407B</b>				SeqNo: <b>2705961</b>		Prep Date: <b>4/3/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C21)	34.07	1.0	50	0	68.1	44-116	32.16	5.74	30	
ORO (C21-C35)	36.97	1.0	50	0	73.9	44-116	35.54	3.96	30	
<i>Surr: 4-Terphenyl-d14</i>	<i>0.3744</i>	<i>0</i>	<i>0.5</i>	<i>0</i>	<i>74.9</i>	<i>23-112</i>	<i>0.2738</i>	<i>31</i>	<i>30</i>	<i>R</i>

The following samples were analyzed in this batch:

1404130-15B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **57224**      Instrument ID **SVMS8**      Method: **SW8270**

MBLK		Sample ID: <b>SBLKS1-57224-57224</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>4/8/2014 02:08 PM</b>		
Client ID:		Run ID: <b>SVMS8_140408A</b>				SeqNo: <b>2703868</b>		Prep Date: <b>4/4/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	U	330								
2,4,5-Trichlorophenol	U	160								
2,4,6-Trichlorophenol	U	160								
2,4-Dichlorophenol	U	160								
2,4-Dimethylphenol	U	330								
2,4-Dinitrophenol	U	660								
2,4-Dinitrotoluene	U	160								
2,6-Dinitrotoluene	U	160								
2-Chloronaphthalene	U	6.7								
2-Chlorophenol	U	160								
2-Methylnaphthalene	U	6.7								
2-Methylphenol	U	160								
2-Nitroaniline	U	660								
2-Nitrophenol	U	160								
3,3'-Dichlorobenzidine	U	660								
3-Nitroaniline	U	660								
4,6-Dinitro-2-methylphenol	U	330								
4-Bromophenyl phenyl ether	U	160								
4-Chloro-3-methylphenol	U	160								
4-Chloroaniline	U	660								
4-Chlorophenyl phenyl ether	U	160								
4-Methylphenol	U	160								
4-Nitroaniline	U	660								
4-Nitrophenol	U	660								
Acenaphthene	U	6.7								
Acenaphthylene	U	6.7								
Acetophenone	U	330								
Anthracene	U	6.7								
Atrazine	U	330								
Benzaldehyde	U	330								
Benzo(a)anthracene	U	6.7								
Benzo(a)pyrene	U	6.7								
Benzo(b)fluoranthene	U	6.7								
Benzo(g,h,i)perylene	U	6.7								
Benzo(k)fluoranthene	U	6.7								
Bis(2-chloroethoxy)methane	U	160								
Bis(2-chloroethyl)ether	U	160								
Bis(2-chloroisopropyl)ether	U	160								
Bis(2-ethylhexyl)phthalate	U	330								
Butyl benzyl phthalate	U	160								
Caprolactam	U	330								
Carbazole	U	160								

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: <b>57224</b>	Instrument ID <b>SVMS8</b>	Method: <b>SW8270</b>						
Chrysene	U	6.7						
Dibenzo(a,h)anthracene	U	6.7						
Dibenzofuran	U	160						
Diethyl phthalate	U	330						
Dimethyl phthalate	U	330						
Di-n-butyl phthalate	U	330						
Di-n-octyl phthalate	U	160						
Fluoranthene	U	6.7						
Fluorene	U	6.7						
Hexachlorobenzene	U	160						
Hexachlorobutadiene	U	160						
Hexachlorocyclopentadiene	U	330						
Hexachloroethane	U	160						
Indeno(1,2,3-cd)pyrene	U	6.7						
Isophorone	U	160						
Naphthalene	U	6.7						
Nitrobenzene	U	160						
N-Nitrosodi-n-propylamine	U	160						
N-Nitrosodiphenylamine	U	160						
Pentachlorophenol	U	330						
Phenanthrene	U	6.7						
Phenol	U	160						
Pyrene	U	6.7						
<i>Surr: 2,4,6-Tribromophenol</i>	<i>1183</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>71</i>	<i>34-140</i>	<i>0</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>1396</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>83.8</i>	<i>12-100</i>	<i>0</i>	
<i>Surr: 2-Fluorophenol</i>	<i>1657</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>99.4</i>	<i>33-117</i>	<i>0</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>1869</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>112</i>	<i>25-137</i>	<i>0</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>1732</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>104</i>	<i>37-107</i>	<i>0</i>	
<i>Surr: Phenol-d6</i>	<i>1622</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>97.3</i>	<i>40-106</i>	<i>0</i>	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

# QC BATCH REPORT

Batch ID: **57224**      Instrument ID **SVMS8**      Method: **SW8270**

LCS				Sample ID: <b>SLCSS1-57224-57224</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>4/8/2014 02:29 PM</b>	
Client ID:				Run ID: <b>SVMS8_140408A</b>			SeqNo: <b>2703869</b>		Prep Date: <b>4/4/2014</b>	
							DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	559.7	160	666.7	0	83.9	50-110	0			
2,4,6-Trichlorophenol	553	160	666.7	0	82.9	45-110	0			
2,4-Dichlorophenol	526.3	160	666.7	0	78.9	45-110	0			
2,4-Dimethylphenol	436	330	666.7	0	65.4	30-105	0			
2,4-Dinitrophenol	407	660	666.7	0	61	15-130	0			J
2,4-Dinitrotoluene	507	160	666.7	0	76	50-115	0			
2,6-Dinitrotoluene	536	160	666.7	0	80.4	50-110	0			
2-Chloronaphthalene	609.7	6.7	666.7	0	91.4	45-105	0			
2-Chlorophenol	588	160	666.7	0	88.2	45-105	0			
2-Methylnaphthalene	546.7	6.7	666.7	0	82	45-105	0			
2-Methylphenol	564	160	666.7	0	84.6	40-105	0			
2-Nitroaniline	665.7	660	666.7	0	99.8	45-120	0			
2-Nitrophenol	550.7	160	666.7	0	82.6	40-110	0			
3-Nitroaniline	404	660	666.7	0	60.6	25-150	0			J
4-Bromophenyl phenyl ether	607	160	666.7	0	91	45-115	0			
4-Chloro-3-methylphenol	581.3	160	666.7	0	87.2	45-115	0			
4-Chloroaniline	233.3	660	666.7	0	35	15-110	0			J
4-Chlorophenyl phenyl ether	529.3	160	666.7	0	79.4	45-110	0			
4-Methylphenol	567.7	160	666.7	0	85.1	40-105	0			
4-Nitroaniline	412.7	660	666.7	0	61.9	35-150	0			J
4-Nitrophenol	742	660	666.7	0	111	15-140	0			
Acenaphthene	546	6.7	666.7	0	81.9	45-110	0			
Acenaphthylene	584.3	6.7	666.7	0	87.6	45-105	0			
Anthracene	647.7	6.7	666.7	0	97.1	55-105	0			
Benzo(a)anthracene	620.3	6.7	666.7	0	93	50-110	0			
Benzo(a)pyrene	638	6.7	666.7	0	95.7	50-110	0			
Benzo(b)fluoranthene	657.3	6.7	666.7	0	98.6	45-115	0			
Benzo(g,h,i)perylene	645.3	6.7	666.7	0	96.8	40-125	0			
Benzo(k)fluoranthene	656.7	6.7	666.7	0	98.5	45-115	0			
Bis(2-chloroethoxy)methane	615.3	160	666.7	0	92.3	45-110	0			
Bis(2-chloroethyl)ether	624	160	666.7	0	93.6	40-105	0			
Bis(2-chloroisopropyl)ether	687.7	160	666.7	0	103	20-115	0			
Bis(2-ethylhexyl)phthalate	731	330	666.7	0	110	45-125	0			
Butyl benzyl phthalate	707.7	160	666.7	0	106	50-125	0			
Carbazole	626.3	160	666.7	0	93.9	50-150	0			
Chrysene	638.7	6.7	666.7	0	95.8	55-110	0			
Dibenzo(a,h)anthracene	648	6.7	666.7	0	97.2	40-125	0			
Dibenzofuran	551.3	160	666.7	0	82.7	50-105	0			
Diethyl phthalate	577	330	666.7	0	86.5	50-115	0			
Dimethyl phthalate	555	330	666.7	0	83.2	50-110	0			
Di-n-butyl phthalate	654.7	330	666.7	0	98.2	55-110	0			
Di-n-octyl phthalate	795.7	160	666.7	0	119	40-130	0			

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: <b>57224</b>		Instrument ID <b>SVMS8</b>		Method: <b>SW8270</b>			
Fluoranthene	606.3	6.7	666.7	0	90.9	55-115	0
Fluorene	553.3	6.7	666.7	0	83	50-110	0
Hexachlorobenzene	576	160	666.7	0	86.4	45-120	0
Hexachlorobutadiene	525.7	160	666.7	0	78.8	40-115	0
Hexachlorocyclopentadiene	450	330	666.7	0	67.5	40-115	0
Hexachloroethane	592.3	160	666.7	0	88.8	35-110	0
Indeno(1,2,3-cd)pyrene	577.3	6.7	666.7	0	86.6	40-120	0
Isophorone	640.7	160	666.7	0	96.1	45-110	0
Naphthalene	553.3	6.7	666.7	0	83	40-105	0
Nitrobenzene	610.7	160	666.7	0	91.6	40-115	0
N-Nitrosodi-n-propylamine	622.3	160	666.7	0	93.3	40-115	0
N-Nitrosodiphenylamine	657	160	666.7	0	98.5	50-115	0
Pentachlorophenol	483	330	666.7	0	72.4	25-120	0
Phenanthrene	610.3	6.7	666.7	0	91.5	50-110	0
Phenol	654	160	666.7	0	98.1	40-100	0
Pyrene	795.3	6.7	666.7	0	119	45-125	0
<i>Surr: 2,4,6-Tribromophenol</i>	<i>1420</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>85.2</i>	<i>34-140</i>	<i>0</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>1405</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>84.3</i>	<i>12-100</i>	<i>0</i>
<i>Surr: 2-Fluorophenol</i>	<i>1653</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>99.2</i>	<i>33-117</i>	<i>0</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>1943</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>117</i>	<i>25-137</i>	<i>0</i>
<i>Surr: Nitrobenzene-d5</i>	<i>1879</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>113</i>	<i>37-107</i>	<i>0</i>
<i>Surr: Phenol-d6</i>	<i>1597</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>95.8</i>	<i>40-106</i>	<i>0</i>

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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **57224**      Instrument ID **SVMS8**      Method: **SW8270**

MS				Sample ID: 1404130-03C MS			Units: µg/Kg		Analysis Date: 4/8/2014 02:49 PM	
Client ID: SO-02-S-0-4				Run ID: SVMS8_140408A			SeqNo: 2703870		Prep Date: 4/4/2014	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	1196	320	1329	0	90	50-110	0			
2,4,6-Trichlorophenol	1213	320	1329	0	91.2	45-110	0			
2,4-Dichlorophenol	1060	320	1329	0	79.7	45-110	0			
2,4-Dimethylphenol	808.1	660	1329	0	60.8	30-105	0			
2,4-Dinitrophenol	703.1	1,300	1329	0	52.9	15-130	0			J
2,4-Dinitrotoluene	1068	320	1329	0	80.3	50-115	0			
2,6-Dinitrotoluene	1092	320	1329	98.95	74.7	50-110	0			
2-Chloronaphthalene	1156	13	1329	0	86.9	45-105	0			
2-Chlorophenol	1032	320	1329	0	77.6	45-105	0			
2-Methylnaphthalene	1032	13	1329	62.01	73	45-105	0			
2-Methylphenol	1038	320	1329	0	78.1	40-105	0			
2-Nitroaniline	1451	1,300	1329	0	109	45-120	0			
2-Nitrophenol	988.8	320	1329	0	74.4	40-110	0			
3-Nitroaniline	817.4	1,300	1329	0	61.5	25-110	0			J
4-Bromophenyl phenyl ether	1289	320	1329	0	97	45-115	0			
4-Chloro-3-methylphenol	1226	320	1329	0	92.2	45-115	0			
4-Chloroaniline	366.2	1,300	1329	49.8	23.8	15-110	0			J
4-Chlorophenyl phenyl ether	1106	320	1329	0	83.2	45-110	0			
4-Methylphenol	1046	320	1329	0	78.7	40-105	0			
4-Nitroaniline	926.4	1,300	1329	0	69.7	35-150	0			J
4-Nitrophenol	1554	1,300	1329	0	117	15-140	0			
Acenaphthene	1158	13	1329	47.82	83.5	45-110	0			
Acenaphthylene	1301	13	1329	119.7	88.8	45-105	0			
Anthracene	1626	13	1329	201.9	107	55-105	0			S
Benzo(a)anthracene	2083	13	1329	440	124	50-110	0			S
Benzo(a)pyrene	1983	13	1329	460.1	115	50-110	0			S
Benzo(b)fluoranthene	2343	13	1329	660.6	127	45-115	0			S
Benzo(g,h,i)perylene	2172	13	1329	472.6	128	40-125	0			S
Benzo(k)fluoranthene	1633	13	1329	625	75.9	45-115	0			
Bis(2-chloroethoxy)methane	1077	320	1329	0	81	45-110	0			
Bis(2-chloroethyl)ether	1201	320	1329	0	90.4	40-105	0			
Bis(2-chloroisopropyl)ether	1294	320	1329	38.26	94.5	20-115	0			
Bis(2-ethylhexyl)phthalate	1432	660	1329	39.25	105	45-125	0			
Butyl benzyl phthalate	1481	320	1329	137.2	101	50-125	0			
Carbazole	1356	320	1329	84.11	95.7	50-150	0			
Chrysene	2052	13	1329	485.5	118	55-110	0			S
Dibenzo(a,h)anthracene	1591	13	1329	94.99	113	40-125	0			
Dibenzofuran	1216	320	1329	91.69	84.6	50-105	0			
Diethyl phthalate	1195	660	1329	0	89.9	50-115	0			
Dimethyl phthalate	1160	660	1329	0	87.2	50-110	0			
Di-n-butyl phthalate	1317	660	1329	27.05	97.1	55-110	0			
Di-n-octyl phthalate	1538	320	1329	0	116	40-130	0			

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: <b>57224</b>		Instrument ID <b>SVMS8</b>		Method: <b>SW8270</b>				
Fluoranthene	3419	13	1329	949.9	186	55-115	0	S
Fluorene	1270	13	1329	69.92	90.3	50-110	0	
Hexachlorobenzene	1214	320	1329	0	91.3	45-120	0	
Hexachlorobutadiene	923	320	1329	0	69.4	40-115	0	
Hexachlorocyclopentadiene	786.8	660	1329	0	59.2	40-115	0	
Hexachloroethane	1082	320	1329	0	81.4	35-110	0	
Indeno(1,2,3-cd)pyrene	1918	13	1329	419.2	113	40-120	0	
Isophorone	1156	320	1329	0	87	45-110	0	
Naphthalene	1031	13	1329	163.3	65.3	40-105	0	
Nitrobenzene	1074	320	1329	0	80.8	40-115	0	
N-Nitrosodi-n-propylamine	1148	320	1329	0	86.4	40-115	0	
N-Nitrosodiphenylamine	1302	320	1329	0	97.9	50-115	0	
Pentachlorophenol	1023	660	1329	0	76.9	25-120	0	
Phenanthrene	2892	13	1329	761.9	160	50-110	0	S
Phenol	1108	320	1329	0	83.3	40-100	0	
Pyrene	3385	13	1329	902.4	187	45-125	0	S
<i>Surr: 2,4,6-Tribromophenol</i>	<i>2930</i>	<i>0</i>	<i>3323</i>	<i>0</i>	<i>88.2</i>	<i>34-140</i>	<i>0</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>2662</i>	<i>0</i>	<i>3323</i>	<i>0</i>	<i>80.1</i>	<i>12-100</i>	<i>0</i>	
<i>Surr: 2-Fluorophenol</i>	<i>2818</i>	<i>0</i>	<i>3323</i>	<i>0</i>	<i>84.8</i>	<i>33-117</i>	<i>0</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>3600</i>	<i>0</i>	<i>3323</i>	<i>0</i>	<i>108</i>	<i>25-137</i>	<i>0</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>3338</i>	<i>0</i>	<i>3323</i>	<i>0</i>	<i>100</i>	<i>37-107</i>	<i>0</i>	
<i>Surr: Phenol-d6</i>	<i>2875</i>	<i>0</i>	<i>3323</i>	<i>0</i>	<i>86.5</i>	<i>40-106</i>	<i>0</i>	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech  
 Work Order: 1404130  
 Project: KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: 57224 Instrument ID SVMS8 Method: SW8270

MSD				Sample ID: 1404130-03C MSD			Units: µg/Kg		Analysis Date: 4/8/2014 03:09 PM		
Client ID: SO-02-S-0-4			Run ID: SVMS8_140408A			SeqNo: 2703871		Prep Date: 4/4/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
2,4,5-Trichlorophenol	1116	310	1312	0	85.1	50-110	1196	6.92	30		
2,4,6-Trichlorophenol	1157	310	1312	0	88.2	45-110	1213	4.72	30		
2,4-Dichlorophenol	994.9	310	1312	0	75.8	45-110	1060	6.33	30		
2,4-Dimethylphenol	829.6	650	1312	0	63.2	30-105	808.1	2.63	30		
2,4-Dinitrophenol	328.6	1,300	1312	0	25	15-130	703.1	0	30	J	
2,4-Dinitrotoluene	1001	310	1312	0	76.3	50-115	1068	6.49	30		
2,6-Dinitrotoluene	1001	310	1312	98.95	68.8	50-110	1092	8.64	30		
2-Chloronaphthalene	1098	13	1312	0	83.7	45-105	1156	5.13	30		
2-Chlorophenol	1017	310	1312	0	77.5	45-105	1032	1.51	30		
2-Methylnaphthalene	1018	13	1312	62.01	72.9	45-105	1032	1.32	30		
2-Methylphenol	1041	310	1312	0	79.4	40-105	1038	0.331	30		
2-Nitroaniline	1317	1,300	1312	0	100	45-120	1451	9.71	30		
2-Nitrophenol	923.4	310	1312	0	70.4	40-110	988.8	6.84	30		
3-Nitroaniline	842.7	1,300	1312	0	64.2	25-110	817.4	0	30	J	
4-Bromophenyl phenyl ether	1241	310	1312	0	94.6	45-115	1289	3.77	30		
4-Chloro-3-methylphenol	1134	310	1312	0	86.4	45-115	1226	7.81	30		
4-Chloroaniline	525.3	1,300	1312	49.8	36.3	15-110	366.2	0	30	J	
4-Chlorophenyl phenyl ether	1018	310	1312	0	77.6	45-110	1106	8.28	30		
4-Methylphenol	1017	310	1312	0	77.5	40-105	1046	2.86	30		
4-Nitroaniline	933.2	1,300	1312	0	71.1	35-150	926.4	0	30	J	
4-Nitrophenol	1383	1,300	1312	0	105	15-140	1554	11.7	30		
Acenaphthene	1009	13	1312	47.82	73.3	45-110	1158	13.8	30		
Acenaphthylene	1247	13	1312	119.7	85.9	45-105	1301	4.22	30		
Anthracene	1346	13	1312	201.9	87.3	55-105	1626	18.8	30		
Benzo(a)anthracene	1624	13	1312	440	90.3	50-110	2083	24.8	30		
Benzo(a)pyrene	1622	13	1312	460.1	88.6	50-110	1983	20	30		
Benzo(b)fluoranthene	1818	13	1312	660.6	88.2	45-115	2343	25.2	30		
Benzo(g,h,i)perylene	1798	13	1312	472.6	101	40-125	2172	18.8	30		
Benzo(k)fluoranthene	1428	13	1312	625	61.2	45-115	1633	13.4	30		
Bis(2-chloroethoxy)methane	1032	310	1312	0	78.6	45-110	1077	4.33	30		
Bis(2-chloroethyl)ether	1169	310	1312	0	89.1	40-105	1201	2.71	30		
Bis(2-chloroisopropyl)ether	1207	310	1312	38.26	89.1	20-115	1294	6.97	30		
Bis(2-ethylhexyl)phthalate	1346	650	1312	39.25	99.7	45-125	1432	6.17	30		
Butyl benzyl phthalate	1418	310	1312	137.2	97.6	50-125	1481	4.33	30		
Carbazole	1181	310	1312	84.11	83.6	50-150	1356	13.8	30		
Chrysene	1589	13	1312	485.5	84.1	55-110	2052	25.4	30		
Dibenzo(a,h)anthracene	1390	13	1312	94.99	98.8	40-125	1591	13.5	30		
Dibenzofuran	1108	310	1312	91.69	77.5	50-105	1216	9.27	30		
Diethyl phthalate	1098	650	1312	0	83.7	50-115	1195	8.46	30		
Dimethyl phthalate	1054	650	1312	0	80.3	50-110	1160	9.55	30		
Di-n-butyl phthalate	1201	650	1312	27.05	89.5	55-110	1317	9.24	30		
Di-n-octyl phthalate	1431	310	1312	0	109	40-130	1538	7.23	30		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.



**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: <b>57224</b>		Instrument ID <b>SVMS8</b>		Method: <b>SW8270</b>						
Fluoranthene	2200	13	1312	949.9	95.3	55-115	3419	43.4	30	R
Fluorene	1092	13	1312	69.92	77.9	50-110	1270	15.1	30	
Hexachlorobenzene	1100	310	1312	0	83.8	45-120	1214	9.88	30	
Hexachlorobutadiene	931.3	310	1312	0	71	40-115	923	0.887	30	
Hexachlorocyclopentadiene	573.8	650	1312	0	43.7	40-115	786.8	0	30	J
Hexachloroethane	1028	310	1312	0	78.4	35-110	1082	5.07	30	
Indeno(1,2,3-cd)pyrene	1624	13	1312	419.2	91.8	40-120	1918	16.6	30	
Isophorone	1111	310	1312	0	84.7	45-110	1156	4	30	
Naphthalene	1007	13	1312	163.3	64.3	40-105	1031	2.36	30	
Nitrobenzene	1041	310	1312	0	79.3	40-115	1074	3.13	30	
N-Nitrosodi-n-propylamine	1080	310	1312	0	82.3	40-115	1148	6.12	30	
N-Nitrosodiphenylamine	1237	310	1312	0	94.3	50-115	1302	5.12	30	
Pentachlorophenol	971.3	650	1312	0	74	25-120	1023	5.16	30	
Phenanthrene	1771	13	1312	761.9	77	50-110	2892	48.1	30	R
Phenol	1180	310	1312	0	89.9	40-100	1108	6.3	30	
Pyrene	2350	13	1312	902.4	110	45-125	3385	36.1	30	R
<i>Surr: 2,4,6-Tribromophenol</i>	2686	0	3279	0	81.9	34-140	2930	8.7	40	
<i>Surr: 2-Fluorobiphenyl</i>	2621	0	3279	0	79.9	12-100	2662	1.57	40	
<i>Surr: 2-Fluorophenol</i>	2774	0	3279	0	84.6	33-117	2818	1.58	40	
<i>Surr: 4-Terphenyl-d14</i>	3303	0	3279	0	101	25-137	3600	8.61	40	
<i>Surr: Nitrobenzene-d5</i>	3162	0	3279	0	96.4	37-107	3338	5.42	40	
<i>Surr: Phenol-d6</i>	2847	0	3279	0	86.8	40-106	2875	0.974	40	

The following samples were analyzed in this batch:

1404130-01C	1404130-03C	1404130-04C
1404130-05C	1404130-06C	1404130-07C
1404130-08C	1404130-09C	1404130-10C
1404130-11C	1404130-12C	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech  
 Work Order: 1404130  
 Project: KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **57225** Instrument ID **SVMS8** Method: **SW8270**

<b>MBLK</b>		Sample ID: <b>DBLKS1-57225-57225</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>4/8/2014 03:18 AM</b>		
Client ID:		Run ID: <b>SVMS8_140407B</b>				SeqNo: <b>2705979</b>		Prep Date: <b>4/4/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C21)	U	4.2								
ORO (C21-C35)	U	4.2								
<i>Surr: 4-Terphenyl-d14</i>	<i>1.752</i>	<i>0</i>	<i>1.667</i>	<i>0</i>	<i>105</i>	<i>25-137</i>	<i>0</i>			

<b>LCS</b>		Sample ID: <b>DLCSS1-57225-57225</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>4/8/2014 05:28 AM</b>		
Client ID:		Run ID: <b>SVMS8_140407B</b>				SeqNo: <b>2705980</b>		Prep Date: <b>4/4/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C21)	128.3	4.2	166.7	0	77	31-135	0			
ORO (C21-C35)	125.4	4.2	166.7	0	75.2	31-135	0			
<i>Surr: 4-Terphenyl-d14</i>	<i>1.806</i>	<i>0</i>	<i>1.667</i>	<i>0</i>	<i>108</i>	<i>25-137</i>	<i>0</i>			

<b>MS</b>		Sample ID: <b>1404130-02C MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>4/8/2014 05:53 AM</b>		
Client ID: <b>SO-01-D-16-20</b>		Run ID: <b>SVMS8_140407B</b>				SeqNo: <b>2705967</b>		Prep Date: <b>4/4/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C21)	230.7	7.9	316.1	0	73	31-135	0			
ORO (C21-C35)	238.4	7.9	316.1	0	75.4	31-135	0			
<i>Surr: 4-Terphenyl-d14</i>	<i>3.359</i>	<i>0</i>	<i>3.161</i>	<i>0</i>	<i>106</i>	<i>25-137</i>	<i>0</i>			

<b>MSD</b>		Sample ID: <b>1404130-02C MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>4/8/2014 06:20 AM</b>		
Client ID: <b>SO-01-D-16-20</b>		Run ID: <b>SVMS8_140407B</b>				SeqNo: <b>2705968</b>		Prep Date: <b>4/4/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C21)	228.1	8.2	326.5	0	69.9	31-135	230.7	1.14	30	
ORO (C21-C35)	224.8	8.2	326.5	0	68.8	31-135	238.4	5.91	30	
<i>Surr: 4-Terphenyl-d14</i>	<i>3.272</i>	<i>0</i>	<i>3.265</i>	<i>0</i>	<i>100</i>	<i>25-137</i>	<i>3.359</i>	<i>2.6</i>	<i>30</i>	

The following samples were analyzed in this batch:

1404130-01C	1404130-02C	1404130-03C
1404130-04C	1404130-05C	1404130-06C
1404130-07C	1404130-08C	1404130-09C
1404130-10C	1404130-11C	1404130-12C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **57371**      Instrument ID **SVMS8**      Method: **SW8270**

MBLK				Sample ID: SBLKS1-57371-57371			Units: µg/Kg		Analysis Date: 4/10/2014 05:42 PM		
Client ID:			Run ID: SVMS8_140410A			SeqNo: 2708575		Prep Date: 4/9/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1`-Biphenyl	U	330									
2,4,5-Trichlorophenol	U	160									
2,4,6-Trichlorophenol	U	160									
2,4-Dichlorophenol	U	160									
2,4-Dimethylphenol	U	330									
2,4-Dinitrophenol	U	660									
2,4-Dinitrotoluene	U	160									
2,6-Dinitrotoluene	U	160									
2-Chloronaphthalene	U	6.7									
2-Chlorophenol	U	160									
2-Methylnaphthalene	U	6.7									
2-Methylphenol	U	160									
2-Nitroaniline	U	660									
2-Nitrophenol	U	160									
3,3´-Dichlorobenzidine	U	660									
3-Nitroaniline	U	660									
4,6-Dinitro-2-methylphenol	U	330									
4-Bromophenyl phenyl ether	U	160									
4-Chloro-3-methylphenol	U	160									
4-Chloroaniline	U	660									
4-Chlorophenyl phenyl ether	U	160									
4-Methylphenol	U	160									
4-Nitroaniline	U	660									
4-Nitrophenol	U	660									
Acenaphthene	U	6.7									
Acenaphthylene	U	6.7									
Acetophenone	U	330									
Anthracene	U	6.7									
Atrazine	U	330									
Benzaldehyde	U	330									
Benzo(a)anthracene	U	6.7									
Benzo(a)pyrene	U	6.7									
Benzo(b)fluoranthene	U	6.7									
Benzo(g,h,i)perylene	U	6.7									
Benzo(k)fluoranthene	U	6.7									
Bis(2-chloroethoxy)methane	U	160									
Bis(2-chloroethyl)ether	U	160									
Bis(2-chloroisopropyl)ether	U	160									
Bis(2-ethylhexyl)phthalate	U	330									
Butyl benzyl phthalate	U	160									
Caprolactam	U	330									
Carbazole	U	160									

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: <b>57371</b>	Instrument ID <b>SVMS8</b>	Method: <b>SW8270</b>						
Chrysene	U	6.7						
Dibenzo(a,h)anthracene	U	6.7						
Dibenzofuran	U	160						
Diethyl phthalate	U	330						
Dimethyl phthalate	U	330						
Di-n-butyl phthalate	U	330						
Di-n-octyl phthalate	U	160						
Fluoranthene	U	6.7						
Fluorene	U	6.7						
Hexachlorobenzene	U	160						
Hexachlorobutadiene	U	160						
Hexachlorocyclopentadiene	U	330						
Hexachloroethane	U	160						
Indeno(1,2,3-cd)pyrene	U	6.7						
Isophorone	U	160						
Naphthalene	U	6.7						
Nitrobenzene	U	160						
N-Nitrosodi-n-propylamine	U	160						
N-Nitrosodiphenylamine	U	160						
Pentachlorophenol	U	330						
Phenanthrene	U	6.7						
Phenol	U	160						
Pyrene	U	6.7						
<i>Surr: 2,4,6-Tribromophenol</i>	<i>1237</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>74.2</i>	<i>34-140</i>	<i>0</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>1401</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>84</i>	<i>12-100</i>	<i>0</i>	
<i>Surr: 2-Fluorophenol</i>	<i>1603</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>96.2</i>	<i>33-117</i>	<i>0</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>1954</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>117</i>	<i>25-137</i>	<i>0</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>1416</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>84.9</i>	<i>37-107</i>	<i>0</i>	
<i>Surr: Phenol-d6</i>	<i>1651</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>99.1</i>	<i>40-106</i>	<i>0</i>	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **57371**      Instrument ID **SVMS8**      Method: **SW8270**

LCS		Sample ID: <b>SLCSS1-57371-57371</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>4/10/2014 06:03 PM</b>		
Client ID:		Run ID: <b>SVMS8_140410A</b>				SeqNo: <b>2708576</b>		Prep Date: <b>4/9/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	574.7	160	666.7	0	86.2	50-110	0			
2,4,6-Trichlorophenol	554.3	160	666.7	0	83.1	45-110	0			
2,4-Dichlorophenol	540	160	666.7	0	81	45-110	0			
2,4-Dimethylphenol	344.7	330	666.7	0	51.7	30-105	0			
2,4-Dinitrophenol	454	660	666.7	0	68.1	15-130	0			J
2,4-Dinitrotoluene	602.3	160	666.7	0	90.3	50-115	0			
2,6-Dinitrotoluene	604	160	666.7	0	90.6	50-110	0			
2-Chloronaphthalene	627	6.7	666.7	0	94	45-105	0			
2-Chlorophenol	612	160	666.7	0	91.8	45-105	0			
2-Methylnaphthalene	579	6.7	666.7	0	86.8	45-105	0			
2-Methylphenol	591	160	666.7	0	88.6	40-105	0			
2-Nitroaniline	601.3	660	666.7	0	90.2	45-120	0			J
2-Nitrophenol	559	160	666.7	0	83.8	40-110	0			
3-Nitroaniline	380	660	666.7	0	57	25-150	0			J
4-Bromophenyl phenyl ether	646.3	160	666.7	0	96.9	45-115	0			
4-Chloro-3-methylphenol	576.3	160	666.7	0	86.4	45-115	0			
4-Chloroaniline	359.7	660	666.7	0	53.9	15-110	0			J
4-Chlorophenyl phenyl ether	598	160	666.7	0	89.7	45-110	0			
4-Methylphenol	597.7	160	666.7	0	89.6	40-105	0			
4-Nitroaniline	285	660	666.7	0	42.7	35-150	0			J
4-Nitrophenol	573.7	660	666.7	0	86	15-140	0			J
Acenaphthene	574.3	6.7	666.7	0	86.1	45-110	0			
Acenaphthylene	622.3	6.7	666.7	0	93.3	45-105	0			
Anthracene	665.7	6.7	666.7	0	99.8	55-105	0			
Benzo(a)anthracene	634.3	6.7	666.7	0	95.1	50-110	0			
Benzo(a)pyrene	672.3	6.7	666.7	0	101	50-110	0			
Benzo(b)fluoranthene	690.3	6.7	666.7	0	104	45-115	0			
Benzo(g,h,i)perylene	633.7	6.7	666.7	0	95	40-125	0			
Benzo(k)fluoranthene	684.3	6.7	666.7	0	103	45-115	0			
Bis(2-chloroethoxy)methane	587.7	160	666.7	0	88.1	45-110	0			
Bis(2-chloroethyl)ether	614.7	160	666.7	0	92.2	40-105	0			
Bis(2-chloroisopropyl)ether	597	160	666.7	0	89.5	20-115	0			
Bis(2-ethylhexyl)phthalate	824.3	330	666.7	0	124	45-125	0			
Butyl benzyl phthalate	674.7	160	666.7	0	101	50-125	0			
Carbazole	662.3	160	666.7	0	99.3	50-150	0			
Chrysene	652	6.7	666.7	0	97.8	55-110	0			
Dibenzo(a,h)anthracene	631	6.7	666.7	0	94.6	40-125	0			
Dibenzofuran	601	160	666.7	0	90.1	50-105	0			
Diethyl phthalate	617.3	330	666.7	0	92.6	50-115	0			
Dimethyl phthalate	620.3	330	666.7	0	93	50-110	0			
Di-n-butyl phthalate	663.3	330	666.7	0	99.5	55-110	0			
Di-n-octyl phthalate	738	160	666.7	0	111	40-130	0			

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: <b>57371</b>		Instrument ID <b>SVMS8</b>		Method: <b>SW8270</b>			
Fluoranthene	695	6.7	666.7	0	104	55-115	0
Fluorene	595.7	6.7	666.7	0	89.3	50-110	0
Hexachlorobenzene	605	160	666.7	0	90.7	45-120	0
Hexachlorobutadiene	540.3	160	666.7	0	81	40-115	0
Hexachlorocyclopentadiene	568.7	330	666.7	0	85.3	40-115	0
Hexachloroethane	555.7	160	666.7	0	83.3	35-110	0
Indeno(1,2,3-cd)pyrene	657.7	6.7	666.7	0	98.6	40-120	0
Isophorone	569	160	666.7	0	85.3	45-110	0
Naphthalene	566.7	6.7	666.7	0	85	40-105	0
Nitrobenzene	553	160	666.7	0	82.9	40-115	0
N-Nitrosodi-n-propylamine	635	160	666.7	0	95.2	40-115	0
N-Nitrosodiphenylamine	662.7	160	666.7	0	99.4	50-115	0
Pentachlorophenol	522	330	666.7	0	78.3	25-120	0
Phenanthrene	624.7	6.7	666.7	0	93.7	50-110	0
Phenol	605.3	160	666.7	0	90.8	40-100	0
Pyrene	760	6.7	666.7	0	114	45-125	0
<i>Surr: 2,4,6-Tribromophenol</i>	<i>1503</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>90.2</i>	<i>34-140</i>	<i>0</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>1408</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>84.5</i>	<i>12-100</i>	<i>0</i>
<i>Surr: 2-Fluorophenol</i>	<i>1564</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>93.8</i>	<i>33-117</i>	<i>0</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>2018</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>121</i>	<i>25-137</i>	<i>0</i>
<i>Surr: Nitrobenzene-d5</i>	<i>1499</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>89.9</i>	<i>37-107</i>	<i>0</i>
<i>Surr: Phenol-d6</i>	<i>1572</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>94.3</i>	<i>40-106</i>	<i>0</i>

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **57371**      Instrument ID **SVMS8**      Method: **SW8270**

MS				Sample ID: <b>1404377-14B MS</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>4/10/2014 07:26 PM</b>	
Client ID:				Run ID: <b>SVMS8_140410A</b>			SeqNo: <b>2708580</b>		Prep Date: <b>4/9/2014</b>	
							DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	1655	450	1860	0	88.9	50-110	0			
2,4,6-Trichlorophenol	1650	450	1860	0	88.7	45-110	0			
2,4-Dichlorophenol	1481	450	1860	0	79.6	45-110	0			
2,4-Dimethylphenol	1482	920	1860	0	79.6	30-105	0			
2,4-Dinitrophenol	1259	1,800	1860	0	67.7	15-130	0			J
2,4-Dinitrotoluene	1542	450	1860	0	82.9	50-115	0			
2,6-Dinitrotoluene	1549	450	1860	412.8	61.1	50-110	0			
2-Chloronaphthalene	1637	19	1860	0	88	45-105	0			
2-Chlorophenol	1461	450	1860	0	78.5	45-105	0			
2-Methylnaphthalene	1449	19	1860	0	77.9	45-105	0			
2-Methylphenol	1535	450	1860	0	82.5	40-105	0			
2-Nitroaniline	1713	1,800	1860	0	92.1	45-120	0			J
2-Nitrophenol	1351	450	1860	0	72.6	40-110	0			
3-Nitroaniline	1201	1,800	1860	0	64.5	25-110	0			J
4-Bromophenyl phenyl ether	1772	450	1860	0	95.2	45-115	0			
4-Chloro-3-methylphenol	1631	450	1860	0	87.6	45-115	0			
4-Chloroaniline	559	1,800	1860	0	30	15-110	0			J
4-Chlorophenyl phenyl ether	1568	450	1860	0	84.3	45-110	0			
4-Methylphenol	1593	450	1860	0	85.6	40-105	0			
4-Nitroaniline	1251	1,800	1860	0	67.2	35-150	0			J
4-Nitrophenol	1611	1,800	1860	0	86.6	15-140	0			J
Acenaphthene	1565	19	1860	0	84.1	45-110	0			
Acenaphthylene	1665	19	1860	0	89.5	45-105	0			
Anthracene	1761	19	1860	0	94.6	55-105	0			
Benzo(a)anthracene	1696	19	1860	0	91.1	50-110	0			
Benzo(a)pyrene	1803	19	1860	0	96.9	50-110	0			
Benzo(b)fluoranthene	1688	19	1860	0	90.7	45-115	0			
Benzo(g,h,i)perylene	1806	19	1860	0	97.1	40-125	0			
Benzo(k)fluoranthene	1662	19	1860	0	89.3	45-115	0			
Bis(2-chloroethoxy)methane	1445	450	1860	0	77.6	45-110	0			
Bis(2-chloroethyl)ether	1543	450	1860	0	82.9	40-105	0			
Bis(2-chloroisopropyl)ether	1398	450	1860	58.04	72	20-115	0			
Bis(2-ethylhexyl)phthalate	1934	920	1860	0	104	45-125	0			
Butyl benzyl phthalate	1927	450	1860	0	104	50-125	0			
Carbazole	1695	450	1860	0	91.1	50-150	0			
Chrysene	1665	19	1860	0	89.5	55-110	0			
Dibenzo(a,h)anthracene	1924	19	1860	0	103	40-125	0			
Dibenzofuran	1605	450	1860	0	86.3	50-105	0			
Diethyl phthalate	1664	920	1860	0	89.4	50-115	0			
Dimethyl phthalate	1611	920	1860	0	86.6	50-110	0			
Di-n-butyl phthalate	1810	920	1860	0	97.3	55-110	0			
Di-n-octyl phthalate	2189	450	1860	0	118	40-130	0			

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: <b>57371</b>		Instrument ID <b>SVMS8</b>		Method: <b>SW8270</b>				
Fluoranthene	1840	19	1860	0	98.9	55-115	0	
Fluorene	1606	19	1860	0	86.3	50-110	0	
Hexachlorobenzene	1662	450	1860	0	89.3	45-120	0	
Hexachlorobutadiene	1277	450	1860	0	68.6	40-115	0	
Hexachlorocyclopentadiene	440.9	920	1860	0	23.7	40-115	0	JS
Hexachloroethane	1281	450	1860	0	68.8	35-110	0	
Indeno(1,2,3-cd)pyrene	1959	19	1860	0	105	40-120	0	
Isophorone	1407	450	1860	0	75.6	45-110	0	
Naphthalene	1336	19	1860	0	71.8	40-105	0	
Nitrobenzene	1301	450	1860	0	69.9	40-115	0	
N-Nitrosodi-n-propylamine	1541	450	1860	0	82.8	40-115	0	
N-Nitrosodiphenylamine	1870	450	1860	0	100	50-115	0	
Pentachlorophenol	1738	920	1860	0	93.4	25-120	0	
Phenanthrene	1671	19	1860	0	89.8	50-110	0	
Phenol	1492	450	1860	0	80.2	40-100	0	
Pyrene	1849	19	1860	0	99.4	45-125	0	
<i>Surr: 2,4,6-Tribromophenol</i>	<i>4127</i>	<i>0</i>	<i>4651</i>	<i>0</i>	<i>88.7</i>	<i>34-140</i>	<i>0</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>3601</i>	<i>0</i>	<i>4651</i>	<i>0</i>	<i>77.4</i>	<i>12-100</i>	<i>0</i>	
<i>Surr: 2-Fluorophenol</i>	<i>3737</i>	<i>0</i>	<i>4651</i>	<i>0</i>	<i>80.4</i>	<i>33-117</i>	<i>0</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>4805</i>	<i>0</i>	<i>4651</i>	<i>0</i>	<i>103</i>	<i>25-137</i>	<i>0</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>3409</i>	<i>0</i>	<i>4651</i>	<i>0</i>	<i>73.3</i>	<i>37-107</i>	<i>0</i>	
<i>Surr: Phenol-d6</i>	<i>3908</i>	<i>0</i>	<i>4651</i>	<i>0</i>	<i>84</i>	<i>40-106</i>	<i>0</i>	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.



Client: Tetra Tech  
 Work Order: 1404130  
 Project: KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: 57371 Instrument ID SVMS8 Method: SW8270

MSD				Sample ID: 1404377-14B MSD				Units: µg/Kg		Analysis Date: 4/10/2014 07:47 PM	
Client ID:		Run ID: SVMS8_140410A			SeqNo: 2708581		Prep Date: 4/9/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
2,4,5-Trichlorophenol	1669	450	1892	0	88.2	50-110	1655	0.842	30		
2,4,6-Trichlorophenol	1701	450	1892	0	89.9	45-110	1650	3.03	30		
2,4-Dichlorophenol	1589	450	1892	0	84	45-110	1481	7.07	30		
2,4-Dimethylphenol	1576	940	1892	0	83.3	30-105	1482	6.17	30		
2,4-Dinitrophenol	1173	1,900	1892	0	62	15-130	1259	0	30	J	
2,4-Dinitrotoluene	1643	450	1892	0	86.8	50-115	1542	6.34	30		
2,6-Dinitrotoluene	1597	450	1892	412.8	62.6	50-110	1549	3.06	30		
2-Chloronaphthalene	1637	19	1892	0	86.5	45-105	1637	0.0308	30		
2-Chlorophenol	1532	450	1892	0	80.9	45-105	1461	4.7	30		
2-Methylnaphthalene	1514	19	1892	0	80	45-105	1449	4.35	30		
2-Methylphenol	1636	450	1892	0	86.4	40-105	1535	6.36	30		
2-Nitroaniline	1788	1,900	1892	0	94.5	45-120	1713	0	30	J	
2-Nitrophenol	1447	450	1892	0	76.5	40-110	1351	6.92	30		
3-Nitroaniline	1346	1,900	1892	0	71.1	25-110	1201	0	30	J	
4-Bromophenyl phenyl ether	1789	450	1892	0	94.5	45-115	1772	0.951	30		
4-Chloro-3-methylphenol	1669	450	1892	0	88.2	45-115	1631	2.31	30		
4-Chloroaniline	621.5	1,900	1892	0	32.8	15-110	559	0	30	J	
4-Chlorophenyl phenyl ether	1637	450	1892	0	86.5	45-110	1568	4.32	30		
4-Methylphenol	1660	450	1892	0	87.7	40-105	1593	4.11	30		
4-Nitroaniline	1340	1,900	1892	0	70.8	35-150	1251	0	30	J	
4-Nitrophenol	1714	1,900	1892	0	90.6	15-140	1611	0	30	J	
Acenaphthene	1564	19	1892	0	82.6	45-110	1565	0.11	30		
Acenaphthylene	1653	19	1892	0	87.3	45-105	1665	0.743	30		
Anthracene	1766	19	1892	0	93.3	55-105	1761	0.305	30		
Benzo(a)anthracene	1736	19	1892	0	91.7	50-110	1696	2.34	30		
Benzo(a)pyrene	1845	19	1892	0	97.5	50-110	1803	2.31	30		
Benzo(b)fluoranthene	1785	19	1892	0	94.3	45-115	1688	5.58	30		
Benzo(g,h,i)perylene	1822	19	1892	0	96.3	40-125	1806	0.861	30		
Benzo(k)fluoranthene	1701	19	1892	0	89.9	45-115	1662	2.3	30		
Bis(2-chloroethoxy)methane	1485	450	1892	0	78.5	45-110	1445	2.78	30		
Bis(2-chloroethyl)ether	1540	450	1892	0	81.4	40-105	1543	0.198	30		
Bis(2-chloroisopropyl)ether	1410	450	1892	58.04	71.4	20-115	1398	0.82	30		
Bis(2-ethylhexyl)phthalate	2020	940	1892	0	107	45-125	1934	4.35	30		
Butyl benzyl phthalate	1951	450	1892	0	103	50-125	1927	1.2	30		
Carbazole	1706	450	1892	0	90.1	50-150	1695	0.64	30		
Chrysene	1701	19	1892	0	89.9	55-110	1665	2.13	30		
Dibenzo(a,h)anthracene	1961	19	1892	0	104	40-125	1924	1.88	30		
Dibenzofuran	1596	450	1892	0	84.3	50-105	1605	0.597	30		
Diethyl phthalate	1681	940	1892	0	88.8	50-115	1664	1.02	30		
Dimethyl phthalate	1664	940	1892	0	87.9	50-110	1611	3.24	30		
Di-n-butyl phthalate	1836	940	1892	0	97	55-110	1810	1.43	30		
Di-n-octyl phthalate	2325	450	1892	0	123	40-130	2189	6.05	30		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: <b>57371</b>		Instrument ID <b>SVMS8</b>		Method: <b>SW8270</b>					
Fluoranthene	1845	19	1892	0	97.5	55-115	1840	0.263	30
Fluorene	1616	19	1892	0	85.4	50-110	1606	0.582	30
Hexachlorobenzene	1620	450	1892	0	85.6	45-120	1662	2.6	30
Hexachlorobutadiene	1331	450	1892	0	70.3	40-115	1277	4.13	30
Hexachlorocyclopentadiene	424.7	940	1892	0	22.4	40-115	440.9	0	30 JS
Hexachloroethane	1259	450	1892	0	66.5	35-110	1281	1.71	30
Indeno(1,2,3-cd)pyrene	2039	19	1892	0	108	40-120	1959	3.99	30
Isophorone	1454	450	1892	0	76.8	45-110	1407	3.26	30
Naphthalene	1346	19	1892	0	71.1	40-105	1336	0.779	30
Nitrobenzene	1385	450	1892	0	73.2	40-115	1301	6.23	30
N-Nitrosodi-n-propylamine	1603	450	1892	0	84.7	40-115	1541	3.96	30
N-Nitrosodiphenylamine	1900	450	1892	0	100	50-115	1870	1.59	30
Pentachlorophenol	1898	940	1892	0	100	25-120	1738	8.76	30
Phenanthrene	1682	19	1892	0	88.9	50-110	1671	0.625	30
Phenol	1550	450	1892	0	81.9	40-100	1492	3.85	30
Pyrene	1813	19	1892	0	95.8	45-125	1849	1.95	30
Surr: 2,4,6-Tribromophenol	4478	0	4730	0	94.7	34-140	4127	8.16	40
Surr: 2-Fluorobiphenyl	3639	0	4730	0	76.9	12-100	3601	1.07	40
Surr: 2-Fluorophenol	3771	0	4730	0	79.7	33-117	3737	0.889	40
Surr: 4-Terphenyl-d14	4672	0	4730	0	98.8	25-137	4805	2.8	40
Surr: Nitrobenzene-d5	3491	0	4730	0	73.8	37-107	3409	2.37	40
Surr: Phenol-d6	4010	0	4730	0	84.8	40-106	3908	2.56	40

The following samples were analyzed in this batch: 1404130-02C

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **57183**      Instrument ID **VMS5**      Method: **SW8260B**

MBLK		Sample ID: <b>MBLK-57183-57183</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>4/3/2014 02:56 PM</b>		
Client ID:		Run ID: <b>VMS5_140403A</b>				SeqNo: <b>2699035</b>		Prep Date: <b>4/3/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	U	30								
1,1,2,2-Tetrachloroethane	U	30								
1,1,2-Trichloroethane	U	30								
1,1,2-Trichlorotrifluoroethane	U	30								
1,1-Dichloroethane	U	30								
1,1-Dichloroethene	U	30								
1,2,4-Trichlorobenzene	U	30								
1,2-Dibromo-3-chloropropane	U	30								
1,2-Dibromoethane	U	30								
1,2-Dichlorobenzene	U	30								
1,2-Dichloroethane	U	30								
1,2-Dichloropropane	U	30								
1,3-Dichlorobenzene	U	30								
1,4-Dichlorobenzene	U	30								
2-Butanone	U	200								
2-Hexanone	U	30								
4-Methyl-2-pentanone	U	30								
Acetone	90	100								J
Benzene	U	30								
Bromodichloromethane	U	30								
Bromoform	U	30								
Bromomethane	U	75								
Carbon disulfide	U	30								
Carbon tetrachloride	U	30								
Chlorobenzene	U	30								
Chloroethane	U	100								
Chloroform	U	30								
Chloromethane	U	100								
cis-1,2-Dichloroethene	U	30								
cis-1,3-Dichloropropene	U	30								
Cyclohexane	U	30								
Dibromochloromethane	U	30								
Dichlorodifluoromethane	U	30								
Ethylbenzene	U	30								
GRO (C6-C10)	U	2,500								
Isopropylbenzene	U	30								
m,p-Xylene	U	60								
Methyl acetate	1220	200								
Methyl tert-butyl ether	U	30								
Methylcyclohexane	U	30								
Methylene chloride	U	30								
o-Xylene	U	30								

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: <b>57183</b>	Instrument ID <b>VMS5</b>	Method: <b>SW8260B</b>
Styrene	U	30
Tetrachloroethene	U	30
Toluene	U	30
trans-1,2-Dichloroethene	U	30
trans-1,3-Dichloropropene	U	30
Trichloroethene	U	30
Trichlorofluoromethane	U	30
Vinyl chloride	U	30
Xylenes, Total	U	90

<i>Surr: 1,2-Dichloroethane-d4</i>	<i>1008</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>101</i>	<i>70-130</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>947.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>94.8</i>	<i>70-130</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>978.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>97.8</i>	<i>70-130</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>1034</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>103</i>	<i>70-130</i>	<i>0</i>

<b>MBLK</b>		Sample ID: <b>MBLK-57183-57183</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>4/3/2014 02:56 PM</b>		
Client ID:			Run ID: <b>VMS5_140403A</b>			SeqNo: <b>2699234</b>		Prep Date: <b>4/3/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	U	5,000								
<i>Surr: Toluene-d8</i>	<i>931</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>93.1</i>	<i>70-130</i>	<i>0</i>			

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **57183**      Instrument ID **VMS5**      Method: **SW8260B**

LCS					Sample ID: LCS-57183-57183		Units: µg/Kg		Analysis Date: 4/3/2014 12:45 PM		
Client ID:			Run ID: VMS5_140403A			SeqNo: 2699033		Prep Date: 4/3/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1,1-Trichloroethane	950	30	1000	0	95	70-135	0				
1,1,2,2-Tetrachloroethane	982	30	1000	0	98.2	55-130	0				
1,1,2-Trichloroethane	949	30	1000	0	94.9	60-125	0				
1,1-Dichloroethane	977.5	30	1000	0	97.8	75-125	0				
1,1-Dichloroethene	1054	30	1000	0	105	65-135	0				
1,2,4-Trichlorobenzene	921	30	1000	0	92.1	65-130	0				
1,2-Dibromo-3-chloropropane	792.5	30	1000	0	79.2	40-135	0				
1,2-Dibromoethane	1058	30	1000	0	106	75-125	0				
1,2-Dichlorobenzene	932	30	1000	0	93.2	75-120	0				
1,2-Dichloroethane	911.5	30	1000	0	91.2	70-135	0				
1,2-Dichloropropane	925.5	30	1000	0	92.6	70-120	0				
1,3-Dichlorobenzene	963.5	30	1000	0	96.4	70-125	0				
1,4-Dichlorobenzene	938.5	30	1000	0	93.8	70-125	0				
2-Butanone	1074	200	1000	0	107	30-160	0				
2-Hexanone	1038	30	1000	0	104	45-145	0				
4-Methyl-2-pentanone	1358	30	1000	0	136	96-168	0				
Acetone	1159	100	1000	0	116	20-160	0				
Benzene	970	30	1000	0	97	75-125	0				
Bromodichloromethane	923.5	30	1000	0	92.4	70-130	0				
Bromoform	739.5	30	1000	0	74	55-135	0				
Bromomethane	1624	75	1000	0	162	30-160	0			S	
Carbon disulfide	1084	30	1000	0	108	45-160	0				
Carbon tetrachloride	929	30	1000	0	92.9	65-135	0				
Chlorobenzene	944	30	1000	0	94.4	75-125	0				
Chloroethane	1168	100	1000	0	117	40-155	0				
Chloroform	932	30	1000	0	93.2	70-125	0				
Chloromethane	1055	100	1000	0	106	50-130	0				
cis-1,2-Dichloroethene	960	30	1000	0	96	65-125	0				
cis-1,3-Dichloropropene	966.5	30	1000	0	96.6	70-125	0				
Dibromochloromethane	740.5	30	1000	0	74	65-135	0				
Dichlorodifluoromethane	847.5	30	1000	0	84.8	35-135	0				
Ethylbenzene	995	30	1000	0	99.5	75-125	0				
Isopropylbenzene	985	30	1000	0	98.5	75-130	0				
m,p-Xylene	1968	60	2000	0	98.4	80-125	0				
Methyl tert-butyl ether	969	30	1000	0	96.9	75-125	0				
Methylene chloride	1064	30	1000	0	106	55-145	0				
o-Xylene	977.5	30	1000	0	97.8	75-125	0				
Styrene	1005	30	1000	0	100	75-125	0				
Tetrachloroethene	968.5	30	1000	0	96.8	64-140	0				
Toluene	964.5	30	1000	0	96.4	70-125	0				
trans-1,2-Dichloroethene	1038	30	1000	0	104	65-135	0				
trans-1,3-Dichloropropene	969.5	30	1000	0	97	65-125	0				

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: <b>57183</b>	Instrument ID <b>VMS5</b>			Method: <b>SW8260B</b>			
Trichloroethene	943	30	1000	0	94.3	75-125	0
Trichlorofluoromethane	1060	30	1000	0	106	25-185	0
Vinyl chloride	1103	30	1000	0	110	60-125	0
Xylenes, Total	2945	90	3000	0	98.2	75-125	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>990.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>99</i>	<i>70-130</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>954</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>95.4</i>	<i>70-130</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>1005</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>100</i>	<i>70-130</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>1028</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>103</i>	<i>70-130</i>	<i>0</i>

<b>LCS</b>	Sample ID: <b>LCS-57183-57183</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>4/3/2014 01:37 PM</b>			
Client ID:	Run ID: <b>VMS5_140403A</b>			SeqNo: <b>2699232</b>		Prep Date: <b>4/3/2014</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	21770	5,000	25000	0	87.1	70-130	0			
<i>Surr: Toluene-d8</i>	<i>946</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>94.6</i>	<i>70-130</i>	<i>0</i>			

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **57183**      Instrument ID **VMS5**      Method: **SW8260B**

MS				Sample ID: 14031223-02A MS			Units: µg/Kg		Analysis Date: 4/4/2014 09:40 PM	
Client ID:				Run ID: VMS8_140404A			SeqNo: 2700547		Prep Date: 4/3/2014	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	979.5	30	1000	0	98	70-135	0			
1,1,2,2-Tetrachloroethane	953	30	1000	0	95.3	55-130	0			
1,1,2-Trichloroethane	943.5	30	1000	0	94.4	60-125	0			
1,1-Dichloroethane	1037	30	1000	0	104	75-125	0			
1,1-Dichloroethene	1143	30	1000	0	114	65-135	0			
1,2,4-Trichlorobenzene	786.5	30	1000	0	78.6	65-130	0			
1,2-Dibromo-3-chloropropane	917.5	30	1000	0	91.8	40-135	0			
1,2-Dibromoethane	1232	30	1000	0	123	75-125	0			
1,2-Dichlorobenzene	881.5	30	1000	0	88.2	75-120	0			
1,2-Dichloroethane	986.5	30	1000	0	98.6	70-135	0			
1,2-Dichloropropane	1002	30	1000	0	100	70-120	0			
1,3-Dichlorobenzene	877.5	30	1000	0	87.8	70-125	0			
1,4-Dichlorobenzene	863	30	1000	0	86.3	70-125	0			
2-Butanone	1208	200	1000	0	121	30-160	0			
2-Hexanone	1038	30	1000	0	104	45-145	0			
4-Methyl-2-pentanone	1380	30	1000	0	138	89-161	0			
Acetone	1182	100	1000	0	118	20-160	0			
Benzene	1070	30	1000	0	107	75-125	0			
Bromodichloromethane	862	30	1000	0	86.2	70-130	0			
Bromoform	800	30	1000	0	80	55-135	0			
Bromomethane	952	75	1000	0	95.2	30-160	0			
Carbon disulfide	1274	30	1000	0	127	45-160	0			
Carbon tetrachloride	997.5	30	1000	0	99.8	65-135	0			
Chlorobenzene	941.5	30	1000	0	94.2	75-125	0			
Chloroethane	551	100	1000	0	55.1	40-155	0			
Chloroform	967.5	30	1000	0	96.8	70-125	0			
Chloromethane	915.5	100	1000	0	91.6	50-130	0			
cis-1,2-Dichloroethene	973	30	1000	0	97.3	65-125	0			
cis-1,3-Dichloropropene	864	30	1000	0	86.4	70-125	0			
Dibromochloromethane	785	30	1000	0	78.5	65-135	0			
Dichlorodifluoromethane	767	30	1000	0	76.7	35-135	0			
Ethylbenzene	943	30	1000	0	94.3	75-125	0			
Isopropylbenzene	946.5	30	1000	0	94.6	75-130	0			
m,p-Xylene	1869	60	2000	0	93.4	80-125	0			
Methyl tert-butyl ether	1100	30	1000	0	110	75-125	0			
Methylene chloride	1078	30	1000	0	108	55-145	0			
o-Xylene	938.5	30	1000	0	93.8	75-125	0			
Styrene	979	30	1000	0	97.9	75-125	0			
Tetrachloroethene	979.5	30	1000	0	98	64-140	0			
Toluene	943.5	30	1000	0	94.4	70-125	0			
trans-1,2-Dichloroethene	1088	30	1000	0	109	65-135	0			
trans-1,3-Dichloropropene	860.5	30	1000	0	86	65-125	0			

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

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Batch ID: <b>57183</b>	Instrument ID <b>VMS5</b>		Method: <b>SW8260B</b>				
Trichloroethene	973.5	30	1000	0	97.4	75-125	0
Trichlorofluoromethane	981	30	1000	0	98.1	25-185	0
Vinyl chloride	1018	30	1000	0	102	60-125	0
Xylenes, Total	2808	90	3000	0	93.6	75-125	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>962.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>96.2</i>	<i>70-130</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>1006</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>101</i>	<i>70-130</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>1001</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>100</i>	<i>70-130</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>986.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98.6</i>	<i>70-130</i>	<i>0</i>

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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.



**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **57183**      Instrument ID **VMS5**      Method: **SW8260B**

MSD				Sample ID: 14031223-02A MSD			Units: µg/Kg		Analysis Date: 4/4/2014 10:05 PM	
Client ID:				Run ID: VMS8_140404A			SeqNo: 2700548		Prep Date: 4/3/2014	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	892.5	30	1000	0	89.2	70-135	979.5	9.29	30	
1,1,2,2-Tetrachloroethane	913	30	1000	0	91.3	55-130	953	4.29	30	
1,1,2-Trichloroethane	887.5	30	1000	0	88.8	60-125	943.5	6.12	30	
1,1-Dichloroethane	992	30	1000	0	99.2	75-125	1037	4.44	30	
1,1-Dichloroethene	1088	30	1000	0	109	65-135	1143	4.93	30	
1,2,4-Trichlorobenzene	825	30	1000	0	82.5	65-130	786.5	4.78	30	
1,2-Dibromo-3-chloropropane	838	30	1000	0	83.8	40-135	917.5	9.06	30	
1,2-Dibromoethane	1158	30	1000	0	116	75-125	1232	6.11	30	
1,2-Dichlorobenzene	852	30	1000	0	85.2	75-120	881.5	3.4	30	
1,2-Dichloroethane	876	30	1000	0	87.6	70-135	986.5	11.9	30	
1,2-Dichloropropane	950.5	30	1000	0	95	70-120	1002	5.28	30	
1,3-Dichlorobenzene	862	30	1000	0	86.2	70-125	877.5	1.78	30	
1,4-Dichlorobenzene	842.5	30	1000	0	84.2	70-125	863	2.4	30	
2-Butanone	1174	200	1000	0	117	30-160	1208	2.77	30	
2-Hexanone	982	30	1000	0	98.2	45-145	1038	5.5	30	
4-Methyl-2-pentanone	1348	30	1000	0	135	89-161	1380	2.35	30	
Acetone	1193	100	1000	0	119	20-160	1182	0.884	30	
Benzene	974	30	1000	0	97.4	75-125	1070	9.44	30	
Bromodichloromethane	809	30	1000	0	80.9	70-130	862	6.34	30	
Bromoform	762	30	1000	0	76.2	55-135	800	4.87	30	
Bromomethane	864.5	75	1000	0	86.4	30-160	952	9.63	30	
Carbon disulfide	1144	30	1000	0	114	45-160	1274	10.7	30	
Carbon tetrachloride	906.5	30	1000	0	90.6	65-135	997.5	9.56	30	
Chlorobenzene	909.5	30	1000	0	91	75-125	941.5	3.46	30	
Chloroethane	461.5	100	1000	0	46.2	40-155	551	17.7	30	
Chloroform	926	30	1000	0	92.6	70-125	967.5	4.38	30	
Chloromethane	848	100	1000	0	84.8	50-130	915.5	7.66	30	
cis-1,2-Dichloroethene	940	30	1000	0	94	65-125	973	3.45	30	
cis-1,3-Dichloropropene	832.5	30	1000	0	83.2	70-125	864	3.71	30	
Dibromochloromethane	750	30	1000	0	75	65-135	785	4.56	30	
Dichlorodifluoromethane	736.5	30	1000	0	73.6	35-135	767	4.06	30	
Ethylbenzene	915	30	1000	0	91.5	75-125	943	3.01	30	
Isopropylbenzene	898.5	30	1000	0	89.8	75-130	946.5	5.2	30	
m,p-Xylene	1801	60	2000	0	90	80-125	1869	3.71	30	
Methyl tert-butyl ether	1047	30	1000	0	105	75-125	1100	4.94	30	
Methylene chloride	1093	30	1000	0	109	55-145	1078	1.43	30	
o-Xylene	902.5	30	1000	0	90.2	75-125	938.5	3.91	30	
Styrene	953	30	1000	0	95.3	75-125	979	2.69	30	
Tetrachloroethene	911	30	1000	0	91.1	64-140	979.5	7.25	30	
Toluene	906	30	1000	0	90.6	70-125	943.5	4.06	30	
trans-1,2-Dichloroethene	1058	30	1000	0	106	65-135	1088	2.75	30	
trans-1,3-Dichloropropene	842	30	1000	0	84.2	65-125	860.5	2.17	30	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: <b>57183</b>	Instrument ID <b>VMS5</b>			Method: <b>SW8260B</b>					
Trichloroethene	946	30	1000	0	94.6	75-125	973.5	2.87	30
Trichlorofluoromethane	911.5	30	1000	0	91.2	25-185	981	7.34	30
Vinyl chloride	894.5	30	1000	0	89.4	60-125	1018	12.9	30
Xylenes, Total	2704	90	3000	0	90.1	75-125	2808	3.77	30
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>915</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>91.5</i>	<i>70-130</i>	<i>962.5</i>	<i>5.06</i>	<i>30</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>1002</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>100</i>	<i>70-130</i>	<i>1006</i>	<i>0.448</i>	<i>30</i>
<i>Surr: Dibromofluoromethane</i>	<i>965</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>96.5</i>	<i>70-130</i>	<i>1001</i>	<i>3.66</i>	<i>30</i>
<i>Surr: Toluene-d8</i>	<i>986</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98.6</i>	<i>70-130</i>	<i>986.5</i>	<i>0.0507</i>	<i>30</i>

The following samples were analyzed in this batch:

1404130-01A	1404130-02A	1404130-03A
1404130-04A	1404130-05A	1404130-06A
1404130-07A	1404130-08A	1404130-09A
1404130-10A	1404130-11A	1404130-12A

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **R138301**      Instrument ID **VMS5**      Method: **SW8260GRO**

<b>MBLK</b>		Sample ID: <b>VBKWK1-14043-R138301</b>				Units: <b>µg/L</b>		Analysis Date: <b>4/3/2014 02:30 PM</b>		
Client ID:		Run ID: <b>VMS5_140403A</b>				SeqNo: <b>2699206</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	U	100								
<i>Surr: Toluene-d8</i>	18.67	0	20	0	93.4	70-120	0			

<b>LCS</b>		Sample ID: <b>VLCSW2-140403-R138301</b>				Units: <b>µg/L</b>		Analysis Date: <b>4/3/2014 01:11 PM</b>		
Client ID:		Run ID: <b>VMS5_140403A</b>				SeqNo: <b>2699205</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	428.1	100	500	0	85.6	70-130	0			
<i>Surr: Toluene-d8</i>	19.26	0	20	0	96.3	70-130	0			

The following samples were analyzed in this batch:      1404130-15A      1404130-17A

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **R138301A**      Instrument ID **VMS5**      Method: **SW8260**

MBLK		Sample ID: <b>VBK1-14043-R138301A</b>				Units: <b>µg/L</b>		Analysis Date: <b>4/3/2014 02:30 PM</b>		
Client ID:		Run ID: <b>VMS5_140403A</b>				SeqNo: <b>2699017</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	U	1.0								
1,1,2,2-Tetrachloroethane	U	1.0								
1,1,2-Trichloroethane	U	1.0								
1,1,2-Trichlorotrifluoroethane	U	1.0								
1,1-Dichloroethane	U	1.0								
1,1-Dichloroethene	U	1.0								
1,2,4-Trichlorobenzene	U	1.0								
1,2-Dibromo-3-chloropropane	U	1.0								
1,2-Dibromoethane	U	1.0								
1,2-Dichlorobenzene	U	1.0								
1,2-Dichloroethane	U	1.0								
1,2-Dichloropropane	U	2.0								
1,3-Dichlorobenzene	U	2.0								
1,4-Dichlorobenzene	U	2.0								
2-Butanone	U	5.0								
2-Hexanone	U	5.0								
4-Methyl-2-pentanone	U	5.0								
Acetone	U	20								
Benzene	U	1.0								
Bromodichloromethane	U	1.0								
Bromoform	U	1.0								
Bromomethane	U	1.0								
Carbon disulfide	U	2.5								
Carbon tetrachloride	U	1.0								
Chlorobenzene	U	1.0								
Chloroethane	U	1.0								
Chloroform	U	1.0								
Chloromethane	U	1.0								
cis-1,2-Dichloroethene	U	1.0								
cis-1,3-Dichloropropene	U	1.0								
Cyclohexane	U	5.0								
Dibromochloromethane	U	1.0								
Dichlorodifluoromethane	U	1.0								
Ethylbenzene	U	1.0								
Isopropylbenzene	U	1.0								
m,p-Xylene	U	2.0								
Methyl acetate	U	2.0								
Methyl tert-butyl ether	U	5.0								
Methylcyclohexane	U	5.0								
Methylene chloride	U	5.0								
o-Xylene	U	1.0								
Styrene	U	1.0								

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: <b>R138301A</b>	Instrument ID <b>VMS5</b>	Method: <b>SW8260</b>
Tetrachloroethene	U	2.0
Toluene	U	1.0
trans-1,2-Dichloroethene	U	1.0
trans-1,3-Dichloropropene	U	1.0
Trichloroethene	U	1.0
Trichlorofluoromethane	U	1.0
Vinyl chloride	U	1.0
Xylenes, Total	U	3.0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>20.19</i>	<i>0 20 0 101 70-120 0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>18.78</i>	<i>0 20 0 93.9 75-120 0</i>
<i>Surr: Dibromofluoromethane</i>	<i>20.01</i>	<i>0 20 0 100 85-115 0</i>
<i>Surr: Toluene-d8</i>	<i>20.43</i>	<i>0 20 0 102 85-120 0</i>

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech  
 Work Order: 1404130  
 Project: KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **R138301A** Instrument ID **VMS5** Method: **SW8260**

LCS		Sample ID: <b>VLCSW1-140403-R138301A</b>				Units: <b>µg/L</b>		Analysis Date: <b>4/3/2014 12:19 PM</b>		
Client ID:		Run ID: <b>VMS5_140403A</b>				SeqNo: <b>2699015</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	19.76	1.0	20	0	98.8	65-130	0			
1,1,2,2-Tetrachloroethane	20.04	1.0	20	0	100	65-130	0			
1,1,2-Trichloroethane	19.41	1.0	20	0	97	75-125	0			
1,1-Dichloroethane	20.65	1.0	20	0	103	70-135	0			
1,1-Dichloroethene	22.6	1.0	20	0	113	70-130	0			
1,2,4-Trichlorobenzene	19.24	1.0	20	0	96.2	65-135	0			
1,2-Dibromo-3-chloropropane	16.04	1.0	20	0	80.2	50-130	0			
1,2-Dibromoethane	21.35	1.0	20	0	107	87-179	0			
1,2-Dichlorobenzene	19.3	1.0	20	0	96.5	70-120	0			
1,2-Dichloroethane	18.44	1.0	20	0	92.2	87-179	0			
1,2-Dichloropropane	18.64	2.0	20	0	93.2	75-125	0			
1,3-Dichlorobenzene	19.75	2.0	20	0	98.8	75-125	0			
1,4-Dichlorobenzene	18.78	2.0	20	0	93.9	75-125	0			
2-Butanone	21.6	5.0	20	0	108	30-150	0			
2-Hexanone	21.2	5.0	20	0	106	55-130	0			
4-Methyl-2-pentanone	27.62	5.0	20	0	138	77-178	0			
Acetone	22.96	20	20	0	115	40-140	0			
Benzene	19.92	1.0	20	0	99.6	80-120	0			
Bromodichloromethane	19.04	1.0	20	0	95.2	75-120	0			
Bromoform	15.18	1.0	20	0	75.9	70-130	0			
Bromomethane	36.01	1.0	20	0	180	30-145	0			S
Carbon disulfide	23.3	2.5	20	0	116	35-165	0			
Carbon tetrachloride	19.94	1.0	20	0	99.7	65-140	0			
Chlorobenzene	19.51	1.0	20	0	97.6	80-120	0			
Chloroethane	24.93	1.0	20	0	125	60-135	0			
Chloroform	19.43	1.0	20	0	97.2	65-135	0			
Chloromethane	22.45	1.0	20	0	112	70-125	0			
cis-1,2-Dichloroethene	20.29	1.0	20	0	101	70-125	0			
cis-1,3-Dichloropropene	19.77	1.0	20	0	98.8	70-130	0			
Dibromochloromethane	15.55	1.0	20	0	77.8	60-135	0			
Dichlorodifluoromethane	18.31	1.0	20	0	91.6	30-155	0			
Ethylbenzene	20.88	1.0	20	0	104	75-125	0			
Isopropylbenzene	20.94	1.0	20	0	105	75-125	0			
m,p-Xylene	41.09	2.0	40	0	103	75-130	0			
Methyl tert-butyl ether	20.19	5.0	20	0	101	65-125	0			
Methylene chloride	22.09	5.0	20	0	110	55-140	0			
o-Xylene	20.37	1.0	20	0	102	80-120	0			
Styrene	21.18	1.0	20	0	106	65-135	0			
Tetrachloroethene	19.69	2.0	20	0	98.4	45-150	0			
Toluene	20.25	1.0	20	0	101	75-120	0			
trans-1,2-Dichloroethene	22.07	1.0	20	0	110	60-140	0			
trans-1,3-Dichloropropene	20.06	1.0	20	0	100	55-140	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

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Batch ID: <b>R138301A</b>	Instrument ID <b>VMS5</b>			Method: <b>SW8260</b>			
Trichloroethene	19.67	1.0	20	0	98.4	70-125	0
Trichlorofluoromethane	22.77	1.0	20	0	114	60-145	0
Vinyl chloride	23.26	1.0	20	0	116	50-145	0
Xylenes, Total	61.46	3.0	60	0	102	75-130	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>19.65</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>98.2</i>	<i>70-120</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.42</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.1</i>	<i>75-120</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>19.85</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.2</i>	<i>85-115</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>20.54</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>103</i>	<i>85-120</i>	<i>0</i>

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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **R138301A**      Instrument ID **VMS5**      Method: **SW8260**

MS				Sample ID: 1404130-15A MS			Units: µg/L		Analysis Date: 4/3/2014 09:27 PM	
Client ID: GW-04				Run ID: VMS5_140403A			SeqNo: 2699024		Prep Date:	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	12.59	1.0	20	0	63	65-130	0			S
1,1,2,2-Tetrachloroethane	2.67	1.0	20	0	13.4	65-130	0			S
1,1,2-Trichloroethane	11.57	1.0	20	0	57.8	75-125	0			S
1,1-Dichloroethane	12.79	1.0	20	0	64	70-135	0			S
1,1-Dichloroethene	14.72	1.0	20	0	73.6	70-130	0			
1,2,4-Trichlorobenzene	11.54	1.0	20	0	57.7	65-135	0			S
1,2-Dibromo-3-chloropropane	7.02	1.0	20	0	35.1	50-130	0			S
1,2-Dibromoethane	12.38	1.0	20	0	61.9	81-158	0			S
1,2-Dichlorobenzene	11.55	1.0	20	0	57.8	70-120	0			S
1,2-Dichloroethane	11.21	1.0	20	0	56	70-130	0			S
1,2-Dichloropropane	11.5	2.0	20	0	57.5	75-125	0			S
1,3-Dichlorobenzene	11.95	2.0	20	0	59.8	75-125	0			S
1,4-Dichlorobenzene	11.62	2.0	20	0	58.1	75-125	0			S
2-Butanone	20.38	5.0	20	0	102	30-150	0			
2-Hexanone	16.58	5.0	20	0	82.9	55-130	0			
4-Methyl-2-pentanone	12.85	5.0	20	0	64.2	73-162	0			S
Acetone	33.09	20	20	0	165	40-140	0			S
Benzene	12.71	1.0	20	0	63.6	80-120	0			S
Bromodichloromethane	9.95	1.0	20	0	49.8	75-120	0			S
Bromoform	6.78	1.0	20	0	33.9	70-130	0			S
Bromomethane	22.69	1.0	20	0	113	30-145	0			
Carbon disulfide	13.61	2.5	20	0	68	35-165	0			
Carbon tetrachloride	11.04	1.0	20	0	55.2	65-140	0			S
Chlorobenzene	12.07	1.0	20	0	60.4	80-120	0			S
Chloroethane	15.58	1.0	20	0	77.9	60-135	0			
Chloroform	11.96	1.0	20	0	59.8	65-135	0			S
Chloromethane	13.92	1.0	20	0	69.6	70-125	0			S
cis-1,2-Dichloroethene	12.17	1.0	20	0	60.8	70-125	0			S
cis-1,3-Dichloropropene	10.91	1.0	20	0	54.6	70-130	0			S
Dibromochloromethane	7.48	1.0	20	0	37.4	60-135	0			S
Dichlorodifluoromethane	11.95	1.0	20	0	59.8	30-155	0			
Ethylbenzene	13.31	1.0	20	0	66.6	75-125	0			S
Isopropylbenzene	13.08	1.0	20	0	65.4	75-125	0			S
m,p-Xylene	25.56	2.0	40	0	63.9	75-130	0			S
Methyl tert-butyl ether	11.9	5.0	20	0	59.5	65-125	0			S
Methylene chloride	13.17	5.0	20	0	65.8	55-140	0			
o-Xylene	12.58	1.0	20	0	62.9	80-120	0			S
Styrene	12.44	1.0	20	0	62.2	65-135	0			S
Tetrachloroethene	24.17	2.0	20	0	121	45-150	0			
Toluene	13.04	1.0	20	0.3	63.7	75-120	0			S
trans-1,2-Dichloroethene	13.62	1.0	20	0	68.1	60-140	0			
trans-1,3-Dichloropropene	10.96	1.0	20	0	54.8	55-140	0			S

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.



**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: <b>R138301A</b>	Instrument ID <b>VMS5</b>		Method: <b>SW8260</b>					
Trichloroethene	20.01	1.0	20	0	100	70-125	0	
Trichlorofluoromethane	15.16	1.0	20	0	75.8	60-145	0	
Vinyl chloride	15.33	1.0	20	0	76.6	50-145	0	
Xylenes, Total	38.14	3.0	60	0	63.6	75-130	0	S
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>19.69</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>98.4</i>	<i>70-120</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.44</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.2</i>	<i>75-120</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>19.03</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>95.2</i>	<i>85-115</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>20.7</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>104</i>	<i>85-120</i>	<i>0</i>	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **R138301A**      Instrument ID **VMS5**      Method: **SW8260**

MSD				Sample ID: 1404130-15A MSD			Units: µg/L		Analysis Date: 4/3/2014 09:53 PM	
Client ID: GW-04				Run ID: VMS5_140403A			SeqNo: 2699026		Prep Date:	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	12.14	1.0	20	0	60.7	65-130	12.59	3.64	30	S
1,1,2,2-Tetrachloroethane	2.48	1.0	20	0	12.4	65-130	2.67	7.38	30	S
1,1,2-Trichloroethane	10.98	1.0	20	0	54.9	75-125	11.57	5.23	30	S
1,1-Dichloroethane	12.47	1.0	20	0	62.4	70-135	12.79	2.53	30	S
1,1-Dichloroethene	14.12	1.0	20	0	70.6	70-130	14.72	4.16	30	S
1,2,4-Trichlorobenzene	11.87	1.0	20	0	59.4	65-135	11.54	2.82	30	S
1,2-Dibromo-3-chloropropane	7.25	1.0	20	0	36.2	50-130	7.02	3.22	30	S
1,2-Dibromoethane	12.15	1.0	20	0	60.8	81-158	12.38	1.88	30	S
1,2-Dichlorobenzene	12.17	1.0	20	0	60.8	70-120	11.55	5.23	30	S
1,2-Dichloroethane	11.23	1.0	20	0	56.2	70-130	11.21	0.178	30	S
1,2-Dichloropropane	11.3	2.0	20	0	56.5	75-125	11.5	1.75	30	S
1,3-Dichlorobenzene	12.34	2.0	20	0	61.7	75-125	11.95	3.21	30	S
1,4-Dichlorobenzene	11.87	2.0	20	0	59.4	75-125	11.62	2.13	30	S
2-Butanone	18.88	5.0	20	0	94.4	30-150	20.38	7.64	30	S
2-Hexanone	15.73	5.0	20	0	78.6	55-130	16.58	5.26	30	S
4-Methyl-2-pentanone	12.29	5.0	20	0	61.4	73-162	12.85	4.46	30	S
Acetone	29.85	20	20	0	149	40-140	33.09	10.3	30	S
Benzene	12.42	1.0	20	0	62.1	80-120	12.71	2.31	30	S
Bromodichloromethane	10.2	1.0	20	0	51	75-120	9.95	2.48	30	S
Bromoform	6.82	1.0	20	0	34.1	70-130	6.78	0.588	30	S
Bromomethane	21.67	1.0	20	0	108	30-145	22.69	4.6	30	S
Carbon disulfide	13	2.5	20	0	65	35-165	13.61	4.58	30	S
Carbon tetrachloride	11.12	1.0	20	0	55.6	65-140	11.04	0.722	30	S
Chlorobenzene	11.61	1.0	20	0	58	80-120	12.07	3.89	30	S
Chloroethane	15.17	1.0	20	0	75.8	60-135	15.58	2.67	30	S
Chloroform	11.84	1.0	20	0	59.2	65-135	11.96	1.01	30	S
Chloromethane	13.24	1.0	20	0	66.2	70-125	13.92	5.01	30	S
cis-1,2-Dichloroethene	11.76	1.0	20	0	58.8	70-125	12.17	3.43	30	S
cis-1,3-Dichloropropene	11.04	1.0	20	0	55.2	70-130	10.91	1.18	30	S
Dibromochloromethane	7.37	1.0	20	0	36.8	60-135	7.48	1.48	30	S
Dichlorodifluoromethane	11.02	1.0	20	0	55.1	30-155	11.95	8.1	30	S
Ethylbenzene	12.55	1.0	20	0	62.8	75-125	13.31	5.88	30	S
Isopropylbenzene	13.16	1.0	20	0	65.8	75-125	13.08	0.61	30	S
m,p-Xylene	25.12	2.0	40	0	62.8	75-130	25.56	1.74	30	S
Methyl tert-butyl ether	11.69	5.0	20	0	58.4	65-125	11.9	1.78	30	S
Methylene chloride	13.16	5.0	20	0	65.8	55-140	13.17	0.076	30	S
o-Xylene	12.29	1.0	20	0	61.4	80-120	12.58	2.33	30	S
Styrene	12.27	1.0	20	0	61.4	65-135	12.44	1.38	30	S
Tetrachloroethene	23.12	2.0	20	0	116	45-150	24.17	4.44	30	S
Toluene	12.27	1.0	20	0.3	59.8	75-120	13.04	6.08	30	S
trans-1,2-Dichloroethene	13.13	1.0	20	0	65.6	60-140	13.62	3.66	30	S
trans-1,3-Dichloropropene	10.54	1.0	20	0	52.7	55-140	10.96	3.91	30	S

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: <b>R138301A</b>		Instrument ID <b>VMS5</b>		Method: <b>SW8260</b>					
Trichloroethene	19.44	1.0	20	0	97.2	70-125	20.01	2.89	30
Trichlorofluoromethane	14.62	1.0	20	0	73.1	60-145	15.16	3.63	30
Vinyl chloride	14.38	1.0	20	0	71.9	50-145	15.33	6.4	30
Xylenes, Total	37.41	3.0	60	0	62.4	75-130	38.14	1.93	30 S
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>19.96</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.8</i>	<i>70-120</i>	<i>19.69</i>	<i>1.36</i>	<i>30</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.21</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>96</i>	<i>75-120</i>	<i>19.44</i>	<i>1.19</i>	<i>30</i>
<i>Surr: Dibromofluoromethane</i>	<i>19.51</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.6</i>	<i>85-115</i>	<i>19.03</i>	<i>2.49</i>	<i>30</i>
<i>Surr: Toluene-d8</i>	<i>20.59</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>103</i>	<i>85-120</i>	<i>20.7</i>	<i>0.533</i>	<i>30</i>

The following samples were analyzed in this batch:

1404130-15A	1404130-17A
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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **R138353**      Instrument ID **VMS7**      Method: **SW8260**

MBLK		Sample ID: <b>VBLS2-140403-R138353</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>4/3/2014 04:21 PM</b>		
Client ID:		Run ID: <b>VMS7_140403A</b>				SeqNo: <b>2699397</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	U	5.0								
1,1,2,2-Tetrachloroethane	U	5.0								
1,1,2-Trichloroethane	U	5.0								
1,1,2-Trichlorotrifluoroethane	U	5.0								
1,1-Dichloroethane	U	5.0								
1,1-Dichloroethene	U	5.0								
1,2,4-Trichlorobenzene	U	5.0								
1,2-Dibromo-3-chloropropane	U	5.0								
1,2-Dibromoethane	U	5.0								
1,2-Dichlorobenzene	U	5.0								
1,2-Dichloroethane	U	5.0								
1,2-Dichloropropane	U	5.0								
1,3-Dichlorobenzene	U	5.0								
1,4-Dichlorobenzene	U	5.0								
2-Butanone	U	10								
2-Hexanone	U	5.0								
4-Methyl-2-pentanone	U	5.0								
Acetone	U	10								
Benzene	U	5.0								
Bromodichloromethane	U	5.0								
Bromoform	U	5.0								
Bromomethane	U	10								
Carbon disulfide	U	5.0								
Carbon tetrachloride	U	5.0								
Chlorobenzene	U	5.0								
Chloroethane	U	5.0								
Chloroform	U	5.0								
Chloromethane	U	10								
cis-1,2-Dichloroethene	U	5.0								
cis-1,3-Dichloropropene	U	5.0								
Cyclohexane	U	5.0								
Dibromochloromethane	U	5.0								
Dichlorodifluoromethane	U	10								
Ethylbenzene	U	5.0								
Isopropylbenzene	U	5.0								
m,p-Xylene	U	2.5								
Methyl acetate	U	10								
Methyl tert-butyl ether	U	5.0								
Methylcyclohexane	U	10								
Methylene chloride	U	5.0								
o-Xylene	U	2.5								
Styrene	U	5.0								

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: <b>R138353</b>	Instrument ID <b>VMS7</b>	Method: <b>SW8260</b>					
Tetrachloroethene	U	5.0					
Toluene	U	5.0					
trans-1,2-Dichloroethene	U	5.0					
trans-1,3-Dichloropropene	U	10					
Trichloroethene	U	5.0					
Trichlorofluoromethane	U	5.0					
Vinyl chloride	U	5.0					
Xylenes, Total	U	5.0					
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>20.2</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>101</i>	<i>70-120</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.37</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>96.8</i>	<i>75-120</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>19.54</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.7</i>	<i>85-115</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>20.29</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>101</i>	<i>85-120</i>	<i>0</i>

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **R138353**      Instrument ID **VMS7**      Method: **SW8260**

LCS		Sample ID: <b>VLCSS1-140403-R138353</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>4/3/2014 03:20 PM</b>		
Client ID:		Run ID: <b>VMS7_140403A</b>				SeqNo: <b>2699261</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	19.42	5.0	20	0	97.1	70-135	0			
1,1,2,2-Tetrachloroethane	21.73	5.0	20	0	109	55-130	0			
1,1,2-Trichloroethane	21.12	5.0	20	0	106	60-125	0			
1,1-Dichloroethane	20.83	5.0	20	0	104	75-125	0			
1,1-Dichloroethene	21.65	5.0	20	0	108	65-135	0			
1,2,4-Trichlorobenzene	20.69	5.0	20	0	103	65-130	0			
1,2-Dibromo-3-chloropropane	23	5.0	20	0	115	40-135	0			
1,2-Dibromoethane	21.18	5.0	20	0	106	70-125	0			
1,2-Dichlorobenzene	20.23	5.0	20	0	101	75-120	0			
1,2-Dichloroethane	20.65	5.0	20	0	103	70-135	0			
1,2-Dichloropropane	19.71	5.0	20	0	98.6	70-120	0			
1,3-Dichlorobenzene	20.37	5.0	20	0	102	70-125	0			
1,4-Dichlorobenzene	20.59	5.0	20	0	103	70-125	0			
2-Butanone	28.2	10	20	0	141	30-160	0			
2-Hexanone	24.61	5.0	20	0	123	45-145	0			
4-Methyl-2-pentanone	35.05	5.0	20	0	175	114-173	0			S
Acetone	28.55	10	20	0	143	20-160	0			
Benzene	20.04	5.0	20	0	100	75-125	0			
Bromodichloromethane	19.34	5.0	20	0	96.7	70-130	0			
Bromoform	20.62	5.0	20	0	103	55-135	0			
Bromomethane	27.83	10	20	0	139	30-160	0			
Carbon disulfide	23.52	5.0	20	0	118	45-160	0			
Carbon tetrachloride	19.87	5.0	20	0	99.4	65-135	0			
Chlorobenzene	19.51	5.0	20	0	97.6	75-125	0			
Chloroethane	19.12	5.0	20	0	95.6	40-155	0			
Chloroform	20.02	5.0	20	0	100	70-125	0			
Chloromethane	18.52	10	20	0	92.6	50-130	0			
cis-1,2-Dichloroethene	20.99	5.0	20	0	105	65-125	0			
cis-1,3-Dichloropropene	20.69	5.0	20	0	103	70-125	0			
Dibromochloromethane	19.39	5.0	20	0	97	65-135	0			
Dichlorodifluoromethane	15.46	10	20	0	77.3	35-135	0			
Ethylbenzene	19.65	5.0	20	0	98.2	75-125	0			
Isopropylbenzene	20.24	5.0	20	0	101	75-130	0			
m,p-Xylene	39.76	2.5	40	0	99.4	80-125	0			
Methyl tert-butyl ether	23.98	5.0	20	0	120	75-125	0			
Methylene chloride	20.98	5.0	20	0	105	55-140	0			
o-Xylene	19.88	2.5	20	0	99.4	75-125	0			
Styrene	20.93	5.0	20	0	105	75-125	0			
Tetrachloroethene	18.56	5.0	20	0	92.8	65-140	0			
Toluene	19.76	5.0	20	0	98.8	70-125	0			
trans-1,2-Dichloroethene	21.56	5.0	20	0	108	65-135	0			
trans-1,3-Dichloropropene	21.58	10	20	0	108	65-125	0			

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: <b>R138353</b>	Instrument ID <b>VMS7</b>		Method: <b>SW8260</b>				
Trichloroethene	20	5.0	20	0	100	75-125	0
Trichlorofluoromethane	19.05	5.0	20	0	95.2	25-185	0
Vinyl chloride	19.16	5.0	20	0	95.8	60-125	0
Xylenes, Total	59.64	5.0	60	0	99.4	75-125	0
<i>Surr: 1,2-Dichloroethane-d4</i>	19.97	0	20	0	99.8	70-120	0
<i>Surr: 4-Bromofluorobenzene</i>	19.03	0	20	0	95.2	75-120	0
<i>Surr: Dibromofluoromethane</i>	19.33	0	20	0	96.6	85-115	0
<i>Surr: Toluene-d8</i>	19.32	0	20	0	96.6	85-120	0

The following samples were analyzed in this batch:

1404130-16A

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **R138585**      Instrument ID **VMS7**      Method: **SW8260**

MBLK		Sample ID: <b>VLKS1-140409-R138585</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>4/9/2014 10:11 AM</b>		
Client ID:		Run ID: <b>VMS7_140409A</b>				SeqNo: <b>2705763</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	U	5.0								
1,1,2,2-Tetrachloroethane	U	5.0								
1,1,2-Trichloroethane	U	5.0								
1,1,2-Trichlorotrifluoroethane	U	5.0								
1,1-Dichloroethane	U	5.0								
1,1-Dichloroethene	U	5.0								
1,2,4-Trichlorobenzene	U	5.0								
1,2-Dibromo-3-chloropropane	U	5.0								
1,2-Dibromoethane	U	5.0								
1,2-Dichlorobenzene	U	5.0								
1,2-Dichloroethane	U	5.0								
1,2-Dichloropropane	U	5.0								
1,3-Dichlorobenzene	U	5.0								
1,4-Dichlorobenzene	U	5.0								
2-Butanone	U	10								
2-Hexanone	U	5.0								
4-Methyl-2-pentanone	U	5.0								
Acetone	U	10								
Benzene	U	5.0								
Bromodichloromethane	U	5.0								
Bromoform	U	5.0								
Bromomethane	U	10								
Carbon disulfide	U	5.0								
Carbon tetrachloride	U	5.0								
Chlorobenzene	U	5.0								
Chloroethane	U	5.0								
Chloroform	U	5.0								
Chloromethane	U	10								
cis-1,2-Dichloroethene	U	5.0								
cis-1,3-Dichloropropene	U	5.0								
Cyclohexane	U	5.0								
Dibromochloromethane	U	5.0								
Dichlorodifluoromethane	U	10								
Ethylbenzene	U	5.0								
Isopropylbenzene	U	5.0								
m,p-Xylene	U	2.5								
Methyl acetate	U	10								
Methyl tert-butyl ether	U	5.0								
Methylcyclohexane	U	10								
Methylene chloride	U	5.0								
o-Xylene	U	2.5								
Styrene	U	5.0								

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.



**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: <b>R138585</b>	Instrument ID <b>VMS7</b>	Method: <b>SW8260</b>
Tetrachloroethene	U	5.0
Toluene	U	5.0
trans-1,2-Dichloroethene	U	5.0
trans-1,3-Dichloropropene	U	10
Trichloroethene	U	5.0
Trichlorofluoromethane	U	5.0
Vinyl chloride	U	5.0
Xylenes, Total	U	5.0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>19.79</i>	<i>0 20 0 99 70-120 0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>18.94</i>	<i>0 20 0 94.7 75-120 0</i>
<i>Surr: Dibromofluoromethane</i>	<i>19.56</i>	<i>0 20 0 97.8 85-115 0</i>
<i>Surr: Toluene-d8</i>	<i>19.9</i>	<i>0 20 0 99.5 85-120 0</i>

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **R138585**      Instrument ID **VMS7**      Method: **SW8260**

LCS				Sample ID: <b>VLCSS1-140409-R138585</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>4/9/2014 09:08 AM</b>	
Client ID:				Run ID: <b>VMS7_140409A</b>			SeqNo: <b>2705759</b>		Prep Date:	
									DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	17.85	5.0	20	0	89.2	70-135	0			
1,1,2,2-Tetrachloroethane	19.62	5.0	20	0	98.1	55-130	0			
1,1,2-Trichloroethane	19.06	5.0	20	0	95.3	60-125	0			
1,1-Dichloroethane	18.33	5.0	20	0	91.6	75-125	0			
1,1-Dichloroethene	19.24	5.0	20	0	96.2	65-135	0			
1,2,4-Trichlorobenzene	18.49	5.0	20	0	92.4	65-130	0			
1,2-Dibromo-3-chloropropane	20.97	5.0	20	0	105	40-135	0			
1,2-Dibromoethane	18.92	5.0	20	0	94.6	70-125	0			
1,2-Dichlorobenzene	17.61	5.0	20	0	88	75-120	0			
1,2-Dichloroethane	18.22	5.0	20	0	91.1	70-135	0			
1,2-Dichloropropane	17.78	5.0	20	0	88.9	70-120	0			
1,3-Dichlorobenzene	17.82	5.0	20	0	89.1	70-125	0			
1,4-Dichlorobenzene	17.75	5.0	20	0	88.8	70-125	0			
2-Butanone	23.91	10	20	0	120	30-160	0			
2-Hexanone	21.99	5.0	20	0	110	45-145	0			
4-Methyl-2-pentanone	30.9	5.0	20	0	154	114-173	0			
Acetone	23.94	10	20	0	120	20-160	0			
Benzene	18	5.0	20	0	90	75-125	0			
Bromodichloromethane	17.66	5.0	20	0	88.3	70-130	0			
Bromoform	19.15	5.0	20	0	95.8	55-135	0			
Bromomethane	22.39	10	20	0	112	30-160	0			
Carbon disulfide	20.14	5.0	20	0	101	45-160	0			
Carbon tetrachloride	18.47	5.0	20	0	92.4	65-135	0			
Chlorobenzene	17.44	5.0	20	0	87.2	75-125	0			
Chloroethane	17.6	5.0	20	0	88	40-155	0			
Chloroform	17.3	5.0	20	0	86.5	70-125	0			
Chloromethane	16.66	10	20	0	83.3	50-130	0			
cis-1,2-Dichloroethene	18.38	5.0	20	0	91.9	65-125	0			
cis-1,3-Dichloropropene	18.97	5.0	20	0	94.8	70-125	0			
Dibromochloromethane	18	5.0	20	0	90	65-135	0			
Dichlorodifluoromethane	14.58	10	20	0	72.9	35-135	0			
Ethylbenzene	17.39	5.0	20	0	87	75-125	0			
Isopropylbenzene	17.6	5.0	20	0	88	75-130	0			
m,p-Xylene	34.72	2.5	40	0	86.8	80-125	0			
Methyl tert-butyl ether	20.56	5.0	20	0	103	75-125	0			
Methylene chloride	19.44	5.0	20	0	97.2	55-140	0			
o-Xylene	17.63	2.5	20	0	88.2	75-125	0			
Styrene	18.26	5.0	20	0	91.3	75-125	0			
Tetrachloroethene	16.24	5.0	20	0	81.2	65-140	0			
Toluene	17.54	5.0	20	0	87.7	70-125	0			
trans-1,2-Dichloroethene	19.03	5.0	20	0	95.2	65-135	0			
trans-1,3-Dichloropropene	19.34	10	20	0	96.7	65-125	0			

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

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Batch ID: <b>R138585</b>	Instrument ID <b>VMS7</b>			Method: <b>SW8260</b>			
Trichloroethene	17.61	5.0	20	0	88	75-125	0
Trichlorofluoromethane	17.1	5.0	20	0	85.5	25-185	0
Vinyl chloride	16.91	5.0	20	0	84.6	60-125	0
Xylenes, Total	52.35	5.0	60	0	87.2	75-125	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>21.09</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>105</i>	<i>70-120</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>20.14</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>101</i>	<i>75-120</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>20.08</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>100</i>	<i>85-115</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>19.74</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>98.7</i>	<i>85-120</i>	<i>0</i>

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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **R138585**      Instrument ID **VMS7**      Method: **SW8260**

MS				Sample ID: 1404130-06A MS			Units: µg/Kg		Analysis Date: 4/9/2014 07:13 PM	
Client ID: SO-03-D-12-16				Run ID: VMS7_140409A			SeqNo: 2705786		Prep Date:	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	13.3	5.0	20	0	66.5	70-135	0			S
1,1,2,2-Tetrachloroethane	15.36	5.0	20	0	76.8	55-130	0			
1,1,2-Trichloroethane	14.04	5.0	20	0	70.2	60-125	0			
1,1-Dichloroethane	13.88	5.0	20	0	69.4	75-125	0			S
1,1-Dichloroethene	14.42	5.0	20	0	72.1	65-135	0			
1,2,4-Trichlorobenzene	11.47	5.0	20	0	57.4	65-130	0			S
1,2-Dibromo-3-chloropropane	16.03	5.0	20	0	80.2	40-135	0			
1,2-Dibromoethane	14.44	5.0	20	0	72.2	44-112	0			
1,2-Dichlorobenzene	12.43	5.0	20	0	62.2	75-120	0			S
1,2-Dichloroethane	14.14	5.0	20	0	70.7	70-135	0			
1,2-Dichloropropane	13.65	5.0	20	0	68.2	70-120	0			S
1,3-Dichlorobenzene	12.18	5.0	20	0	60.9	70-125	0			S
1,4-Dichlorobenzene	12.1	5.0	20	0	60.5	70-125	0			S
2-Butanone	19.18	10	20	2.074	85.5	30-160	0			
2-Hexanone	16.18	5.0	20	0	80.9	45-145	0			
4-Methyl-2-pentanone	23.41	5.0	20	0	117	52-180	0			
Acetone	24.19	10	20	19.35	24.2	20-160	0			
Benzene	13.56	5.0	20	0	67.8	75-125	0			S
Bromodichloromethane	13.33	5.0	20	0	66.6	70-130	0			S
Bromoform	14.25	5.0	20	0	71.2	55-135	0			
Bromomethane	15.95	10	20	0	79.8	30-160	0			
Carbon disulfide	15.28	5.0	20	0	76.4	45-160	0			
Carbon tetrachloride	13.82	5.0	20	0	69.1	65-135	0			
Chlorobenzene	12.73	5.0	20	0	63.6	75-125	0			S
Chloroethane	12.65	5.0	20	0	63.2	40-155	0			
Chloroform	13.57	5.0	20	0	67.8	70-125	0			S
Chloromethane	11.11	10	20	0	55.6	50-130	0			
cis-1,2-Dichloroethene	13.74	5.0	20	0	68.7	65-125	0			
cis-1,3-Dichloropropene	13.93	5.0	20	0	69.6	70-125	0			S
Dibromochloromethane	13.46	5.0	20	0	67.3	65-135	0			
Dichlorodifluoromethane	11.36	10	20	0	56.8	35-135	0			
Ethylbenzene	12.9	5.0	20	0	64.5	75-125	0			S
Isopropylbenzene	12.42	5.0	20	0	62.1	75-130	0			S
m,p-Xylene	25.15	2.5	40	0	62.9	80-125	0			S
Methyl tert-butyl ether	15.53	5.0	20	0	77.6	75-125	0			
Methylene chloride	17.72	5.0	20	1.077	83.2	55-140	0			
o-Xylene	12.44	2.5	20	0	62.2	75-125	0			S
Styrene	12.75	5.0	20	0	63.8	75-125	0			S
Tetrachloroethene	12.41	5.0	20	0	62	65-140	0			S
Toluene	13.13	5.0	20	0.2997	64.2	70-125	0			S
trans-1,2-Dichloroethene	14.51	5.0	20	0	72.6	65-135	0			
trans-1,3-Dichloropropene	13.98	10	20	0	69.9	65-125	0			

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: <b>R138585</b>		Instrument ID <b>VMS7</b>		Method: <b>SW8260</b>				
Trichloroethene	13.32	5.0	20	0	66.6	75-125	0	S
Trichlorofluoromethane	13.27	5.0	20	0	66.4	25-185	0	
Vinyl chloride	12.58	5.0	20	0	62.9	60-125	0	
Xylenes, Total	37.59	5.0	60	0	62.6	75-125	0	S
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>21.46</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>107</i>	<i>70-120</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.17</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>95.8</i>	<i>75-120</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>20.14</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>101</i>	<i>85-115</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>19.48</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.4</i>	<i>85-120</i>	<i>0</i>	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **R138585**      Instrument ID **VMS7**      Method: **SW8260**

MSD				Sample ID: 1404130-06A MSD			Units: µg/Kg		Analysis Date: 4/9/2014 07:39 PM	
Client ID: SO-03-D-12-16				Run ID: VMS7_140409A			SeqNo: 2705787		Prep Date:	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	13.91	5.0	20	0	69.6	70-135	13.3	4.48	30	S
1,1,2,2-Tetrachloroethane	17.01	5.0	20	0	85	55-130	15.36	10.2	30	
1,1,2-Trichloroethane	15.33	5.0	20	0	76.6	60-125	14.04	8.78	30	
1,1-Dichloroethane	14.36	5.0	20	0	71.8	75-125	13.88	3.4	30	S
1,1-Dichloroethene	14.49	5.0	20	0	72.4	65-135	14.42	0.484	30	
1,2,4-Trichlorobenzene	13.07	5.0	20	0	65.4	65-130	11.47	13	30	
1,2-Dibromo-3-chloropropane	17.61	5.0	20	0	88	40-135	16.03	9.39	30	
1,2-Dibromoethane	15.52	5.0	20	0	77.6	44-112	14.44	7.21	30	
1,2-Dichlorobenzene	13.71	5.0	20	0	68.6	75-120	12.43	9.79	30	S
1,2-Dichloroethane	15.4	5.0	20	0	77	70-135	14.14	8.53	30	
1,2-Dichloropropane	14.48	5.0	20	0	72.4	70-120	13.65	5.9	30	
1,3-Dichlorobenzene	13.87	5.0	20	0	69.4	70-125	12.18	13	30	S
1,4-Dichlorobenzene	13.44	5.0	20	0	67.2	70-125	12.1	10.5	30	S
2-Butanone	20.05	10	20	2.074	89.9	30-160	19.18	4.44	30	
2-Hexanone	17.85	5.0	20	0	89.2	45-145	16.18	9.81	30	
4-Methyl-2-pentanone	25.49	5.0	20	0	127	52-180	23.41	8.51	30	
Acetone	28.39	10	20	19.35	45.2	20-160	24.19	16	30	
Benzene	13.83	5.0	20	0	69.2	75-125	13.56	1.97	30	S
Bromodichloromethane	13.84	5.0	20	0	69.2	70-130	13.33	3.75	30	S
Bromoform	15.83	5.0	20	0	79.2	55-135	14.25	10.5	30	
Bromomethane	17.22	10	20	0	86.1	30-160	15.95	7.66	30	
Carbon disulfide	14.86	5.0	20	0	74.3	45-160	15.28	2.79	30	
Carbon tetrachloride	13.81	5.0	20	0	69	65-135	13.82	0.0724	30	
Chlorobenzene	13.57	5.0	20	0	67.8	75-125	12.73	6.39	30	S
Chloroethane	13.15	5.0	20	0	65.8	40-155	12.65	3.88	30	
Chloroform	13.96	5.0	20	0	69.8	70-125	13.57	2.83	30	S
Chloromethane	11.39	10	20	0	57	50-130	11.11	2.49	30	
cis-1,2-Dichloroethene	14.24	5.0	20	0	71.2	65-125	13.74	3.57	30	
cis-1,3-Dichloropropene	14.88	5.0	20	0	74.4	70-125	13.93	6.59	30	
Dibromochloromethane	14.59	5.0	20	0	73	65-135	13.46	8.06	30	
Dichlorodifluoromethane	10.81	10	20	0	54	35-135	11.36	4.96	30	
Ethylbenzene	13.39	5.0	20	0	67	75-125	12.9	3.73	30	S
Isopropylbenzene	13.11	5.0	20	0	65.6	75-130	12.42	5.41	30	S
m,p-Xylene	26.25	2.5	40	0	65.6	80-125	25.15	4.28	30	S
Methyl tert-butyl ether	16.55	5.0	20	0	82.8	75-125	15.53	6.36	30	
Methylene chloride	16.83	5.0	20	1.077	78.8	55-140	17.72	5.15	30	
o-Xylene	13.4	2.5	20	0	67	75-125	12.44	7.43	30	S
Styrene	14	5.0	20	0	70	75-125	12.75	9.35	30	S
Tetrachloroethene	12.83	5.0	20	0	64.2	65-140	12.41	3.33	30	S
Toluene	13.67	5.0	20	0.2997	66.9	70-125	13.13	4.03	30	S
trans-1,2-Dichloroethene	14.56	5.0	20	0	72.8	65-135	14.51	0.344	30	
trans-1,3-Dichloropropene	14.98	10	20	0	74.9	65-125	13.98	6.91	30	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: <b>R138585</b>		Instrument ID <b>VMS7</b>		Method: <b>SW8260</b>						
Trichloroethene	13.6	5.0	20	0	68	75-125	13.32	2.08	30	S
Trichlorofluoromethane	13.1	5.0	20	0	65.5	25-185	13.27	1.29	30	
Vinyl chloride	12.13	5.0	20	0	60.6	60-125	12.58	3.64	30	
Xylenes, Total	39.65	5.0	60	0	66.1	75-125	37.59	5.33	30	S
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>21.06</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>105</i>	<i>70-120</i>	<i>21.46</i>	<i>1.88</i>	<i>30</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>20.04</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>100</i>	<i>75-120</i>	<i>19.17</i>	<i>4.44</i>	<i>30</i>	
<i>Surr: Dibromofluoromethane</i>	<i>20.07</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>100</i>	<i>85-115</i>	<i>20.14</i>	<i>0.348</i>	<i>30</i>	
<i>Surr: Toluene-d8</i>	<i>19.38</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>96.9</i>	<i>85-120</i>	<i>19.48</i>	<i>0.515</i>	<i>30</i>	

The following samples were analyzed in this batch:

1404130-01A	1404130-02A	1404130-03A
1404130-04A	1404130-05A	1404130-06A
1404130-07A	1404130-08A	1404130-09A
1404130-10A	1404130-11A	1404130-12A

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech  
 Work Order: 1404130  
 Project: KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **R138307** Instrument ID **MOIST** Method: **A2540 G**

MBLK		Sample ID: WBLKS-R138307					Units: % of sample		Analysis Date: 4/2/2014 01:35 PM		
Client ID:			Run ID: MOIST_140402B			SeqNo: 2697810		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture U 0.050

LCS		Sample ID: LCS-R138307					Units: % of sample		Analysis Date: 4/2/2014 01:35 PM		
Client ID:			Run ID: MOIST_140402B			SeqNo: 2697808		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 100 0.050 100 0 100 99.5-100.5 0

DUP				Sample ID: 1404034-02B DUP				Units: % of sample			Analysis Date: 4/2/2014 01:35 PM			
Client ID:				Run ID: MOIST_140402B				SeqNo: 2697784			Prep Date:		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			

Moisture 0.5 0.050 0 0 0 0-0 0.54 7.69 20

<b>DUP</b>				Sample ID: <b>1404094-12B DUP</b>				Units: % of sample			Analysis Date: <b>4/2/2014 01:35 PM</b>			
Client ID:				Run ID: <b>MOIST_140402B</b>				SeqNo: <b>2697797</b>			Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				

Moisture 23.44 0.050 0 0 0 0-0 24.18 3.11 20

The following samples were analyzed in this batch:

1404130-01B	1404130-02B	1404130-03B
-------------	-------------	-------------

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.



**Client:** Tetra Tech  
**Work Order:** 1404130  
**Project:** KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **R138313** Instrument ID **MOIST** Method: **A2540 G**

<b>MBLK</b>		Sample ID: <b>WBLKS-R138313</b>				Units: % of sample		Analysis Date: <b>4/2/2014 05:01 PM</b>		
Client ID:		Run ID: <b>MOIST_140402C</b>				SeqNo: <b>2697868</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture U 0.050

<b>LCS</b>		Sample ID: <b>LCS-R138313</b>				Units: % of sample		Analysis Date: <b>4/2/2014 05:01 PM</b>		
Client ID:		Run ID: <b>MOIST_140402C</b>				SeqNo: <b>2697867</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 99.99 0.050 100 0 100 99.5-100.5 0

<b>DUP</b>		Sample ID: <b>1404130-12B DUP</b>				Units: % of sample		Analysis Date: <b>4/2/2014 05:01 PM</b>		
Client ID: <b>SO-06-D-16-20</b>		Run ID: <b>MOIST_140402C</b>				SeqNo: <b>2697866</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 23.91 0.050 0 0 0 0-0 24.25 1.41 20

The following samples were analyzed in this batch:

1404130-04B	1404130-05B	1404130-06B
1404130-07B	1404130-08B	1404130-09B
1404130-10B	1404130-11B	1404130-12B

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech  
 Work Order: 1404130  
 Project: KCMO Public Works East Garage 3.31-4.1.14

## QC BATCH REPORT

Batch ID: **R138379** Instrument ID **MOIST** Method: **A2540 G**

<b>MBLK</b>		Sample ID: <b>WBLKS-R138379</b>				Units: % of sample			Analysis Date: <b>4/3/2014 02:05 PM</b>		
Client ID:		Run ID: <b>MOIST_140403A</b>				SeqNo: <b>2699348</b>			Prep Date:		
									DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture U 0.050

<b>LCS</b>		Sample ID: <b>LCS-R138379</b>				Units: % of sample			Analysis Date: <b>4/3/2014 02:05 PM</b>		
Client ID:		Run ID: <b>MOIST_140403A</b>				SeqNo: <b>2699346</b>			Prep Date:		
									DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 100 0.050 100 0 100 99.5-100.5 0

<b>DUP</b>		Sample ID: <b>1404182-01B DUP</b>				Units: % of sample			Analysis Date: <b>4/3/2014 02:05 PM</b>		
Client ID:		Run ID: <b>MOIST_140403A</b>				SeqNo: <b>2699334</b>			Prep Date:		
									DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 21.63 0.050 0 0 0 0-0 22.15 2.38 20

<b>DUP</b>		Sample ID: <b>1404184-01A DUP</b>				Units: % of sample			Analysis Date: <b>4/3/2014 02:05 PM</b>		
Client ID:		Run ID: <b>MOIST_140403A</b>				SeqNo: <b>2699338</b>			Prep Date:		
									DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 16.81 0.050 0 0 0 0-0 15.59 7.53 20

The following samples were analyzed in this batch:

1404130-13A 1404130-14A

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.



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# Chain of Custody Form

Page      of     

COC ID: 105127

Houston, TX  
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+1 610 948 4903

Salt Lake City, UT  
+1 801 266 7700

South Charleston, WV  
+1 304 356 3168

York, PA  
+1 717 505 5280

ALS Project Manager:

ALS Work Order #: 1404130

Customer Information		Project Information		Parameter/Method Request for Analysis												
Purchase Order		Project Name	KCMO Public Works	A	TCL Volatiles with GRO (C6-C10) by EPA 8260											
Work Order		Project Number	E Garage	B	TCL Semi-Volatiles with DRO (C10-C28) by EPA 8270											
Company Name	Tetra Tech	Bill To Company	Tetra Tech	C	PCBs by EPA 8182											
Send Report To	Kumud Pyakuryal	Invoice Attn	Emily Fisher	D	RCRA 8											
Address	415 Oak Street	Address	415 Oak Street	E	% Moisture											
City/State/Zip	Kansas City, MO 64108	City/State/Zip	Kansas City, MO 64108	F	Dis. RCRA 8 Metals-Field Filtered											
Phone	(816) 412-1755	Phone	(816) 412-1755	G	Pesticides by EPA 8141											
Fax	(816) 410-1748	Fax	(816) 410-1748	H	Full Ilet Herbicides by EPA 8151											
e-Mail Address		e-Mail Address		I												
				J												

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-04-S-0-4	4/1/14	15:30	SOIL			✓	✓	✓	✓							
2	SO-01-D-16-20	4/1/14	16:00	SOIL			✓	✓	✓	✓							
3	SO-02-S-0-4	4/1/14	12:15	SOIL													
4	SO-02-D-16-20	4/1/14	12:40	SOIL													
5	SO-03-S-0-4	4/1/14	11:10	SOIL													
6	SO-03-D-12-16	4/1/14	11:45	SOIL													
7	<del>SO-04-S-0-4</del>	<del>3/31/14</del>	<del>16:05</del>	<del>SOIL</del>													
8	SO-04-S-0-4	3/31/14	11:10	SOIL													
9	SO-04-D-16-20	3/31/14	12:00	SOIL													
10																	

Sampler(s) Please Print & Sign <i>Kumud Pyakuryal</i>		Shipment Method <i>FedEx</i>		Required Turnaround Time: (Check Box) <input type="checkbox"/> Std 10 WK Days <input type="checkbox"/> 5 WK Days <input type="checkbox"/> Other <u>2 WK Days</u> <input type="checkbox"/> 24 Hour				Results Due Date:	
Relinquished by: <i>Kumud Pyakuryal</i>	Date: <i>4/1/14</i>	Time: <i>18:30</i>	Received by: <i>FED EX</i>	Notes:					
Relinquished by: <i>FED EX</i>	Date: <i>4/2/14</i>	Time: <i>0930</i>	Received by (Laboratory): <i>[Signature]</i>	Cooler ID:	Cooler Temp:	QC Package: (Check One Box Below)			
Logged by (Laboratory): <i>DCS</i>	Date: <i>4/2/14</i>	Time: <i>1545</i>	Checked by (Laboratory): <i>[Signature]</i>		<i>4.42</i>	<input checked="" type="checkbox"/> Level II Std QC <input type="checkbox"/> TRRP Check List <input type="checkbox"/> Level III Std QC/Raw Data <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV BWS46/CLP <input type="checkbox"/> Other			
Preservative Key: 1-HCl    2-HNO <sub>3</sub> 3-H <sub>2</sub> SO <sub>4</sub> 4-NaOH    5-Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> 6-NaHSO <sub>4</sub> 7-Other    8-4°C    9-5035									

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.  
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.  
 3. The Chain of Custody is a legal document. All information must be completed accurately.

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# Chain of Custody Form

Page 1 of 1

COC ID: 105128

Houston, TX  
+1 281 530 5656

Middletown, PA  
+1 717 944 5541

Spring City, PA  
+1 610 948 4903

Salt Lake City, UT  
+1 801 266 7700

South Charleston, WV  
+1 304 356 3168

York, PA  
+1 717 505 5280

ALS Project Manager:

ALS Work Order #: 1404130

## Customer Information

Purchase Order	
Work Order	
Company Name	Tetra Tech
Send Report To	Kumud Pyakuryal
Address	415 Oak Street
City/State/Zip	Kansas City, MO 64106
Phone	(816) 412-1755
Fax	(816) 410-1748
e-Mail Address	

## Project Information

Project Name	KCMO Public Works,
Project Number	E. Garage
Bill To Company	Tetra Tech
Invoice Attn	Emily Fisher
Address	415 Oak Street
City/State/Zip	Kansas City, MO 64106
Phone	(816) 412-1755
Fax	(816) 410-1748
e-Mail Address	

## Parameter/Method Request for Analysis

A	TCL Volatiles with GRO (C6-C10) by EPA 8260
B	TCL Semi-Volatiles with DRO (C10-C28) by EPA 8270
C	PCBs by EPA 8082
D	RCRA 8
E	% Moisture
F	Dis. RCRA 8 Metals-Field Filtered
G	Pesticides by EPA 8141
H	Full list Herbicides by EPA 8151
I	
J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-05-S-0-4	3/31/14	15:05	SOIL			✓	✓	✓	✓							
2	SO-05-D-16-20	3/31/14	15:45	SOIL			✓	✓	✓	✓							
3	SO-06-S-0-4	3/31/14	16:00	SOIL			✓	✓	✓	✓							
4	SO-06-D-16-20	3/31/14	16:30	SOIL			✓	✓	✓	✓							
5	SED-01	3/31/14	16:35	SEDIMENT					✓	✓			✓	✓			
6	SED-02	3/31/14	16:00	SEDIMENT					✓	✓			✓	✓			
7	4W-04	3/31/14	12:00	WATER			✓	✓	✓	✓		✓					
8	16 Trip Blank	3/31/14		SOIL			✓										
9	17 Trip Blank	3/31/14		WATER			✓										
10																	

Sampler(s) Please Print & Sign Kumud Pyakuryal		Shipment Method Fed Ex		Required Turnaround Time: (Check Box) <input type="checkbox"/> Std 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Results Due Date: 4/1/2014			
Relinquished by: Kumud Pyakuryal	Date: 4/1/14	Time: 18:30	Received by: FED EX	Notes:							
Relinquished by: FED EX	Date: 4/2/14	Time: 09:30	Received by (Laboratory): X-2	Cooler ID:	Cooler Temp: 4.4°C	QC Package: (Check One Box Below)					
Logged by (Laboratory): DES	Date: 4/2/14	Time: 15:45	Checked by (Laboratory): [Signature]			<input checked="" type="checkbox"/> Level II Std QC <input type="checkbox"/> TRRP Check List <input type="checkbox"/> Level III Std QC/Row Data <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV EWB48/CLP <input type="checkbox"/> Other					
Preservative Key: 1-HCl 2-HNO <sub>3</sub> 3-H <sub>2</sub> SO <sub>4</sub> 4-NaOH 5-Na <sub>2</sub> S <sub>2</sub> O <sub>8</sub> 6-NaHSO <sub>4</sub> 7-Other 8-4°C 9-5035											

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Sample Receipt Checklist

Client Name: **TETRATECH - MO**

Date/Time Received: **02-Apr-14 09:30**

Work Order: **1404130**

Received by: **DS**

Checklist completed by <u>Diane Shaw</u>	02-Apr-14	Reviewed by: <u>Ann Preston</u>	03-Apr-14
eSignature	Date	eSignature	Date

Matrices: Soil, Sediment, Water

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>4.4 c</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>4/2/2014 4:19:47 PM</u>		
Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:			

Login Notes:

-----

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

0045

0055

**FedEx** NEW Package  
Express US Airbill

 FedEx Tracking Number **898946079711**

1 From This portion can be removed for Recipient's records.

 Date **4/1/2014** FedEx Tracking Number **898946079711**

 Sender's Name **KUMUD PRAKASH** Phone **816 412-1741**

 Company **TETRA TECH EM INC** **GOVT**

 Address **415 OAK ST**

 City **KANSAS CITY** State **MO** ZIP **64106-1120**

2 Your Internal Billing Reference

 3 To Recipient's Name **ALS GROUND USA Corp** Phone **616 399-6070**

 Company **ALS GROUND USA Corp**

 Address **3352 128th Avenue**

 Address **Holland, Michigan 49424**

 City **MT** ZIP **49424-9263**

Date: <b>4/1/2014</b>	Company: <b>Tetra Tech</b>
Signature: <b>Kumud Prakash</b>	Signature: <b>Kumud Prakash</b>
CUSTODY SEAL	

Recipient's Copy

4 Express Package Service  
 \* To meet conditions.  
 WITH Service order has changed, please select carefully.

Packages up to 750 lbs.  
 For packages over 750 lbs., use the new  
 FedEx Express Freight US Airbill.

**Next Business Day**

- ☐ FedEx First Overnight  
Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☒ FedEx Priority Overnight  
Next business morning. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Standard Overnight  
Next business day. Saturday Delivery NOT available.

**2 or 3 Business Days**

- ☐ NEW FedEx 2Day A.M.  
Second business morning. Saturday Delivery NOT available.
- ☐ FedEx 2Day  
Second business afternoon. Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Express Saver  
Third business day. Saturday Delivery NOT available.

5 Packaging \* Standard rules apply.
 

- ☐ FedEx Envelope
- ☐ FedEx Pak
- ☐ FedEx Box
- ☐ FedEx Tube
- ☐ Other

6 Special Handling and Delivery Signature Options
 

- ☐ SATURDAY Delivery  
NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.
- ☐ No Signature Required  
Package may be left without obtaining a signature for delivery.
- ☐ Direct Signature  
Someone at recipient's address may sign for delivery. For residential deliveries only. Fee applies.
- ☐ Indirect Signature  
If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. Fee applies.

Does this shipment contain dangerous goods?
 

- ☐ No
- ☐ Yes  
As per attached Shipper's Declaration.
- ☐ Yes  
Shipper's Declaration not required.
- ☐ Dry Ice  
Dry Ice, I, UN 1845
- ☐ Cargo Aircraft Only

7 Payment **Bill to:**

Obtain recip. Acct. No. ☐

ALS Environmental  
 3352 128th Avenue  
 Holland, Michigan 49424  
 Tel. +1 616 399 6070  
 Fax. +1 616 399 6185

fedex.com 1800.GoFedEx 1800.463.3339

fedex.com 1800.GoFedEx 1800.463.3339

 5  
 B  
 9711  
 0402



# Sample Collection Field Sheet

US EPA Region 7  
Kansas City, KS

Project Number: 103X9025.14.0002.019.001

Matrix: SOIL

Sample Number: 50-02-S-0-4  
50-02-D-16-20

Project ID: KCMO East Garage

Project Manager: Kumud Pyakuryal

Location: 4725/4635 E. Coal Mine Road, Kansas City

State: Missouri

Superfund Name: NA

Site ID: NA

Location Description: Brownfields Target Assessment

External Sample Number:

Latitude: 39.04265

Sample Collection: KP

Time: 12:15 (Gmail)

Longitude: 94.50796

12:30 (deep)

Laboratory Analysis:

Container

Preservative

Holding Time

Analysis

Property Owner Information:

Sample Comments:

Sample Location Map:

Depth	VOCs (ppm)
0-4	0 ✓
4-8	0 ✓
8-12	0 ✓
12-16	0 ✓
16-20	0 ✓

Sample core/bore @ 12-16' appeared  
wet; dark clay/black.  
No water KP

Sample collected by:

KP

# Sample Collection Field Sheet

US EPA Region 7  
Kansas City, KS

Project Number: 103X9025.14.0002.019.001

Matrix: Water

Sample Number: GW-02 -

Project ID: KCMO East Garage

Project Manager: Kumud Pyakuryal

Location: 4725/4635 E. Coal Mine Road, Kansas City

State: Missouri

Superfund Name: NA

Site ID: NA

Location Description: Brownfields Target Assessment

External Sample Number: \_\_\_\_\_

Latitude: \_\_\_\_\_

Sample Collection: \_\_\_\_\_

Time: \_\_\_\_\_

Longitude: \_\_\_\_\_

## Laboratory Analysis:

Container

Preservative

Holding Time

Analysis

## Property Owner Information:

## Sample Comments:

## Sample Location Map:

- Attempted to collect water @ 30/32' bgs, but no water
- Tried a location right next to the previous hole to 42'
- Found no water / well was dry.

Sample collected by: \_\_\_\_\_



# Sample Collection Field Sheet

US EPA Region 7  
Kansas City, KS

Project Number: 103X9025.14.0002.019.001

Matrix: SOIL

Sample Number: 50-03-S-0-4  
50-03-D-16-20 KP

Project ID: KCMO East Garage

Project Manager: Kumud Pyakuryal

12-16

Location: 4725/4635 E. Coal Mine Road, Kansas City

State: Missouri

Superfund Name: NA

Site ID: NA

Location Description: Brownfields Target Assessment

External Sample Number:

Latitude: 39.04359

Sample Collection: KP

Time: 11:10 - shallow

Longitude: 94.50789

11:45 - Deep

## Laboratory Analysis:

Container

Preservative

Holding Time

Analysis

## Property Owner Information:

KCMO East Garage

## Sample Comments:

## Sample Location Map:

Depth	VOC ppm
0-4	0
4-8	0
8-12	0
12-16	0

~~16-20~~ Unable collect this interval because of ground water / lost the content of this interval down the hole. So instead the 12-16' interval was collected!

Sample collected by:

Sunny, Windy, 60-65°F

## Sample Collection Field Sheet

US EPA Region 7  
Kansas City, KS

Project Number: 103X9025.14.0002.019.001

Matrix: Soil

Sample Number: 50-04-S-0-4<sup>1</sup>

Project ID: KCMO East Garage

Project Manager: Kumud Pyakuryal

50-04-S-16-20<sup>1</sup>

Location: 4725/4635 E. Coal Mine Road, Kansas City

State: Missouri

Superfund Name: NA

Site ID: NA

Location Description: Brownfields Target Assessment

External Sample Number:

Latitude: 39.04360

Sample Collection: K.P.

Time: 11:10

Longitude: 94.50724

11:30

### Laboratory Analysis:

Container	Preservative	Holding Time	Analysis
5035 40mL UOAS/GRS	Selenium Bisulfate		
8 oz Jars	Methanol		

Property Owner Information: KCMO East Garage

### Sample Comments:

PID Reads

- 0-4' — No VOC,
- 4'-8' — No VOC
- 8'-12' — No VOC
- 12'-16' — No VOCs
- 16'-20' — No VOCs.

Sample Location Map: See Fig. 2

(NO H<sub>2</sub>O @ 54' bgs).

Sample collected by: VR.

Sunny 60°-65° F  
Windy.

## Sample Collection Field Sheet

US EPA Region 7  
Kansas City, KS

Project Number: 103X9025.14.0002.019.001

Matrix: Water  
Soil

Sample Number: 80<sup>KP</sup> GW-04-30'  
50-04-D-16'-20'

Project ID: KCMO East Garage

Project Manager: Kumud Pyakuryal

Location: 4725/4635 E. Coal Mine Road, Kansas City

State: Missouri

Superfund Name: NA

Site ID: NA

Location Description: Brownfields Target Assessment

External Sample Number: \_\_\_\_\_

Latitude: 39.04360

Sample Collection: 12:00

Time: 12:00

Longitude: 94.50724

### Laboratory Analysis:

Container

Preservative

Holding Time

Analysis

### Property Owner Information:

KCMO East Garage

### Sample Comments:

### Sample Location Map:

- The sampler was taken to 54' bgs.
- GW was encountered @ 30' bgs > sample collected

Sample collected by: KP

# Sample Collection Field Sheet

US EPA Region 7  
Kansas City, KS

Project Number: 103X9025.14.0002.019.001

Matrix: Soil

Sample Number:

50-05-0-4  
50-05-16-20

Project ID: KCMO East Garage

Project Manager: Kumud Pyakuryal

Location: 4725/4635 E. Coal Mine Road, Kansas City

State: Missouri

Superfund Name: NA

Site ID: NA

Location Description: Brownfields Target Assessment

External Sample Number:

Latitude: 39.04397

Sample Collection:

Time: 13:05 (0-4)

Longitude: 94.50705

15:45 (16-20)

Laboratory Analysis:

Container

Preservative

Holding Time

Analysis

Property Owner Information:

Sample Comments:

Sample Location Map:

Depth      VOG

0-4	0
4-8	0
8-12	0
12-16	0
16-20	0

Sample collected by: \_\_\_\_\_



# Sample Collection Field Sheet

US EPA Region 7  
Kansas City, KS

Project Number: 103X9025.14.0002.019.001

Matrix: Soil

Sample Number: 50-06-0-4  
50-06-16-20

Project ID: KCMO East Garage

Project Manager: Kumud Pyakuryal

Location: 4725/4635 E. Coal Mine Road, Kansas City

State: Missouri

Superfund Name: NA

Site ID: NA

Location Description: Brownfields Target Assessment

External Sample Number:

Latitude: 39.04422

Sample Collection:

Time: 16:00  
16:30

Longitude: 94.50680

## Laboratory Analysis:

Container

Preservative

Holding Time

Analysis

## Property Owner Information:

## Sample Comments:

## Sample Location Map:

<u>Depth</u>	<u>VOCs</u>
0-4	0
4-8	0
8-12	0
12-16	0
16-20	0

Sample collected by: \_\_\_\_\_

# Sample Collection Field Sheet

US EPA Region 7  
Kansas City, KS

Project Number: 103X9025.14.0002.019.001

Matrix:

SEDIMENT

Sample Number:

SED 1

Project ID: KCMO East Garage

Project Manager: Kumud Pyakuryal

Location: 4725/4635 E. Coal Mine Road, Kansas City

State: Missouri

Superfund Name: NA

Site ID: NA

Location Description: Brownfields Target Assessment

External Sample Number:

Latitude: 39.04162

Sample Collection: CC

Time: 17:00

Longitude: 94.50927

Laboratory Analysis:

Container

Preservative

Holding Time

Analysis

Property Owner Information:

Sample Comments:

Sample Location Map:

Sample collected by: \_\_\_\_\_

# Sample Collection Field Sheet

US EPA Region 7  
Kansas City, KS

Project Number: 103X9025.14.0002.019.001

Matrix: SEDm

Sample Number: SED-02

Project ID: KCMO East Garage

Project Manager: Kumud Pyakuryal

Location: 4725/4635 E. Coal Mine Road, Kansas City

State: Missouri

Superfund Name: NA

Site ID: NA

Location Description: Brownfields Target Assessment

External Sample Number:

Latitude: 39.04269

Sample Collection: CC

Time: 16:00

Longitude: 94.05618

Laboratory Analysis:

Container

Preservative

Holding Time

Analysis

Property Owner Information:

Sample Comments:

Sample Location Map:

Sample collected by: CC