

**BROWNFIELDS PHASE II  
ENVIRONMENTAL SITE ASSESSMENT  
REPORT**

**Warren Town Garage  
119 School Road  
Warren, Vermont**

KAS# 505070090

Draft  
October 22, 2008

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## EXECUTIVE SUMMARY

KAS, Inc. (KAS) completed a Brownfields Phase II Environmental Site Assessment (ESA) at the Warren Town Garage property (Site) in Warren, Vermont for the Central Vermont Regional Planning Commission (CVRPC). Completed investigative work was conducted in accordance with KAS' Generic Quality Assurance Project Plan (QAPP), RFA 07264, and the April 2008 QAPP Addendum, revised June 2008. The Site is currently owned by the Town of Warren. This work was funded by the CVRPC.

The Phase II ESA was proposed to address Recognized Environmental Conditions (RECs) identified during a Phase I ESA conducted in 2007.<sup>1</sup> The objective was to assess the presence, magnitude and extent of environmental contamination due to on-site uses including fuel storage in above ground storage tanks and underground storage tanks and vehicle service activities.

The work conducted included sampling of surface water, stream sediment, drinking water, soil and surficial groundwater. Appropriate field screening and laboratory testing was conducted sufficient to determine the presence of significant contamination if it were present.

The investigation data indicate there is no significant contaminant impact to surface water, sediment, drinking water, soils or groundwater. No volatile organic compounds (VOCs) were detected on site. VOCs are a broad class of compounds representative of gasoline, solvents, refrigerants and other commonly used chemicals. No PCBs were detected on site. PCBs are a group of compounds used as a thermal insulator and added to oils until the late 1970's to improve their heat resistance. De minimis concentrations of other tested analytes / compounds were detected at the following locations:

- A minor petroleum release apparently took place near the west end of the property, in the vicinity of the loader/grader parking area. A low concentration of petroleum hydrocarbons (TPH) was detected in one soil sample collected there. Two related PAH compounds were detected at levels below the EPA's residential cleanup goal. A low TPH concentration was also detected in the downstream sediment sample, collected adjacent to the loader/grader parking area.
- Low concentrations of chromium, copper, lead, nickel and zinc were detected in all soil samples collected. These are naturally occurring metals and not indicative of environmental contamination.
- Arsenic was detected in all of the soil samples and the concentrations in soil were uniformly higher than the EPA's residential cleanup guidance. This is a typical occurrence in Vermont soils and the arsenic concentrations are believed to be naturally occurring because they fall well within the range of elemental metals concentrations reported in soils in the eastern United States<sup>2</sup>, and are typical of Vermont soils in KAS' experience.

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<sup>1</sup> KAS, Phase I Environmental Site Assessment, Warren Town Garage, June 2007.

<sup>2</sup> Shacklette and Boerger, Elemental Concentrations in Soils and Other Surficial Materials of the Conterminous United States, USGS Professional Paper 1270, 1984, pg.6.

- A very slight change in chemistry was noted in the ephemeral stream bordering the south side of the property. Chloride concentrations rose by slightly from upstream to downstream sampling location, and field measured conductivity rose by approximately 100% at the downstream location compared to the upstream location. These effects may be attributable to on site road salt storage.
- Sampling of the on site drinking water supply indicates no chemical contamination detected. Four metals were detected at levels well below federal maximum contaminant levels (MCLs) (chromium, copper, nickel and zinc). Sodium and chloride levels (67 mg/l and 100 mg/l, respectively) were higher than usual drinking water supply levels in KAS' experience but were still well below MCLs (250 mg/l).
- Groundwater monitoring indicates no detectable contamination aside from some minor road salt influence. Groundwater is estimated to be flowing toward the west at an approximate hydraulic gradient of 25%. Groundwater flow velocity through the surficial aquifer is estimated to be on the order of 70 feet per day.

No sensitive receptors were identified as being at current risk from contamination because significant contaminant impact has not been measured or observed.

The proposed property re-use includes up to 12 units of residential housing. The units will be arranged around a common green area where the main town garage presently is situated. A community garden will be built. The housing will rely on an on site water supply and shared wastewater disposal system.

No further environmental investigations are necessary to follow up on the work completed to date and no corrective actions are indicated to be necessary based on this work. There do not appear to be any environmental concerns that could impede re-use of the property for the intended purpose. As a precaution, it is recommended that a qualified environmental technician be retained to inspect the ground beneath the two garage buildings after they are removed. This is to verify the lack of contamination observed on site to date, as well as structures such as piping, drywells etc. that could be present beneath the buildings. The four groundwater monitoring wells should be properly abandoned by a licensed well driller prior to the commencement of construction.

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## 1.0 INTRODUCTION

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The Phase II ESA was proposed to address Recognized Environmental Conditions (RECs) identified during a Phase I ESA conducted in 2007.<sup>3</sup> The objective was to assess the presence, magnitude and extent of environmental contamination due to on-site uses including fuel storage in above ground storage tanks and underground storage tanks and vehicle service activities.

The work conducted included sampling of surface water, stream sediment, drinking water, soil and surficial groundwater. Appropriate field screening and laboratory testing was conducted sufficient to determine the presence of significant contamination if it were present.

## 2.0 BACKGROUND

The property consists of approximately 4 acres of owner's approximate 29 acre holdings (see Appendix Site Location Map<sup>4</sup> and Site Map<sup>5</sup>). The balance of the property is currently used for an elementary school and town recreational fields. The limits of this ESA are depicted on the site map in Appendix B. The property coordinates are -72:51:03 (deg/min/sec) north latitude and 44:06:57 west longitude.<sup>6</sup> School Road crosses the property on its east side. The legal description of the property as ascertained from the review of local land records indicates that it was part of the so-called Divoll Farm before being developed into the Town garage.<sup>7</sup>

A Phase I ESA was completed in June 2007<sup>8</sup> (garage) and in October 2007 (school).<sup>9</sup> Recognized Environmental Conditions (RECs) were observed. The specific historic/current RECs noted during the Phase I ESA were as follows:

- Petroleum underground storage tank (UST) removed in 1989, no environmental documentation available;
- Two petroleum above ground storage tanks (ASTs) with visual evidence of release and no secondary containment or spill control devices;

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<sup>3</sup> KAS, Phase I Environmental Site Assessment, Warren Town Garage, June 2007.

<sup>4</sup> U.S.G.S. Topographic Map, Warren, Vermont, 7/83.

<sup>5</sup> Warren Planning Commission Site Plan.

<sup>6</sup> First Search report at page 4.

<sup>7</sup> Town of Warren Land Records at V. 24, pg. 291.

<sup>8</sup> KAS, Phase I Environmental Site Assessment, Warren Town Garage, June 2007.

<sup>9</sup> KAS, Phase I Environmental Site Assessment, Warren School, October 2007.

- Existing floor drain system in the main garage vehicle maintenance and chemical storage area, formerly discharging (early 1970's to early 2000's) to a buried drywell on site, no environmental documentation available;
- Existing floor drain system in the rear garage, believed to outlet to a daylight discharge on site;
- Historic and current use and storage of chemicals and petroleum product; and,
- Past contamination of the bedrock water supply at the Warren Elementary School with perchlorethylene (PCE). It is not known whether this contamination affected the property beyond the immediate confines of the school, or whether it persists at other locations on the property.

Specific technical tasks conducted during the Phase II ESA addressed non-petroleum RECs as defined in ASTM Practice E-1527-05 and the other environmental conditions identified in the Phase I ESA report. The primary emphasis of this investigation was to determine the presence, nature and extent of contamination related to hazardous materials usage at the Town garage property.

## 2.1 Property Investigative History

The property has been the subject of several past inquiries and inspections by the DEC. Most of the previous investigations were related to perchlorethylene (PCE) contamination at the School well. Several inspections of the Town garage have also taken place. Pertinent information from the Phase I reports is included herein.

KAS reviewed two letters supplied by the Warren Town Planning Commission. Both letters were issued by the DEC's Environmental Assistance Division. John Daly of the EAD conducted two on site walk through visits to help the town identify and rectify any items of environmental concern. In general, the issues that were raised during the first visit conducted on May 14, 2003 pertained to:

- Hazardous waste notification, identification and management;
- Spill management;
- Drum labeling;
- Used oil and oil filter management;
- Oil and fuel storage and SPCC planning;
- Floor drain management;
- Stormwater management; and,
- General housekeeping.

The follow up visit conducted on October 26, 2004 noted progress toward completion of requirements as well as several still outstanding requirements.

KAS reviewed the Town of Warren's Material Safety Data Sheet (MSDS) inventory for the Town garage. The MSDS inventory was readily available and well-organized upon presentation. It indicated that chemicals and other substances in use included petroleum, greases, lubricants, CRC PCE Brakeklean, CRC Electronics cleaner (methanol based), soaps, and paints.

KAS reviewed publicly available information regarding the Warren Elementary School water supply well.<sup>10,11</sup> The water well log indicates that the well was drilled in 1971, 250 feet deep, 6 feet to bedrock, 10 feet of steel casing, 10 gallon per minute yield and 40 feet to static water level. The water quality information indicates that there has been one detection of perchlorethylene in the water supply well since 2000, that was in 2004 when a concentration of 0.6 parts per billion PCE was reported.

KAS reviewed a report on the investigation of suspected subsurface contamination at the school.<sup>12</sup> The investigation was conducted to address low levels of PCE in the school's water supply well. Work conducted included advancement of fifteen soil borings, four of them hand auger borings inside and immediately outside the shed where duplicating fluids were historically stored, and field and laboratory testing. Duplicating fluid residuals were located at a school district facility, and a sample collected was found to contain PCE at 126 parts per billion, confirming that the fluids stored in the shed did contain PCE. The results of the soils borings indicated that the greatest contamination was detected beneath and immediately adjacent to the shed, and that the levels of field detectable contamination decreased away from the shed. PCE was detected at trace concentrations in two soil samples collected and laboratory analyzed. The report recommended no further investigations in the vicinity of the storage shed unless PCE concentrations in the well water increase. The report also indicated the possibility that the PCE may have originated from an unknown off site source.

A July 1999 letter from Griffin International to the DEC<sup>13</sup> indicates that the duplicating fluid is considered to be one of several potential sources of contamination and that an actual source was not determined. The letter also indicated that further investigations to determine the source of the very low level contamination would not likely be successful, and that the PCE concentrations in the school's water supply well were decreasing over time.

A July 1999 letter from the DEC to Griffin International stated that if the apparent anomaly in field measured contamination can be explained, that the DEC would concur with the recommendation that no further soil characterization work would be necessary. The letter also requested that the water supply well continue to be monitored on a quarterly basis, that any additional bedrock water supply wells within 1,000 feet be monitored, and that an operation and maintenance plan for the existing treatment system be developed.

A November 1999 letter from Pioneer Environmental Associates to the Warren School<sup>14</sup> presented the results of a review of existing documentation related to the PCE contamination. The Pioneer report concluded that there is no definitive basis for concluding that the duplicating fluid formerly stored in the storage shed is the probable source of PCE contamination, and that the site investigation work performed to date did not adequately consider potential sources that are more remotely located from the well. Pioneer reviewed

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<sup>10</sup> DEC on line water supply locator, accessed June 12, 2007 at <http://maps.anr.state.vt.us/website/welldriller/viewer.htm>

<sup>11</sup> Water Quality Database Query, Warren Elementary School, Vermont DEC, 6/12/07.

<sup>12</sup> Griffin International Inc., Investigation of Suspected Subsurface Contamination at the Warren Elementary School, November 30, 1998.

<sup>13</sup> Griffin International, Inc. Letter to Mr. Bob Haslam, July 12, 1999.

<sup>14</sup> Pioneer Environmental Associates, LLC, Letter to Warren School November 4, 1999.

nitrate and PCE data from the school's well and concluded that the presence of nitrate in the well water suggested that it was vulnerable to contamination from the school's on site leachfield (which was located adjacent to and south of the school at that time), and from surface influences in general. The report recommended that the school consider grouting the water supply well to minimize its susceptibility to contamination, and checking the school's septic system for evidence of PCE. The Pioneer report also included a groundwater flow map that indicated the surficial groundwater flow direction was toward the northwest at very shallow gradient (approximately 0.5%).

A May 2000 letter from DEC to the Warren School disputed some of the findings of the Pioneer report.<sup>15</sup> Specifically, the DEC stated that the 1999 investigation was appropriately focused and was concentrated in the immediate vicinity of the shed and well for many reasons. The DEC reiterated its belief that while definitive attribution is not possible, very strong evidence indicates the probable source of the contamination in the well was the duplicating fluid.

### 3.0 CONCEPTUAL MODEL AND INVESTIGATION GOALS

The geological character of the area is a stream-dissected gravel terrace with narrow valleys and relatively broad upland areas. The approximate site elevation is 950 feet above present sea level.<sup>16</sup> The overburden deposits in the area are mapped as kame terrace gravel and sand and glacial till according to the Surficial Geological Map of the State of Vermont.<sup>17</sup> The sand and gravel deposits are most likely derived from deltaic deposition and/or kame terraces formed during Stages II and III of glacial Lake Winooski, which existed at elevations of 1,080 feet and 1,050 feet, respectively.<sup>18</sup>

Depth to groundwater was measured at approximately 12 feet below ground surface at the northeastern portion of the property, to approximately 36 feet below ground surface at the western end of the property. The ephemeral stream south of the site is not representative of the surficial water table, and was observed to be a losing stream across the property and to have dried up completely at the downstream sampling location as of September 2008. The groundwater flow direction beneath the property was measured to be westward (Section 7.0). Bedrock in the vicinity of the property consists of Cambrian aged Pinney Hollow Schist according to the Centennial Geologic Map of the State of Vermont.<sup>19</sup> Bedrock is relatively close to the ground surface in the vicinity and appears to be relatively permeable. However, none of the test pits or soil borings advanced for this assessment encountered bedrock. Publicly available information regarding the Warren Elementary

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<sup>15</sup> Vermont DEC, letter to Warren School, May 4, 2000.

<sup>16</sup> U.S. Geological Survey Topographic Map of Warren, Vermont, 1983, viewed on line at <http://terraserver.microsoft.com>

<sup>17</sup> Surficial Geologic Map of Vermont, 1970.

<sup>18</sup> MacClintock and Stewart, Surficial Geology and Pleistocene History of Vermont, Vermont Geological Society, 1969, pages 149-153.

<sup>19</sup> Centennial Geologic Map.

School water supply well indicates 6 feet to bedrock, 10 feet of steel casing, 10 gallon per minute yield and 40 feet to static water level.<sup>20</sup>

Possible sources of subsurface contamination on the property uses include the former diesel fuel underground storage tank removed in 1989, two existing above ground petroleum storage tanks, floor drains in the main and the rear garages, general chemical and petroleum use, and the contamination at the Warren Elementary School well which has been attributed to a release of duplicating fluid.<sup>21</sup> Releases if extant would have been either at the ground surface due to spillage and leakage, to as much as 8' depth due to tank leaks and subsurface floor drain discharges.

The overall goals of this investigation included assessment of impact to the property from on site hazardous chemical uses and whether observed impact posed difficulties for redevelopment of the property. Specific goals were as follows:

- Ascertain whether the surficial groundwater has been impacted, and if so, the magnitude and extent of the impact. A sufficient number of monitoring wells were installed to provide coverage for identified property uses.
- Determine whether detectable releases have taken place due to the listed potential sources of contamination. Test pits were excavated at targeted locations to allow for field screening of soils and for collection of samples for laboratory analysis.
- Assess potential impact to potentially sensitive receptors. These include nearby surface water, building occupants and site users. The area is served by individual water supply wells and there are at least a dozen private water supply wells located within 1,000 feet of the site according to the DEC's on line water supply well locator.<sup>22</sup>

#### **4.0 DRINKING WATER, SURFACE WATER AND SEDIMENT SAMPLING**

To assess the potential for impact to drinking water, surface water and sediment, field measurements and samples were collected on August 5, 2008. The drinking water samples were collected from the lavatory sink in the front garage. The two surface water/sediment sampling locations included an upstream location and a downstream location, both of which are depicted on the Site Map in Appendix A. Tabular data summaries and laboratory analytical data are included in Appendix B.

##### **4.1 Drinking Water Sampling**

Drinking water samples for field and laboratory analysis were collected from the lavatory sink. Field measurements were collected for pH, conductivity, dissolved oxygen, temperature and turbidity, using hand held field equipment.

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<sup>20</sup> DEC on line water supply locator, accessed June 12, 2007 at <http://maps.anr.state.vt.us/website/welldriller/viewer.htm>

<sup>21</sup> KAS, Inc. Telecon with Bob Haslam of the Vermont DEC on June 12, 2007.

<sup>22</sup> Vermont Agency of Natural Resources Private Well Locator, viewed on line 7/11/07 at <http://maps.anr.state.vt.us/website/welldriller/viewer.htm>

### Field Measurements

KAS collected field measurements pursuant to its standard protocol procedures which are a part of the generic QAPP and are on file with DEC and USEPA. Measurements of pH, conductivity and temperature were collected using an Oakton 10 Series multimeter. Dissolved oxygen measurements were collected using a YSI 550A DO meter. Turbidity measurements were collected using a Hach Pocket Turbidimeter. All field equipment was operated and properly calibrated prior to use according to KAS Protocols #024 (Hach Pocket Turbidimeter), #025 (YSI 550A) and #026 (Oakton 10 Series).

The results of the drinking water field measurements indicated:

- Conductivity was 467 microsiemens ( $\mu\text{s}$ ).
- Turbidity was 15.2 nephelometric turbidity units (NTU).
- Temperature was 12.4 degrees C.
- pH was measured at 7.00 standard units (su).
- Dissolved oxygen was 75.4% of saturation level.

Drinking water samples for laboratory analysis were collected pursuant to KAS Protocols #019 and #021 by filling new pre-cleaned sampling containers at the tap following a purge period. These samples were analyzed for the following test parameters:

- VOCs via EPA Method 524.2;
- Sodium and chloride; and,
- Thirteen priority pollutant metals (antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, zinc).

The samples were placed in a cooler with ice for storage and transportation to Eastern Analytical of Concord, New Hampshire (EAI). Chain of custody procedures were followed. Results were compared to the maximum contaminant levels (MCLs) presented in the Vermont Drinking Water Rules, effective April 2005. Assessment of the laboratory analytical results is as follows.

### VOCs via EPA Method 524.2

No VOCs were reported at concentrations in excess of laboratory reporting limits.

### Total Metals

Five metals were reported in the drinking water supply sample (chromium, copper, lead, nickel and zinc). None were reported at levels in excess of MCLs.

### Sodium and Chloride

Sodium and chloride were reported at concentrations below MCLs. The levels were somewhat higher than would normally be expected in drinking water and there is some possibility that on site road salt storage may have affected the water quality. However, there should be no taste issues since the levels are below MCLs.

### Interpretation of Drinking Water Data

The overall drinking water data set suggests that the water supply does not contain concentrations of the tested analytes at concentrations above MCLs. Future use of this supply well post-redevelopment should be determined based on a thorough review of its yield, location relative to the new development, and bacteriological testing results in addition to the chemical testing already completed. The new development will likely be considered a public community water supply and the rules for new public community water sources are quite strict with respect to location and water yield and quality. It was out of the scope of this assessment to determine whether the existing supply well would meet the public community water supply requirements.

## **4.2 Surface Water Sampling**

Field measurements and samples for laboratory analysis were collected from the ephemeral stream bordering the site on its south side. Field measurements were collected at the upstream and the downstream sampling locations for pH, conductivity, dissolved oxygen, temperature and turbidity, using hand held field equipment.

### Field Measurements

KAS collected field measurements pursuant to its standard protocol procedures which are a part of the generic QAPP and are on file with DEC and USEPA. Measurements of pH, conductivity and temperature were collected using an Oakton 10 Series multimeter. Dissolved oxygen measurements were collected using a YSI 550A DO meter. Turbidity measurements were collected using a Hach Pocket Turbidimeter. All field equipment was operated and properly calibrated prior to use according to KAS Protocols #024 (Hach Pocket Turbidimeter), #025 (YSI 550A) and #026 (Oakton 10 Series).

The results of the in stream field measurements indicated:

- Conductivity was 88  $\mu\text{s}$  at the upstream sample location and 184  $\mu\text{s}$  at the downstream sampling location, an increase of 109%.
- Turbidity was 11.4 NTU at the upstream location and 5.0 NTU at the downstream location, a decrease of 128%.
- In stream temperature rose from 16.4 degrees C to 17.9 degrees C.
- No discernable change was noted in pH or dissolved oxygen from the upstream to the downstream location.

Surface water samples for laboratory analysis were collected pursuant to KAS Protocol #008 by dipping a dedicated sampling container into the stream and then decanting the sample into new pre-cleaned sampling containers. These samples were analyzed for the following test parameters:

- VOCs via EPA Method 8260b;
- Sodium and chloride; and,

- Thirteen priority pollutant metals (antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, zinc).

The samples were placed in a cooler with ice for storage and transportation to EAI. Chain of custody procedures were followed. Results were compared to the Vermont Water Quality Standards (effective January 2008) and the National Oceanographic and Atmospheric Administration (NOAA) Screening Quick Reference Tables (SQuiRT) dated November 2006. Assessment of the laboratory analytical results is as follows.

#### VOCs via EPA Method 8260b

No VOCs were reported at concentrations in excess of laboratory reporting limits.

#### Total Metals

Three metals were reported in the upstream surface water sample (copper, nickel and zinc) and two metals were reported in the downstream surface water sample (copper and nickel). None were reported at levels in excess of applicable regulatory standards. The reported nickel concentration was slightly higher at the upstream location compared to the downstream location.

#### Sodium and Chloride

Sodium was not reported at detectable levels. Chloride was reported in both the upstream and downstream samples. There are no relevant standards for sodium or chloride in surface water in Vermont. The upstream chloride concentration was slightly lower than the downstream chloride concentration.

#### Interpretation of Surface Water Data

The overall surface water data set suggests a chemically healthy environment. Dissolved oxygen readings in excess of 100% suggest super-saturation and lack of excess oxygen consumption which could be linked to decomposition of organic matter and/or environmental contaminants. The slight increase in chloride concentration from upstream to downstream, along with the increase in measured conductivity readings, suggests that road salt stored on site may be dissolving and migrating to the stream. The higher concentrations of nickel and zinc in the upstream sample may be related to the galvanized metal culvert that crosses School Road immediately adjacent to the upstream sampling location.

### **4.3 Stream Sediment Sampling**

Upstream and downstream sediment samples and a duplicate upstream sample were collected pursuant to KAS Protocol #005 and were analyzed for the following test parameters:

- Polynuclear Aromatic Hydrocarbons (PAH) via EPA Method 8270c;

- Total petroleum hydrocarbons via EPA Method 8100;
- Polychlorinated biphenyl compounds (PCBs) via EPA method 8082; and,
- Thirteen priority pollutant metals (antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, zinc).

The samples were placed in a cooler with ice for storage and transportation to EAI. Chain of custody procedures were followed. Results were compared to the National Oceanographic and Atmospheric Administration (NOAA) Screening Quick Reference Tables (SQuiRT) for acute and chronic exposures.

#### PAH via EPA Method 8270

No PAH compounds were present above the reporting limits in either the upstream sediment sample or the downstream sediment sample.

#### TPH Via EPA Method 8100

TPH was not reported in the upstream sediment sample or the duplicate. A concentration of 170 parts per million (ppm) TPH was reported in the downstream sediment sample. There is no NOAA standard for TPH in fresh water sediment. The reported concentration is below the DEC's guidance levels for TPH in residential site soils of 200 ppm.<sup>23</sup>

#### PCB via EPA Method 8082

No PCB compounds were present above the reporting limits in either the upstream sediment sample or the downstream sediment sample.

#### Total Metals

Concentrations of arsenic, chromium, copper, lead, nickel and zinc were reported above detection limits in both the upstream and downstream sediment samples and in the duplicate. Metals concentrations were higher in the downstream sediment samples as compared with the upstream samples. The reported concentration of nickel in the upstream and downstream sediment samples exceeded the NOAA SQuiRT criteria, while the reported concentrations of arsenic in the downstream sediment sample exceeded the NOAA SQuiRT criteria.

#### Interpretation of Sediment Data

The sediment data do not indicate a significant environmental problem. A low concentration of TPH may indicate some effect due to minor petroleum spills over time. The downstream sediment sampling location is in close proximity to low TPH detections in soils (See Section 5.0). However, the reported TPH concentration is below the DEC's residential soil standard and the risk to site users is thought to be negligible. The metals levels in downstream sediment, although slightly higher than those in the upstream sample, are very similar to metals levels in the soil samples collected on site (See Sections 5.0 and

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<sup>23</sup> Vermont Department of Environmental Conservation Memorandum 12/30/92

6.0) and may indicate that some overland flow of stormwater with entrained sediment has taken place.

## **5.0 TEST PIT SOILS EVALUATION**

To assess the potential extent of contaminants in soils, five test pits were advanced at the Site on September 14, 2008. The test pit locations are depicted on the site map in Appendix A. A sixth test pit specified in the approved QAPP addendum was not advanced due to subsurface buried utility concerns.

### **5.1 Pre-Excavation Activities**

Prior to the initiation of subsurface activities, KAS pre-marked potential excavation locations as required by Dig Safe on August 5, 2008. Dig Safe Number 20083207514 was obtained prior to the initiation of excavation activities. The Town of Warren was also contacted for clearance of drilling locations related to buried utility lines.

### **5.2 Test Pit Advancement and Screening of Subsurface Soils**

On August 14, 2008 KAS oversaw the excavation of five test pits at the locations depicted on the site map in Appendix A. Test pits were excavated by Kingsbury Construction of Waitsfield, Vermont. The purpose of the test pit evaluation was to observe the subsurface soils and to collect samples for field screening and laboratory analysis.

Soils on site were generally sand and gravel. Surficial groundwater was not encountered in any of the test pits, nor was bedrock. A buried water line was encountered in test pit #5. Buried metal debris was encountered in test pit #6.

According to the approved QAPP, soils were field screened for the presence of VOCs using KAS Protocol #001. An Ion Science Pho Check Plus photoionization detector (PID) equipped with a 10.6 eV bulb was used. The PID was calibrated using an isobutylene reference prior to its use. Soil types, PID readings and sample collection depths are presented in Table 1.

### **5.3 Soil Sample Collection and Laboratory Analysis**

Five soil samples and one duplicate sample were collected from test pits as indicated in Table 1. Soil samples were analyzed for the following test parameters:

- VOCs via EPA Method 8260b with Method 5035 (methanol) preservation;
- TPH via EPA Method 8100;
- Thirteen priority pollutant metals (antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, zinc);
- PAH via EPA Method 8270c; and,
- Polychlorinated biphenyls (PCBs) via EPA Method 8082.

The samples were transported to EAI under chain of custody procedures. Tabulated results and laboratory analytical reports are included in Appendix C.

Table 1: Test Pit Soils Evaluation Results			
Location	Soil Type-Stratigraphy	PID readings	Laboratory Sample Collection Depth
TP-1 northeast of rear garage	90% fine, medium and coarse sand, 10% gravel; well graded, loose, moist, no odor	0.1 ppm	8'
TP-2 south of rear garage	90% fine, medium and coarse sand, 10% gravel, well graded, loose, moist, no odor	0.1 ppm	8'
TP-4 southeast of front garage (no TP-3)	90% fine, medium and coarse sand, 10% gravel, well graded, loose, moist, no odor	0.1 ppm	8'
TP-5 west of front garage	70% fine, medium and coarse sand, 20% gravel, 10% silt, well graded, loose, moist, no odor	NR due to PID malfunction	2-4'
TP-6 southwest of front garage near loader grader parking area	90% fine, medium and coarse sand, 10% gravel, well graded, loose, moist, no odor. Yellow brown topsoil at 10', believed to be filled land over native soil.	NR due to PID malfunction	8-10'

NR means not recorded

VOCs via EPA Method 8260b

No VOCs were reported in any of the soil samples collected, nor in the duplicate sample.

TPH via EPA Method 8100

TPH was not reported in any of the soil samples collected above the reporting limit of 50 milligrams per kilogram (mg/kg). A concentration of TPH of 230 mg/kg was reported in the duplicate sample which was collected from TP-6. This reported concentration is slightly in excess of the DEC's residential guidance level of 200 mg/kg.<sup>24</sup> The TP-6 sample and the duplicate sample were duplicate grab samples and were not composited which allows for the observed difference in TPH values.

<sup>24</sup> Vermont Department of Environmental Conservation Memorandum 12/30/92

### PAH via EPA Method 8270

No PAH compounds were reported in any of the soil samples collected. Two PAH compounds were reported in the duplicate sample from TP-6 (Benzo(a)pyrene and Benzo(g,h,i)perylene). The reported concentrations of these PAH were 0.03 milligrams per kilogram (mg/kg). The EPA Region IX residential guideline for Benzo(a)pyrene is 0.062 mg/kg and the reported result is less than 50% of the residential guidance level. There is no EPA region IX guidance level for Benzo(g,h,i)perylene.

### Total Metals

Concentrations of arsenic, chromium, copper, lead, nickel and zinc were reported in all of the soil samples and duplicate sample. Antimony, beryllium, cadmium, mercury, selenium, silver, and thallium were not reported above detection limits in any of the soil samples.

Except for arsenic, all of the reported metals concentrations were well below the residential PRGs. Arsenic concentrations were reportedly above the residential PRG of 0.39 milligrams per kilogram (mg/kg). The reported arsenic concentrations ranged from 6.9 mg/kg to 14.0 mg/kg.

### PCBs via EPA Method 8082

No PCBs were reported in any of the soil samples collected above the reporting limit of 0.1 mg/kg.

### Interpretation of Soils Data

The soils data do not indicate a significant environmental problem. A low concentration of TPH in the duplicate sample (collected at TP-6) may indicate some effect due to minor petroleum spills over time. However, in as much as no TPH was detected at the TP-6 sample, the effect is not widespread. The absence of VOCs, significant PAH and PCBs indicates that environmental contamination is not prevalent on site. Metals appear to be naturally occurring and within ranges considered normal by the United States Geological Survey<sup>25</sup> as well as in KAS' experience at numerous sites in the northeastern United States. The debris encountered in TP-6 is not considered to be hazardous and is not indicative of pervasive environmental contamination.

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<sup>25</sup> Shacklette and Boerngen, Elemental Concentrations in Soils and Other Surficial Materials of the Conterminous United States, USGS Professional Paper 1270, 1984, pg.6.

## **6.0 MONITORING WELL INSTALLATION & SOIL SAMPLING**

To assess the presence and potential extent of contaminants, four soil borings and groundwater monitoring wells were installed on September 4, 2008. Additional soil samples were collected during drilling to help characterize soil quality across the property.

### **6.1 Pre-Drilling Activities**

The Dig-safe reference number presented in Section 5.1 was utilized to clear drilling locations on the day of drilling.

### **6.2 Monitoring Well Installation and Field Screening of Subsurface Soils**

On September 4, 2008, four soil borings were advanced by T&K Drilling of Swanzey, New Hampshire under the supervision of a KAS geologist. Soil borings were advanced using a truck mounted 4¼ inch I.D. hollow-stem auger drill rig. A two-foot split spoon sampler was advanced ahead of the augers every five feet and soil samples were collected with the split-spoon sampler.

The soil samples were logged by the supervising geologist and screened for VOCs using a Ion Science Pho Check Plus PID equipped with a 10.6 eV bulb. Prior to screening, the PID was calibrated with isobutylene with reference made to benzene. Soils were screened using KAS Protocol #001. Soil characteristics and PID measurements were recorded by the supervising geologist using the method described in ASTM D 2488-93. Soil Boring Logs and Monitoring Well Construction Diagrams are included in Appendix C.

Soils encountered during advancement of soil borings MW08-01, MW08-02, MW-08-3 and MW-08-4 consisted of well graded sand with gravel to a maximum depth of 42' below surface grade (bsg). Silty sand was encountered at 20' depth in MW-08-3. No elevated PID concentrations or visual or olfactory evidence of petroleum impact were observed during the advancement. Groundwater was observed at approximately 12 feet bsg at MW08-01, MW08-2, and MW-08-3 and at approximately 35 feet bsg in MW08-04.

Monitoring wells were constructed with 2-inch diameter, Schedule 40 PVC well screen and riser within the annular space of each of the associated soil borings. A ten-foot length of 0.010-inch, factory-slotted screen was installed in the annular space at the base of each well. A silica sand pack was installed in the annular space around each well screen from the bottom of the boring to approximately one-foot above the top of the screened interval of the monitoring well. An approximate two-foot thick bentonite seal was then installed above the sand pack and another bentonite seal (1.5 feet thick) was placed approximately three feet below grade to prevent surface water infiltration. Each well was fitted with a gripper cap and secured with a flush mounted water-tight road box. The wells were developed by taking approximately five gallons of water from each well using a disposable bailer the same day they were installed.

### **6.3 Site Monitoring Well Survey**

Monitoring wells MW08-01 through MW08-04 were located in azimuth and elevation relative to prominent Site features on September 4, 2008, and plotted to develop a Site Map (Appendix A) utilizing the survey data and field observations. The elevation of Site

monitoring wells were determined relative to an indicated datum of 934.4' at the floor elevation of the rear building.<sup>26</sup>

#### **6.4 Soil Sampling and Analysis Results**

Soil samples were collected from each of the soil borings advanced for MW08-01 through MW08-04. The depths of sample collection were at the lowest sampled interval in each boring because no positive PID readings were obtained during field screening. The samples were submitted for laboratory analysis of the following test analytes:

- VOCs via EPA Method 8260B with EPA Method 5035 methanol preservation;
- PAHs via EPA Method 8270C;
- TPH via EPA Method 8100;
- Priority pollutant 13 metals list via EPA Methods 6020; and,
- PCBs via EPA Method 8082

Samples were submitted under chain of custody procedures to EAI. Tabulated results and the laboratory analytical reports are included in Appendix D.

##### VOCs via EPA Method 8260b

No VOCs were reported in any of the soil samples collected.

##### TPH via EPA Method 8100

TPH was not reported in any of the soil samples collected above the reporting limit of 50 milligrams per kilogram (mg/kg).

##### PAH via EPA Method 8270

No PAH compounds were reported in any of the soil samples collected.

##### Total Metals

Concentrations of arsenic, chromium, copper, lead, nickel and zinc were reported in all of the soil samples and duplicate sample. Antimony, beryllium, cadmium, mercury, selenium, silver, and thallium were not reported above detection limits in any of the soil samples.

Except for arsenic, all of the reported metals concentrations were well below the residential PRGs. Arsenic concentrations were reportedly above the residential PRG of 0.39 milligrams per kilogram (mg/kg). The reported arsenic concentrations ranged from 4.8 mg/kg to 9.8 mg/kg.

##### PCBs via EPA Method 8082

No PCBs were reported in any of the soil samples collected above the reporting limit of 0.1 mg/kg.

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<sup>26</sup> As indicated on a topographic site drawing provided by the Warren Planning Commission, not dated.

### Interpretation of Soils Data

The soils data do not indicate an environmental problem. The absence of VOCs, PAH and PCBs indicates that environmental contamination is not prevalent on site. Metals appear to be naturally occurring and within ranges considered normal by the United States Geological Survey<sup>27</sup> as well as in KAS' experience at numerous sites in the northeastern United States.

## **7.0 GROUNDWATER HYDROGEOLOGY**

On September 18, 2008, depth-to-water measurements were recorded in MW08-01 through MW08-04. Water levels were measured according to KAS Protocol #003. Groundwater elevations were gauged using a Keck<sup>TM</sup> water level indicator. Liquid Level Monitoring Data are included in Appendix E. No light non-aqueous phase liquid (LNAPL) was measured or observed on September 18, 2008.

Depth to groundwater was measured to range from 12.40 feet below top of casing elevation at MW08-3, to 36.50 feet below top of casing elevation at MW08-4. The depths to groundwater were subtracted from the surveyed top of casing elevations to calculate a groundwater elevation at each of the four monitoring wells. These calculations are presented in the liquid level measurement table in Appendix E.

The groundwater elevations were plotted on the site map and lines of equal groundwater elevation were drawn to estimate the groundwater flow direction which is normal to the equipotential lines. The groundwater flow direction is west at a hydraulic gradient of 25%. Assuming a hydraulic conductivity value of 0.1 centimeters per second<sup>28</sup>, an estimated groundwater flow velocity of 71 feet per day is calculated. This high velocity is a result of the coarse grained sand and gravel deposit, and the very high slope of the water table. Calculations are included in Appendix E.

## **8.0 GROUNDWATER SAMPLE COLLECTION & ANALYSES**

On September 18, 2008, groundwater samples were collected from monitoring wells monitoring wells MW08-01 through MW08-04. Monitoring well sampling was conducted in accordance with KAS Protocol #012 which is on file with KAS' generic QAPP. Samples from MW08-1 through MW08-3 were collected with a Cole Parmer Masterflex<sup>TM</sup> Peristaltic Pump utilizing disposable food-grade polyethylene tubing. Samples from MW-4 were collected using a Proactive Super Surger<sup>TM</sup> Electric submersible pump boosted in line with the peristaltic pump to achieve the required lift and food grade polyethylene tubing. Both pumps run on 12 volt DC power which was supplied by a vehicle voltage inverter and a deep cycle 12 volt battery. Pumping rates from 100 milliliters per minute (ml/min) to 200 ml/min were achieved using the pumping apparatus described above.

Groundwater samples were properly preserved and chilled for delivery to EAI under chain of custody procedures. The samples were analyzed by EAI for the following test analytes:

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<sup>27</sup> Shacklette and Boerngen, Elemental Concentrations in Soils and Other Surficial Materials of the Conterminous United States, USGS Professional Paper 1270, 1984, pg.6.

<sup>28</sup> Freeze and Cherry, Ground Water Hydrology, Pg. 29.

- VOCs by EPA Method 8260B;
- Total chloride and sodium via EPA Methods 4500 CIE and 6020; and,
- 13 priority pollutant metals via EPA Methods 6020.

A duplicate sample was collected from monitoring well MW08-04 and analyzed for the same parameters. A trip blank sample was provided by EAI, which was analyzed by EPA Method 8260B. Tabulated results and the laboratory analytical reports are included in Appendix E.

## **8.1 Field Testing Results**

Field readings were collected for pH, conductivity, temperature and turbidity according to KAS Protocol #012. Stabilization of these parameters within defined limits was used to determine the appropriate laboratory sample collection timing. Generally, the wells achieved stability of pH, conductivity and temperature relatively quickly but took longer to achieve stable turbidity, most likely because this was the first time that the wells were sampled. Purge times ranged from 37 minutes at MW-08-1, 77 minutes at MW-08-2, 26 minutes at MW-08-3 and 62 minutes at MW-08-4. A tabulation of field purge readings is included in Appendix E. Turbidity readings close to 5 NTU were achieved in all four wells upon stabilization.

## **8.2 Monitoring Well Sampling and Laboratory Analytical Results**

### VOCs via EPA Method 8260b

No VOCs were reported in any of the groundwater samples.

### Sodium and Chloride

Sodium and chloride were reported in all of the groundwater samples collected, at concentrations less than the VGES. All of the concentrations were slightly to moderately elevated above typical levels seen in groundwater in this area but none of the concentrations were above state standards. The highest levels of sodium and chloride were reported in MW08-3 which is directly downgradient of the existing road salt shed.

### Total Metals

One or more of the monitoring well samples was reported to contain arsenic, nickel, and/or zinc. The reported concentrations were below the VGES. None of the following analytes were reported above detection limits: antimony; beryllium; cadmium; chromium; copper; lead; mercury; selenium; silver; and, thallium.

### Interpretation of Groundwater Data

The groundwater appears to be uninfluenced by operation of the town garage with the exception of the slight elevation of road salt concentrations. Given the rapid rate of groundwater flow, once the road salt is either enclosed on site or else removed from the site, these concentrations should dissipate quickly and do not require further action.

## **9.0 DATA VALIDATION**

Upon receipt of all laboratory analytical data collected during this Phase II ESA, KAS' quality assurance officer (QAO) performed data validation as described in the QAPP. The validation evaluated the usability of the groundwater and soil quality data generated throughout the investigation. The Data Validation Report is included in Appendix F.

### **QAPP Modifications**

Representative samples were collected in an appropriate manner. The scope of work and sampling procedures detailed in the QAPP were modified based upon field conditions encountered.

### **Verification of Sampling Procedures & Chain of Custody**

As indicated in the data validation report, KAS' QAO determined that sampling appears to have been performed appropriately and is representative of the field conditions encountered. Data should be accepted based on field sampling procedures documented.

### **Lab QA/QC Findings**

It was documented that representative samples were collected in an appropriate manner. However, the validation report notes a few areas in which the data did not meet all of the requirements as specified in the QAPP. The data collected for this investigation were accepted by the QAO with qualifications as noted in the Data Validation Reports included in Appendix J. Certain PAH and metal analyte detection limits for the soil samples exceeded the associated EPA Region IX PRGs.

Given that there are no detections of any contaminant of concern greater than the associated PRG or state standard in any sample collected at this site, it is unlikely that these qualifications materially effect the decision making process regarding potential environmental liabilities at this site.

## **10.0 CONCLUSIONS**

KAS has completed a Brownfields Phase II ESA at the Warren Town Garage property in Warren, Vermont for the CVRPC. Completed investigative work was conducted in accordance with KAS' Generic QAPP, RFA 07264), and the April 2008 QAPP Addendum, revised June 2008. Based on the results of investigative work conducted during this Phase II ESA, KAS presents the following conclusions:

The investigation data indicate there is no significant contaminant impact to surface water, sediment, drinking water, soils or groundwater. No volatile organic compounds (VOCs) were detected on site. VOCs are a broad class of compounds representative of gasoline,

solvents, refrigerants and other commonly used chemicals. No PCBs were detected on site. PCBs are a group of compounds used as a thermal insulator and added to oils until the late 1970's to improve their heat resistance. De minimis concentrations of other tested analytes / compounds were detected at the following locations:

- A minor petroleum release apparently took place near the west end of the property, in the vicinity of the loader/grader parking area. A low concentration of petroleum hydrocarbons (TPH) was detected in one soil sample collected there. Two related PAH compounds were detected at levels below the EPA's residential cleanup goal. A low TPH concentration was also detected in the downstream sediment sample, collected adjacent to the loader/grader parking area.
- Low concentrations of chromium, copper, lead, nickel and zinc were detected in all soil samples collected. These are naturally occurring metals and not indicative of environmental contamination.
- Arsenic was detected in all of the soil samples and the concentrations in soil were uniformly higher than the EPA's residential cleanup guidance. This is a typical occurrence in Vermont soils and the arsenic concentrations are believed to be naturally occurring because they fall well within the range of elemental metals concentrations reported in soils in the eastern United States<sup>29</sup>, and are typical of Vermont soils in KAS' experience.
- A very slight change in chemistry was noted in the ephemeral stream bordering the south side of the property. Chloride concentrations rose by slightly from upstream to downstream sampling location, and field measured conductivity rose by approximately 100% at the downstream location compared to the upstream location. These effects may be attributable to on site road salt storage.
- Sampling of the on site drinking water supply indicates no chemical contamination detected. Four metals were detected at levels well below federal maximum contaminant levels (MCLs) (chromium, copper, nickel and zinc). Sodium and chloride levels (67 mg/l and 100 mg/l, respectively) were higher than usual drinking water supply levels in KAS' experience but were still well below MCLs (250 mg/l).
- Groundwater monitoring indicates no detectable contamination aside from some minor road salt influence. Groundwater is estimated to be flowing toward the west at an approximate hydraulic gradient of 25%. Groundwater flow velocity through the surficial aquifer is estimated to be on the order of 70 feet per day.

No sensitive receptors were identified as being at current risk from contamination because significant contaminant impact has not been measured or observed.

The proposed property re-use includes up to 12 units of residential housing. The units will be arranged around a common green area where the main town garage presently is situated. A community garden will be built. The housing will rely on an on site water supply and shared wastewater disposal system.

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<sup>29</sup> Shacklette and Boerngen, Elemental Concentrations in Soils and Other Surficial Materials of the Conterminous United States, USGS Professional Paper 1270, 1984, pg.6.

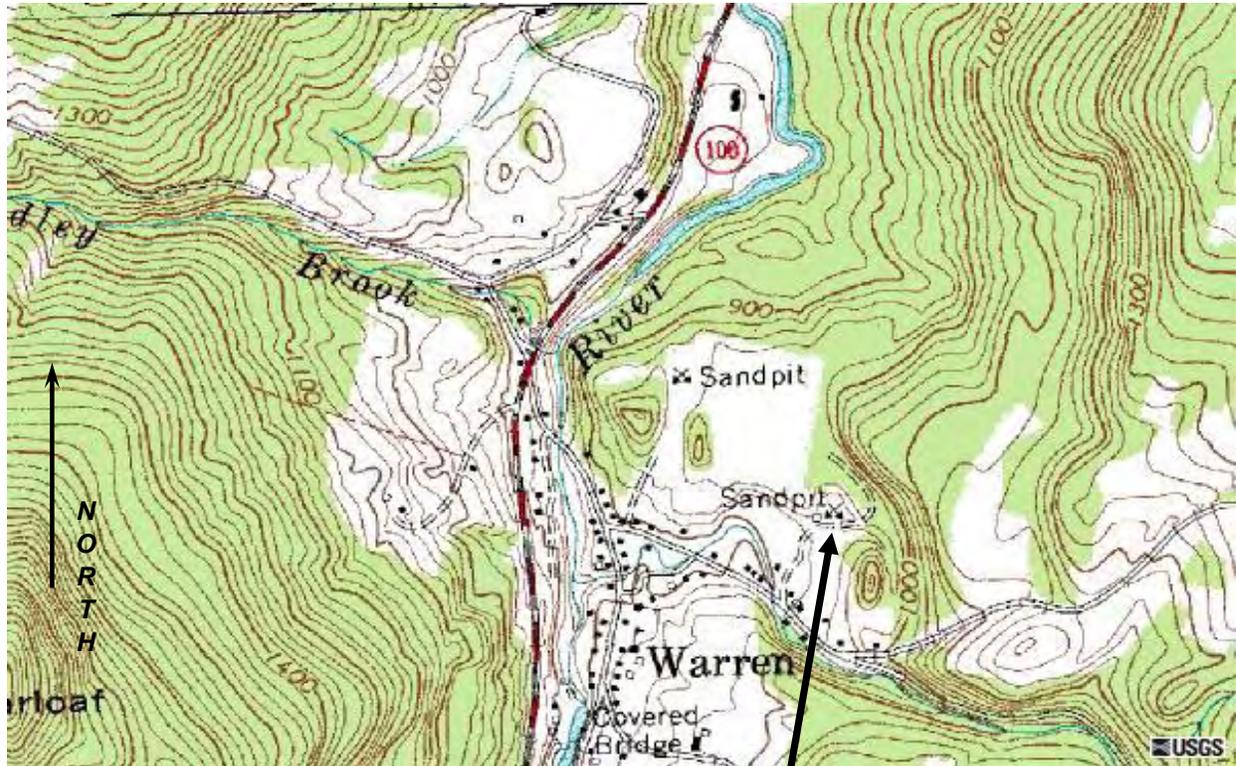
## **11.0 RECOMMENDATIONS**

No further environmental investigations are necessary to follow up on the work completed to date and no corrective actions are indicated to be necessary based on this work. There do not appear to be any environmental concerns that could impede re-use of the property for the intended purpose. As a precaution, it is recommended that a qualified environmental technician be retained to inspect the ground beneath the two garage buildings after they are removed. This is to verify the lack of contamination observed on site to date, as well as structures such as piping, drywells etc. that could be present beneath the buildings. The four groundwater monitoring wells should be properly abandoned by a licensed well driller prior to the commencement of construction.

# APPENDIX A

## MAPS

**Site Location Map**  
**Site Map**



**SUBJECT  
PROPERTY**

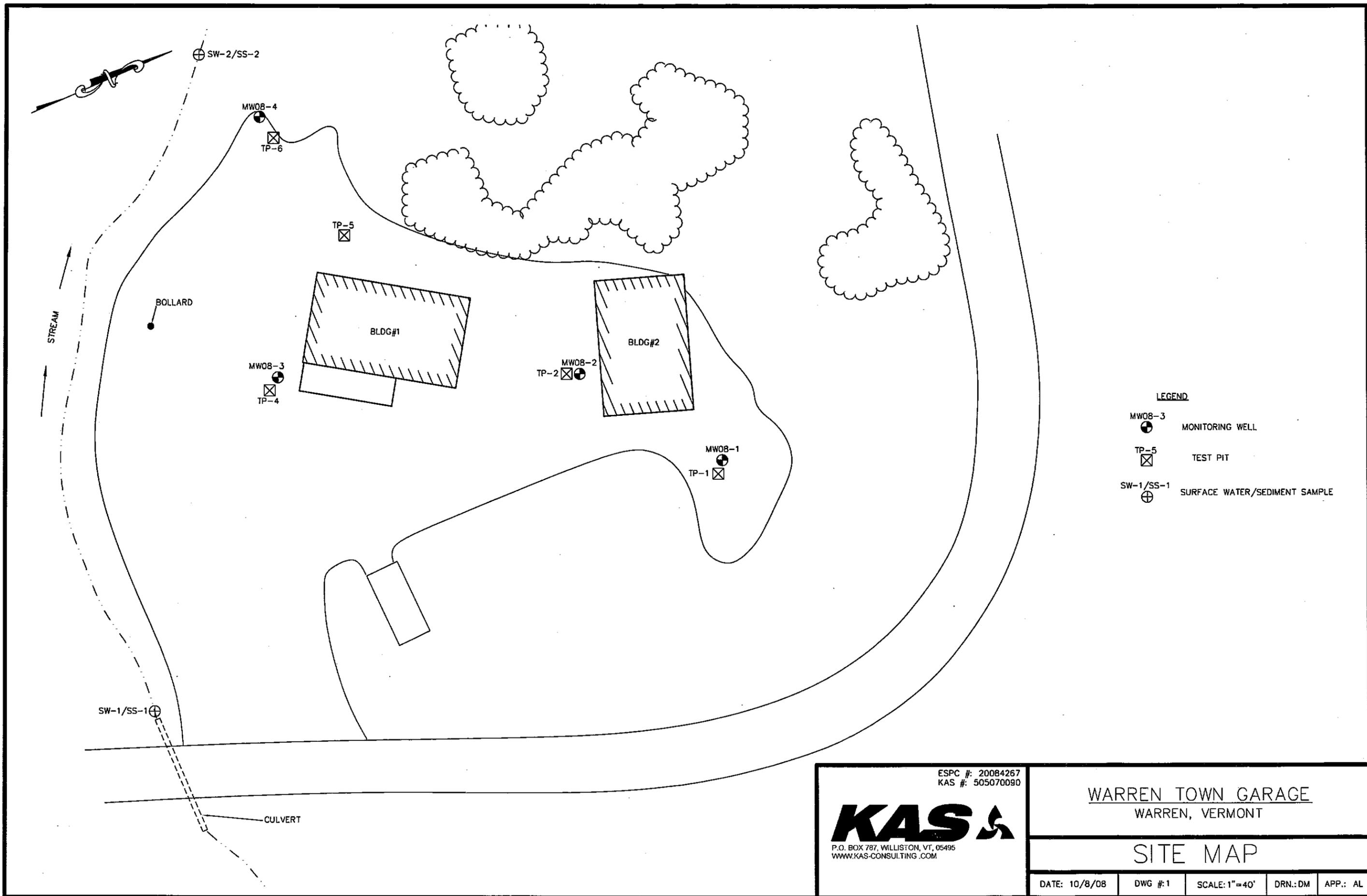
KAS Job Number 505070090  
 Source: <http://terraserver.microsoft.com>



**Warren Town Garage  
 Warren, Vermont**

Site Location Map  
 USGS Mapping

Date: 06/12/07 | Drawing No. 0 | Scale: 1:24,000 | By: ARL



- LEGEND**
- MWOB-3  MONITORING WELL
  - TP-5  TEST PIT
  - SW-1/SS-1  SURFACE WATER/SEDIMENT SAMPLE

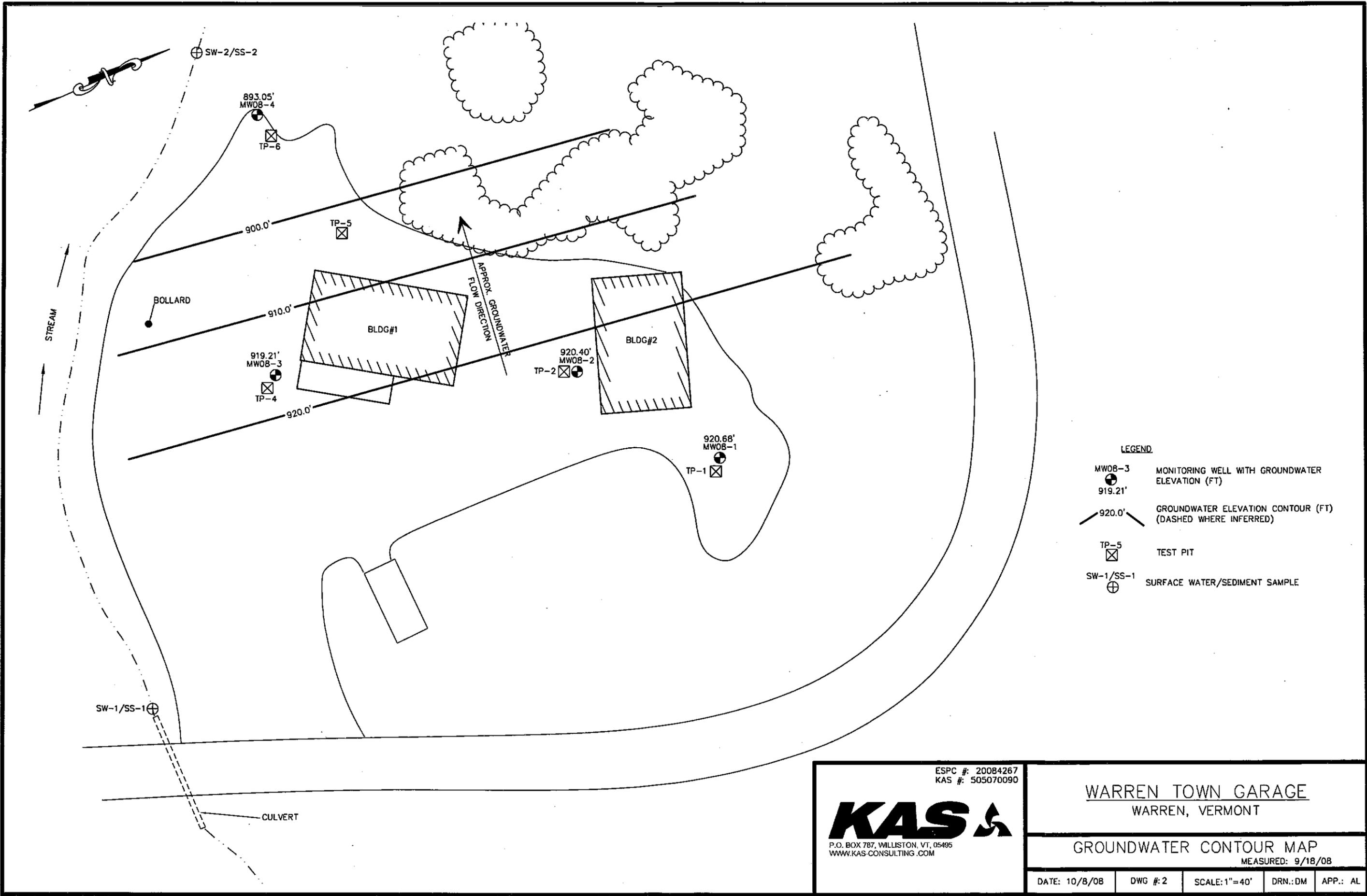
ESPC #: 20084267  
 KAS #: 505070090

**KAS**   
 P.O. BOX 787, WILLISTON, VT, 05495  
 WWW.KAS-CONSULTING.COM

WARREN TOWN GARAGE  
 WARREN, VERMONT

SITE MAP

DATE: 10/8/08	DWG #: 1	SCALE: 1"=40'	DRN.: DM	APP.: AL
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LEGEND

- MWOB-3  
●  
919.21'     MONITORING WELL WITH GROUNDWATER ELEVATION (FT)
- 920.0'     GROUNDWATER ELEVATION CONTOUR (FT) (DASHED WHERE INFERRED)
- TP-5  
⊠     TEST PIT
- SW-1/SS-1  
⊕     SURFACE WATER/SEDIMENT SAMPLE

ESPC #: 20084267  
KAS #: 505070090

**KAS**  
P.O. BOX 787, WILLISTON, VT. 05495  
WWW.KAS-CONSULTING.COM

WARREN TOWN GARAGE  
WARREN, VERMONT

GROUNDWATER CONTOUR MAP  
MEASURED: 9/18/08

DATE: 10/8/08	DWG #: 2	SCALE: 1"=40'	DRN.: DM	APP.: AL
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# APPENDIX B

## **Drinking Water, Surface Water, and Sediment Data Summary Tables and Laboratory Analytical Data**



**Drinking Water Supply Data**  
**Warren Town Garage, Warren, Vermont**  
**KAS #5005070090**  
**5-Aug-08**

Volatile Organic Compounds (524.2)			MCL (ug/L)
	DWS-1	Trip Blank	
Benzene	ND <0.5	ND <0.5	5.
Toluene	ND <0.5	ND <0.5	1,000.
Ethylbenzene	ND <0.5	ND <0.5	700.
Xylenes	ND <1	ND <1	10,000.
Total BTEX	ND	ND	
1,3,5-Trimethylbenzene	ND <0.5	ND <0.5	-
1,2,4-Trimethylbenzene	ND <0.5	ND <0.5	-
Naphthalene	ND <0.5	ND <0.5	-
Isopropylbenzene	ND <0.5	ND <0.5	-
n-Propylbenzene	ND <0.5	ND <0.5	-
n-Butylbenzene	ND <0.5	ND <0.5	-
sec-Butylbenzene	ND <0.5	ND <0.5	-
tert-Butylbenzene	ND <0.5	ND <0.5	-
p-Isopropyltoluene	ND <0.5	ND <0.5	-
MTBE	ND <0.5	ND <0.5	40.
Acetone	ND <10	ND <10	700.
2-Butanone	ND <5	ND <5	4,200.
Dibromomethane	ND <0.5	ND <0.5	-
Diethyl Ether	ND <5	ND <5	-
Tetrachloroethene	ND <0.5	ND <0.5	5.
Trichloroethene	ND <0.5	ND <0.5	5.
1,1-Dichloroethane	ND <0.5	ND <0.5	-
cis-1,2-Dichloroethene	ND <0.5	ND <0.5	-
trans-1,2-Dichloroethene	ND <0.5	ND <0.5	-
1,2,3-Trichloropropane	ND <0.5	ND <0.5	-
Chloroform	ND <0.5	ND <0.5	-
Styrene	ND <0.5	ND <0.5	100.
Vinyl Chloride	ND <0.5	ND <0.5	2.
Total VOCs	ND	ND	-
<b>PP 13 Metals (ug/L)</b>			<b>MCL (ug/L)</b>
Total Antimony	ND <1	NT	6
Total Arsenic	ND <1	NT	10
Total Beryllium	ND <1	NT	4
Total Cadmium	ND <1	NT	5
Total Chromium	<b>2</b>	NT	100
Total Copper	<b>31</b>	NT	1300
Total Lead	<b>3</b>	NT	15
Total Mercury	ND <0.1	NT	2
Total Nickel	<b>4</b>	NT	100
Total Selenium	ND <1	NT	50
Total Silver	ND <1	NT	100.
Total Thallium	ND <1	NT	2
Total Zinc	<b>7</b>	NT	5000
<b>Sodium and Chloride (mg/l)</b>			<b>MCL (mg/L)</b>
Total Sodium	<b>67</b>	NT	250
Total Chloride	<b>100</b>	NT	250

NOTES:

Major VOCs tested for are shown in table. All VOCs detected, if any, are shown in the table.

Other less common VOCs were tested for and not detected and results are included in the laboratory report.

All values reported in ug/L, unless otherwise indicated.

EPA Method 524.2 used for laboratory analysis for VOCs

EPA Method 200.8 used for laboratory analysis for metals

ND<X - Not Detected (Detection Limit)

Values above MCL (Maximum Contaminant Limit) are shaded (VT WSR 4/05)

Values above the laboratory detection limit are in bold

- means no MCL for this compound



**Stream Quality Measurement**  
**Warren Town Garage, Warren, Vermont**  
**KAS #5005070090**  
**5-Aug-08**

Upstream					
Time	pH*	conductivity (us)	Dissolved Oxygen (%)	Temp. (celsius)	Turbidity (NTU)
11:10	6.97	88	109.0	16.4	11.4

Downstream					
Time	pH*	conductivity (us)	Dissolved Oxygen mg/l	Temp. (celsius)	Turbidity (NTU)
10:40	7.00	184	109.3	17.9	5

Note:

NTU: nephelometric turbidity units

\*-pH measurements were repeated on 9/4/08 ; upstream pH was 7.19, downstream location was dry.



**Surface Water Quality Data**  
**Warren Town Garage, Warren, Vermont**  
**KAS #5005070090**  
**5-Aug-08**

	SW-1 Upstream	SW-2 Downstream	Vermont WQS (ug/l)		NOAA SQuiRT (ug/l)
	Volatile Organic Compounds (8260b) (ug/l)		H2O+Organisms	Organisms	
Benzene	ND <1	ND <1	1.2	71	130
Toluene	ND <1	ND <1	6,800.	200,000.	9.8
Ethylbenzene	ND <1	ND <1	3,100.	29,000.	7.3
Total Xylenes	ND <2	ND <2	NS	NS	13.
Total BTEX	ND	ND			
1,3,5-Trimethylbenzene	ND <1	ND <1	NS	NS	NS
1,2,4-Trimethylbenzene	ND <1	ND <1	NS	NS	NS
Naphthalene	ND <5	ND <5	NS	NS	620.
Isopropylbenzene	ND <1	ND <1	NS	NS	NS
n-Propylbenzene	ND <1	ND <1	NS	NS	NS
n-Butylbenzene	ND <1	ND <1	NS	NS	NS
sec-Butylbenzene	ND <1	ND <1	NS	NS	NS
tert-Butylbenzene	ND <1	ND <1	NS	NS	NS
p-Isopropyltoluene	ND <1	ND <1	NS	NS	NS
MTBE	ND <5	ND <5	NS	NS	NS
Acetone	ND <10	ND <10	NS	NS	NS
2-Butanone	ND <10	ND <10	NS	NS	NS
Dibromomethane	ND <2	ND <2	NS	NS	11000
Diethyl Ether	ND <5	ND <5	NS	NS	NS
Tetrachloroethene	ND <2	ND <2	0.8	8.85	840
Trichloroethene	ND <2	ND <2	2.7	81.0	21900
1,1-Dichloroethane	ND <2	ND <2	NS	NS	NS
cis-1,2-Dichloroethene	ND <2	ND <2	NS	NS	11600
trans-1,2-Dichloroethene	ND <2	ND <2	NS	NS	11600
1,2,3-Trichloropropane	ND <2	ND <2	NS	NS	NS
Chloroform	ND <2	ND <2	NS	NS	1240
Styrene	ND <1	ND <1	NS	NS	NS
Vinyl Chloride	ND <2	ND <2	2	525	NS
Total VOCs	ND	ND			-
<b>PP 13 Metals (ug/L)</b>					
Total Antimony	ND <1	ND <1	14	4300	30
Total Arsenic	ND <1	ND <1	0.02	1.5	150
Total Beryllium	ND <1	ND <1	NS	NS	5.3
Total Cadmium	ND <1	ND <1	NS	NS	0.25
Total Chromium	ND <1	ND <1	NS	NS	74
Total Copper	<b>2</b>	<b>2</b>	NS	NS	9
Total Lead	ND <1	ND <1	NS	NS	2.5
Total Mercury	ND <0.1	ND <0.1	0.14	0.15	0.77
Total Nickel	<b>4</b>	<b>2</b>	610	4600	52
Total Selenium	ND <1	ND <1	NS	NS	5
Total Silver	ND <1	ND <1	NS	NS	1.6
Total Thallium	ND <1	ND <1	1.7	6.3	40
Total Zinc	<b>6</b>	ND <5	NS	NS	120
<b>Sodium and Chloride (mg/l)</b>					
Total Sodium	ND <5	ND <5	NS	NS	NS
Total Chloride	<b>5</b>	<b>6</b>	NS	NS	NS

NOTES:

Major VOCs tested for are shown in table. All VOCs detected, if any, are shown in the table.  
 Other less common VOCs were tested for and not detected and results are included in the laboratory report.  
 All values reported in ug/L, unless otherwise indicated.  
 EPA Method 8260b used for laboratory analysis for VOCs  
 EPA Method 200.8 used for laboratory analysis for metals  
 ND<X - Not Detected (Detection Limit)  
 Values above Vermont WQS (Vermont Water Quality Standards) are shaded.  
 Values above the laboratory detection limit are in bold  
 Shaded standards means that the standard is below the laboratory reporting limit  
 NS means no standard for this compound or hardness data not available  
 Vermont WQS = Vermont Water Quality Standards, effective January 1, 2008  
 NOAA Squirt Tables updated 11/06, lowest applicable guidance levels are presented.



**Sediment Results Summary**  
**Warren Town Garage, Warren, Vermont**  
**KAS #5005070090**  
**5-Aug-08**

Sediment Sample	Upstream SS-1	Downstream SS-2	Duplicate SS-1	NOAA SQUIRT TEL/PEL/UET	EPA Region IX PRG Residential	EPA Region IX PRG Industrial
<b>PAHs, EPA Method 8270C (mg/kg)</b>						
Acenaphthene	ND <0.2	ND <0.3	ND <0.2	0.29	3,700.	29,000.
Acenaphthylene	ND <0.2	ND <0.3	ND <0.2	0.16	NS	NS
Anthracene	ND <0.2	ND <0.3	ND <0.2	0.26	22,000.	100,000.
Benzo(a)anthracene	ND <0.02	ND <0.03	ND <0.02	0.32	0.62	2.1
Benzo(b)fluoranthene	ND <0.02	ND <0.03	ND <0.02	NS	0.62	2.1
Benzo(k)fluoranthene	ND <0.02	ND <0.03	ND <0.02	0.027	6.2	21.
Benzo(a)pyrene	ND <0.02	ND <0.03	ND <0.02	NS	0.062	0.21
Benzo(g,h,i)perylene	ND <0.02	ND <0.03	ND <0.02	NS	NS	NS
Chrysene	ND <0.02	ND <0.03	ND <0.02	NS	62.	210.
Dibenzo(a,h)anthracene	ND <0.02	ND <0.03	ND <0.02	NS	0.062	0.21
Fluoranthene	ND <0.2	ND <0.3	ND <0.2	3.98	2,300.	22,000.
Fluorene	ND <0.2	ND <0.3	ND <0.2	NS	2,700.	26,000.
Indeno(1,2,3-cd)pyrene	ND <0.02	ND <0.03	ND <0.02	NS	0.62	2.1
2-Methylnaphthalene	ND <0.2	ND <0.3	ND <0.2	NS	NS	NS
Naphthalene	ND <0.2	ND <0.3	ND <0.2	0.62	56.	190.
Phenanthrene	ND <0.2	ND <0.3	ND <0.2	NS	NS	NS
Pyrene	ND <0.2	ND <0.3	ND <0.2	NS	2,300.	29,000.
Total Reported PAHs	ND	ND	ND			
<b>TOTAL PETROLEUM HYDROCARBONS, EPA Method 8100 mod</b>						
TPH (C9-C40) (mg/Kg)	ND <50	<b>170.</b>	ND <50	NS	200*	1,000*
<b>PCBs, EPA Method 8082 (mg/kg)</b>						
Arochlor-1016	ND <0.1	ND <0.1	ND <0.1	NS	3.9	21.
Arochlor-1221	ND <0.1	ND <0.1	ND <0.1	NS	0.22	0.74
Arochlor-1232	ND <0.1	ND <0.1	ND <0.1	NS	0.22	0.74
Arochlor-1242	ND <0.1	ND <0.1	ND <0.1	NS	0.22	0.74
Arochlor-1248	ND <0.1	ND <0.1	ND <0.1	NS	0.22	0.74
Arochlor-1254	ND <0.1	ND <0.1	ND <0.1	NS	0.22	0.74
Arochlor-1260	ND <0.1	ND <0.1	ND <0.1	NS	0.22	0.74
<b>TOTAL METALS (mg/kg)</b>						
Total Antimony	ND <0.5	ND <0.5	ND <0.5	3	31	410
Total Arsenic	<b>4.9</b>	<b>8.7</b>	<b>3.9</b>	5.9	0.39	1.6
Total Beryllium	ND <0.5	ND <0.5	ND <0.5	NS	150	1,900
Total Cadmium	ND <0.5	ND <0.5	ND <0.5	0.583	37	450
Total Chromium	<b>14</b>	<b>15</b>	<b>24</b>	36	210	450
Total Copper	<b>11</b>	<b>20</b>	<b>8.5</b>	28	3,100	41,000
Total Lead	<b>4.7</b>	<b>11</b>	<b>5.5</b>	37	400	800
Total Mercury	ND <0.1	ND <0.1	ND <0.1	0.17	23	310
Total Nickel	<b>18</b>	<b>23</b>	<b>17</b>	18.0	1,600	20,000
Total Selenium	ND <0.5	ND <0.5	ND <0.5	NS	390	5,100
Total Silver	ND <0.5	ND <0.5	ND <0.5	4.5	390	5,100
Total Thallium	ND <0.5	ND <0.5	ND <0.5	NS	5.2	67
Total Zinc	<b>39</b>	<b>54</b>	<b>38</b>	98	23,000	100,000

NOTES:

All values reported in ug/kg, dry, unless otherwise indicated.

PRG = USEPA Region IX Preliminary Remediation Goal

NOAA SQUIRT Tables updated 11/06, lowest applicable guidance levels are presented.

\*Values based on the VTDEC TPH Soil Cleanup Guideline (ref. DEC Memorandum 12/30/92).

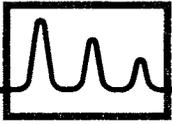
Values above PRG or SQUIRT are shaded

NS = No relevant numerical criteria found.

State/federal guidance levels lower than analytical reporting limits are shaded.

ND <1.0 = Not Detected < Detection Limit

Results reported above detection limits are indicated in bold



Alan Liptak  
KAS, Inc.  
PO Box 787  
Williston, VT 05495



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 72075  
Client Identification: Warren Town Garage Brownfields / 505070090  
Date Received: 8/8/2008

Dear Mr. Liptak :

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. (EAI) certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at [www.eailabs.com](http://www.eailabs.com) for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply throughout all EAI reports:

- Solid samples are reported on a dry weight basis, unless otherwise noted
- <: "less than" followed by the detection limit
- TNR: Testing Not Requested
- ND: None Detected, no established detection limit
- RL: Reporting Limits
- %R: % Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

This report package contains the following information: Sample Conditions summary, Analytical Results/Data and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

**Analytical Deviation & QA/QC Documentation:**

Quality Control Samples associated with this project are included in this report. At a minimum, a Method Blank and Laboratory Control Sample (LCS) are reported. Matrix Spikes and Duplicates are reported where applicable. Deviations are narrated on the QC pages.

If you have any questions regarding the results contained within, please feel free to directly contact me, or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

  
Lorraine Olashaw, Lab Director

8-28-08  
Date

32  
# of pages (excluding cover letter)



# SAMPLE CONDITIONS PAGE

Eastern Analytical, Inc. ID#: 72075

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields / 505070090

Temperature upon receipt (°C): 7.7

Received on ice or cold packs (Yes/No): Y

Lab ID	Sample ID	Date Received	Date Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
72075.01	SW-1	8/8/08	8/5/08	aqueous		Adheres to Sample Acceptance Policy
72075.02	SW-2	8/8/08	8/5/08	aqueous		Adheres to Sample Acceptance Policy
72075.03	DWS-1	8/8/08	8/5/08	aqueous		Adheres to Sample Acceptance Policy
72075.04	SS-1	8/8/08	8/5/08	soil	79.6	Adheres to Sample Acceptance Policy
72075.05	SS-2	8/8/08	8/5/08	soil	61.9	Adheres to Sample Acceptance Policy
72075.06	Duplicate	8/8/08	8/5/08	soil	80.8	Adheres to Sample Acceptance Policy
72075.07	Trip Blank	8/8/08	7/15/08	aqueous		Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

All results contained in this report relate only to the above listed samples.

References include:

- 1) EPA 600/4-79-020, 1983
- 2) Standard Methods for Examination of Water and Wastewater : Inorganics, 19th Edition, 1995; Microbiology, 20th Edition, 1998
- 3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- 4) Hach Water Analysis Handbook, 2nd edition, 1992



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72075

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields / 505070090

Sample ID:	SW-1	SW-2
Lab Sample ID:	72075.01	72075.02
Matrix:	aqueous	aqueous
Date Sampled:	8/5/08	8/5/08
Date Received:	8/8/08	8/8/08
Units:	ug/l	ug/l
Date of Analysis:	8/8/08	8/8/08
Analyst:	JDS	JDS
Method:	8260B	8260B
Dilution Factor:	1	1
Dichlorodifluoromethane	< 5	< 5
Chloromethane	< 2	< 2
Vinyl chloride	< 2	< 2
Bromomethane	< 2	< 2
Chloroethane	< 5	< 5
Trichlorofluoromethane	< 5	< 5
Diethyl Ether	< 5	< 5
Acetone	< 10	< 10
1,1-Dichloroethene	< 1	< 1
Methylene chloride	< 5	< 5
Carbon disulfide	< 5	< 5
Methyl-t-butyl ether(MTBE)	< 5	< 5
trans-1,2-Dichloroethene	< 2	< 2
1,1-Dichloroethane	< 2	< 2
2,2-Dichloropropane	< 2	< 2
cis-1,2-Dichloroethene	< 2	< 2
2-Butanone(MEK)	< 10	< 10
Bromochloromethane	< 2	< 2
Tetrahydrofuran(THF)	< 10	< 10
Chloroform	< 2	< 2
1,1,1-Trichloroethane	< 2	< 2
Carbon tetrachloride	< 2	< 2
1,1-Dichloropropene	< 2	< 2
Benzene	< 1	< 1
1,2-Dichloroethane	< 2	< 2
Trichloroethene	< 2	< 2
1,2-Dichloropropane	< 2	< 2
Dibromomethane	< 2	< 2
Bromodichloromethane	< 1	< 1
4-Methyl-2-pentanone(MIBK)	< 10	< 10
cis-1,3-Dichloropropene	< 1	< 1
Toluene	< 1	< 1
trans-1,3-Dichloropropene	< 1	< 1
1,1,2-Trichloroethane	< 2	< 2
2-Hexanone	< 10	< 10
Tetrachloroethene	< 2	< 2
1,3-Dichloropropane	< 2	< 2
Dibromochloromethane	< 2	< 2
1,2-Dibromoethane(EDB)	< 1	< 1
Chlorobenzene	< 2	< 2
1,1,1,2-Tetrachloroethane	< 2	< 2
Ethylbenzene	< 1	< 1
mp-Xylene	< 1	< 1
o-Xylene	< 1	< 1
Styrene	< 1	< 1
Bromoform	< 2	< 2



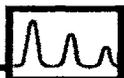
# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72075

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields / 505070090

Sample ID:	SW-1	SW-2
Lab Sample ID:	72075.01	72075.02
Matrix:	aqueous	aqueous
Date Sampled:	8/5/08	8/5/08
Date Received:	8/8/08	8/8/08
Units:	ug/l	ug/l
Date of Analysis:	8/8/08	8/8/08
Analyst:	JDS	JDS
Method:	8260B	8260B
Dilution Factor:	1	1
IsoPropylbenzene	< 1	< 1
Bromobenzene	< 2	< 2
1,1,2,2-Tetrachloroethane	< 2	< 2
1,2,3-Trichloropropane	< 2	< 2
n-Propylbenzene	< 1	< 1
2-Chlorotoluene	< 2	< 2
4-Chlorotoluene	< 2	< 2
1,3,5-Trimethylbenzene	< 1	< 1
tert-Butylbenzene	< 1	< 1
1,2,4-Trimethylbenzene	< 1	< 1
sec-Butylbenzene	< 1	< 1
1,3-Dichlorobenzene	< 1	< 1
p-Isopropyltoluene	< 1	< 1
1,4-Dichlorobenzene	< 1	< 1
1,2-Dichlorobenzene	< 1	< 1
n-Butylbenzene	< 1	< 1
1,2-Dibromo-3-chloropropane	< 1	< 1
1,2,4-Trichlorobenzene	< 1	< 1
Hexachlorobutadiene	< 1	< 1
Naphthalene	< 5	< 5
1,2,3-Trichlorobenzene	< 1	< 1
4-Bromofluorobenzene (surr)	96 %R	97 %R
1,2-Dichlorobenzene-d4 (surr)	104 %R	103 %R
Toluene-d8 (surr)	100 %R	98 %R



# LABORATORY REPORT

Eastern Analytical, Inc. ID#:72075

Batch ID:

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields / 505070090

## QC Report

Date of Analysis

Parameter Name	Blank	LCS	LCS Dup	Units	Method
Dichlorodifluoromethane	< 5			ug/l	8/8/08 8260B
Chloromethane	< 2			ug/l	8/8/08 8260B
Vinyl chloride	< 2			ug/l	8/8/08 8260B
Bromomethane	< 2			ug/l	8/8/08 8260B
Chloroethane	< 5			ug/l	8/8/08 8260B
Trichlorofluoromethane	< 5			ug/l	8/8/08 8260B
Diethyl Ether	< 5			ug/l	8/8/08 8260B
Acetone	< 10			ug/l	8/8/08 8260B
1,1-Dichloroethene	< 1	18 (91 %R)	18 (91 %R) (0 RPD)	ug/l	8/8/08 8260B
tert-Butyl Alcohol (TBA)	< 30			ug/l	8/8/08 8260B
Methylene chloride	< 5			ug/l	8/8/08 8260B
Carbon disulfide	< 5			ug/l	8/8/08 8260B
Methyl-t-butyl ether(MTBE)	< 5			ug/l	8/8/08 8260B
Ethyl-t-butyl ether(ETBE)	< 5			ug/l	8/8/08 8260B
Isopropyl ether(DIPE)	< 5			ug/l	8/8/08 8260B
tert-amyl methyl ether(TAME)	< 5			ug/l	8/8/08 8260B
trans-1,2-Dichloroethene	< 2			ug/l	8/8/08 8260B
1,1-Dichloroethane	< 2			ug/l	8/8/08 8260B
2,2-Dichloropropane	< 2			ug/l	8/8/08 8260B
cis-1,2-Dichloroethene	< 2			ug/l	8/8/08 8260B
2-Butanone(MEK)	< 10			ug/l	8/8/08 8260B
Bromochloromethane	< 2			ug/l	8/8/08 8260B
Tetrahydrofuran(THF)	< 10			ug/l	8/8/08 8260B
Chloroform	< 2			ug/l	8/8/08 8260B
1,1,1-Trichloroethane	< 2			ug/l	8/8/08 8260B
Carbon tetrachloride	< 2			ug/l	8/8/08 8260B
1,1-Dichloropropene	< 2			ug/l	8/8/08 8260B
Benzene	< 1	20 (102 %R)	20 (101 %R) (1 RPD)	ug/l	8/8/08 8260B
1,2-Dichloroethane	< 2			ug/l	8/8/08 8260B
Trichloroethene	< 2	20 (100 %R)	20 (98 %R) (2 RPD)	ug/l	8/8/08 8260B
1,2-Dichloropropane	< 2			ug/l	8/8/08 8260B
Dibromomethane	< 2			ug/l	8/8/08 8260B
Bromodichloromethane	< 0.5			ug/l	8/8/08 8260B
4-Methyl-2-pentanone(MIBK)	< 10			ug/l	8/8/08 8260B
cis-1,3-Dichloropropene	< 2			ug/l	8/8/08 8260B
Toluene	< 1	20 (102 %R)	20 (101 %R) (1 RPD)	ug/l	8/8/08 8260B
trans-1,3-Dichloropropene	< 2			ug/l	8/8/08 8260B
1,1,2-Trichloroethane	< 2			ug/l	8/8/08 8260B
2-Hexanone	< 10			ug/l	8/8/08 8260B
Tetrachloroethene	< 2			ug/l	8/8/08 8260B
1,3-Dichloropropane	< 2			ug/l	8/8/08 8260B
Dibromochloromethane	< 2			ug/l	8/8/08 8260B
1,2-Dibromoethane(EDB)	< 2			ug/l	8/8/08 8260B
Chlorobenzene	< 2	21 (105 %R)	21 (104 %R) (1 RPD)	ug/l	8/8/08 8260B



# LABORATORY REPORT

Eastern Analytical, Inc. ID#:72075

Batch ID:

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields / 505070090

## QC Report

Date of Analysis

Parameter Name	Blank	LCS	LCS Dup	Units		Method
1,1,1,2-Tetrachloroethane	< 2			ug/l	8/8/08	8260B
Ethylbenzene	< 1			ug/l	8/8/08	8260B
mp-Xylene	< 1			ug/l	8/8/08	8260B
o-Xylene	< 1			ug/l	8/8/08	8260B
Styrene	< 1			ug/l	8/8/08	8260B
Bromoform	< 2			ug/l	8/8/08	8260B
IsoPropylbenzene	< 1			ug/l	8/8/08	8260B
Bromobenzene	< 2			ug/l	8/8/08	8260B
1,1,2,2-Tetrachloroethane	< 2			ug/l	8/8/08	8260B
1,2,3-Trichloropropane	< 2			ug/l	8/8/08	8260B
n-Propylbenzene	< 1			ug/l	8/8/08	8260B
2-Chlorotoluene	< 2			ug/l	8/8/08	8260B
4-Chlorotoluene	< 2			ug/l	8/8/08	8260B
1,3,5-Trimethylbenzene	< 1			ug/l	8/8/08	8260B
tert-Butylbenzene	< 1			ug/l	8/8/08	8260B
1,2,4-Trimethylbenzene	< 1			ug/l	8/8/08	8260B
sec-Butylbenzene	< 1			ug/l	8/8/08	8260B
1,3-Dichlorobenzene	< 1			ug/l	8/8/08	8260B
p-Isopropyltoluene	< 1			ug/l	8/8/08	8260B
1,4-Dichlorobenzene	< 1			ug/l	8/8/08	8260B
1,2-Dichlorobenzene	< 1			ug/l	8/8/08	8260B
n-Butylbenzene	< 1			ug/l	8/8/08	8260B
1,2-Dibromo-3-chloropropane	< 2			ug/l	8/8/08	8260B
1,3,5-Trichlorobenzene	< 1			ug/l	8/8/08	8260B
1,2,4-Trichlorobenzene	< 1			ug/l	8/8/08	8260B
Hexachlorobutadiene	< 0.5			ug/l	8/8/08	8260B
Naphthalene	< 5			ug/l	8/8/08	8260B
1,2,3-Trichlorobenzene	< 1			ug/l	8/8/08	8260B
4-Bromofluorobenzene (surr)	96 %R	100 %R	101 %R	% Rec	8/8/08	8260B
1,2-Dichlorobenzene-d4 (surr)	103 %R	100 %R	101 %R	% Rec	8/8/08	8260B
Toluene-d8 (surr)	99 %R	100 %R	101 %R	% Rec	8/8/08	8260B



# LABORATORY REPORT

Eastern Analytical, Inc. ID#:72075

Batch ID:

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields /  
505070090

## Volatile Organic Compounds QC limits and Narrative Summary

Matrix:	Solid	RPD	Aqueous	RPD
Units:	%	%	%	%
EPA Method	8260B		8260B	
Surrogate Recovery				
4-Bromofluorobenzene	74-121		86-115	
1,2-Dichlorobenzene-D4	80-120		80-120	
Toluene-d8	70-130		70-130	
Matrix Spike Recovery				
1,1-Dichloroethene	59-172	30	61-145	20
Trichloroethene	62-137	30	71-120	20
Benzene	66-142	30	76-127	20
Toluene	59-139	30	76-125	20
Chlorobenzene	60-133	30	75-130	20

Samples were extracted and analyzed within holding time limits.

Instrumentation was calibrated in accordance with the method requirements.

The method blanks were free of contamination at the reporting limits.

Sample surrogate recoveries met the above stated criteria.

The associated matrix spikes and/or Laboratory Control Samples met acceptance criteria.

There were no exceptions in the analyses, unless noted.



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72075

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields / 505070090

Sample ID:	DWS-1	Trip Blank
Lab Sample ID:	72075.03	72075.07
Matrix:	aqueous	aqueous
Date Sampled:	8/5/08	7/15/08
Date Received:	8/8/08	8/8/08
Units:	ug/l	ug/l
Date of Analysis:	8/11/08	8/11/08
Analyst:	JDS	JDS
Method:	524.2	524.2
Dilution Factor:	1	1
Dichlorodifluoromethane	< 0.5	< 0.5
Chloromethane	< 0.5	< 0.5
Vinyl chloride	< 0.5	< 0.5
Bromomethane	< 0.5	< 0.5
Chloroethane	< 0.5	< 0.5
Trichlorofluoromethane	< 0.5	< 0.5
Diethyl Ether	< 5	< 5
Acetone	< 10	< 10
1,1-Dichloroethene	< 0.5	< 0.5
Methylene chloride	< 0.5	< 0.5
Carbon disulfide	< 2	< 2
Methyl-t-butyl ether(MTBE)	< 0.5	< 0.5
trans-1,2-Dichloroethene	< 0.5	< 0.5
Vinyl acetate	< 10	< 10
1,1-Dichloroethane	< 0.5	< 0.5
2,2-Dichloropropane	< 0.5	< 0.5
cis-1,2-Dichloroethene	< 0.5	< 0.5
2-Butanone(MEK)	< 5	< 5
Bromochloromethane	< 0.5	< 0.5
Tetrahydrofuran(THF)	< 5	< 5
Chloroform	< 0.5	< 0.5
1,1,1-Trichloroethane	< 0.5	< 0.5
Carbon tetrachloride	< 0.5	< 0.5
1,1-Dichloropropene	< 0.5	< 0.5
Benzene	< 0.5	< 0.5
1,2-Dichloroethane	< 0.5	< 0.5
Trichloroethene	< 0.5	< 0.5
1,2-Dichloropropane	< 0.5	< 0.5
Dibromomethane	< 0.5	< 0.5
Bromodichloromethane	< 0.5	< 0.5
4-Methyl-2-pentanone(MIBK)	< 5	< 5
cis-1,3-Dichloropropene	< 0.3	< 0.3
Toluene	< 0.5	< 0.5
trans-1,3-Dichloropropene	< 0.3	< 0.3
1,1,2-Trichloroethane	< 0.5	< 0.5
2-Hexanone	< 5	< 5
Tetrachloroethene	< 0.5	< 0.5
1,3-Dichloropropane	< 0.5	< 0.5
Dibromochloromethane	< 0.5	< 0.5
1,2-Dibromoethane(EDB)	< 0.5	< 0.5
Chlorobenzene	< 0.5	< 0.5
1,1,1,2-Tetrachloroethane	< 0.5	< 0.5
Ethylbenzene	< 0.5	< 0.5
mp-Xylene	< 0.5	< 0.5
o-Xylene	< 0.5	< 0.5
Styrene	< 0.5	< 0.5



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72075

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields / 505070090

Sample ID:	DWS-1	Trip Blank
Lab Sample ID:	72075.03	72075.07
Matrix:	aqueous	aqueous
Date Sampled:	8/5/08	7/15/08
Date Received:	8/8/08	8/8/08
Units:	ug/l	ug/l
Date of Analysis:	8/11/08	8/11/08
Analyst:	JDS	JDS
Method:	524.2	524.2
Dilution Factor:	1	1
Bromoform	< 0.5	< 0.5
IsoPropylbenzene	< 0.5	< 0.5
Bromobenzene	< 0.5	< 0.5
1,1,2,2-Tetrachloroethane	< 0.5	< 0.5
1,2,3-Trichloropropane	< 0.5	< 0.5
n-Propylbenzene	< 0.5	< 0.5
2-Chlorotoluene	< 0.5	< 0.5
4-Chlorotoluene	< 0.5	< 0.5
1,3,5-Trimethylbenzene	< 0.5	< 0.5
tert-Butylbenzene	< 0.5	< 0.5
1,2,4-Trimethylbenzene	< 0.5	< 0.5
sec-Butylbenzene	< 0.5	< 0.5
1,3-Dichlorobenzene	< 0.5	< 0.5
p-Isopropyltoluene	< 0.5	< 0.5
1,4-Dichlorobenzene	< 0.5	< 0.5
1,2-Dichlorobenzene	< 0.5	< 0.5
n-Butylbenzene	< 0.5	< 0.5
1,2-Dibromo-3-chloropropane	< 0.5	< 0.5
1,3,5-Trichlorobenzene	< 0.5	< 0.5
1,2,4-Trichlorobenzene	< 0.5	< 0.5
Hexachlorobutadiene	< 0.5	< 0.5
Naphthalene	< 0.5	< 0.5
1,2,3-Trichlorobenzene	< 0.5	< 0.5
4-Bromofluorobenzene (surr)	100 %R	100 %R
1,2-Dichlorobenzene-d4 (surr)	104 %R	104 %R



# LABORATORY REPORT

Eastern Analytical, Inc. ID#:72075

Batch ID:

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields / 505070090

## QC Report

Date of Analysis

Parameter Name	Blank	LCS	LCS Dup	Units	Method
Dichlorodifluoromethane	< 0.5	10 (104 %R)	10 (104 %R) (0 RPD)	ug/l	8/11/08 524.2
Chloromethane	< 0.5	9.5 (95 %R)	9.5 (95 %R) (0 RPD)	ug/l	8/11/08 524.2
Vinyl chloride	< 0.5	10 (101 %R)	10 (100 %R) (1 RPD)	ug/l	8/11/08 524.2
Bromomethane	< 0.5	7.6 (76 %R)	7.5 (75 %R) (1 RPD)	ug/l	8/11/08 524.2
Chloroethane	< 0.5	10 (101 %R)	10 (102 %R) (1 RPD)	ug/l	8/11/08 524.2
Trichlorofluoromethane	< 0.5	10 (102 %R)	9.9 (99 %R) (3 RPD)	ug/l	8/11/08 524.2
Diethyl Ether	< 5	10 (96 %R)	10 (98 %R) (2 RPD)	ug/l	8/11/08 524.2
Acetone	< 10	< 10 (94 %R)	< 10 (91 %R) (3 RPD)	ug/l	8/11/08 524.2
1,1-Dichloroethene	< 0.5	9.2 (92 %R)	9.3 (93 %R) (1 RPD)	ug/l	8/11/08 524.2
Methylene chloride	< 0.5	9.9 (99 %R)	9.7 (97 %R) (2 RPD)	ug/l	8/11/08 524.2
Carbon disulfide	< 2	9 (88 %R)	9 (87 %R) (1 RPD)	ug/l	8/11/08 524.2
Methyl-t-butyl ether(MTBE)	< 0.5	9.8 (98 %R)	9.8 (98 %R) (0 RPD)	ug/l	8/11/08 524.2
trans-1,2-Dichloroethene	< 0.5	10 (104 %R)	10 (104 %R) (0 RPD)	ug/l	8/11/08 524.2
Vinyl acetate	< 10	10 (101 %R)	< 10 (96 %R) (5 RPD)	ug/l	8/11/08 524.2
1,1-Dichloroethane	< 0.5	10 (104 %R)	10 (104 %R) (0 RPD)	ug/l	8/11/08 524.2
2,2-Dichloropropane	< 0.5	9.1 (91 %R)	8.9 (89 %R) (2 RPD)	ug/l	8/11/08 524.2
cis-1,2-Dichloroethene	< 0.5	11 (113 %R)	11 (112 %R) (1 RPD)	ug/l	8/11/08 524.2
2-Butanone(MEK)	< 5	10 (98 %R)	9 (91 %R) (7 RPD)	ug/l	8/11/08 524.2
Bromochloromethane	< 0.5	11 (112 %R)	12 (115 %R) (3 RPD)	ug/l	8/11/08 524.2
Tetrahydrofuran(THF)	< 5	9 (92 %R)	9 (93 %R) (1 RPD)	ug/l	8/11/08 524.2
Chloroform	< 0.5	11 (109 %R)	11 (108 %R) (1 RPD)	ug/l	8/11/08 524.2
1,1,1-Trichloroethane	< 0.5	11 (110 %R)	11 (110 %R) (0 RPD)	ug/l	8/11/08 524.2
Carbon tetrachloride	< 0.5	11 (111 %R)	11 (111 %R) (0 RPD)	ug/l	8/11/08 524.2
1,1-Dichloropropene	< 0.5	10 (105 %R)	10 (105 %R) (0 RPD)	ug/l	8/11/08 524.2
Benzene	< 0.5	11 (107 %R)	11 (107 %R) (0 RPD)	ug/l	8/11/08 524.2
1,2-Dichloroethane	< 0.5	11 (106 %R)	11 (105 %R) (1 RPD)	ug/l	8/11/08 524.2
Trichloroethene	< 0.5	11 (107 %R)	11 (106 %R) (1 RPD)	ug/l	8/11/08 524.2
1,2-Dichloropropane	< 0.5	11 (107 %R)	11 (105 %R) (2 RPD)	ug/l	8/11/08 524.2
Dibromomethane	< 0.5	11 (108 %R)	11 (106 %R) (2 RPD)	ug/l	8/11/08 524.2
Bromodichloromethane	< 0.5	10 (103 %R)	10 (102 %R) (1 RPD)	ug/l	8/11/08 524.2
4-Methyl-2-pentanone(MIBK)	< 5	10 (101 %R)	10 (98 %R) (3 RPD)	ug/l	8/11/08 524.2
cis-1,3-Dichloropropene	< 0.3	10 (101 %R)	10 (101 %R) (0 RPD)	ug/l	8/11/08 524.2
Toluene	< 0.5	10 (103 %R)	10 (104 %R) (1 RPD)	ug/l	8/11/08 524.2
trans-1,3-Dichloropropene	< 0.3	11 (110 %R)	11 (110 %R) (0 RPD)	ug/l	8/11/08 524.2
1,1,2-Trichloroethane	< 0.5	11 (107 %R)	11 (106 %R) (1 RPD)	ug/l	8/11/08 524.2
2-Hexanone	< 5	10 (99 %R)	9 (94 %R) (5 RPD)	ug/l	8/11/08 524.2
Tetrachloroethene	< 0.5	17 (172 %R)	17 (165 %R) (4 RPD)	ug/l	8/11/08 524.2
1,3-Dichloropropane	< 0.5	11 (112 %R)	11 (111 %R) (1 RPD)	ug/l	8/11/08 524.2
Dibromochloromethane	< 0.5	12 (115 %R)	12 (115 %R) (0 RPD)	ug/l	8/11/08 524.2
1,2-Dibromoethane(EDB)	< 0.5	11 (112 %R)	11 (111 %R) (1 RPD)	ug/l	8/11/08 524.2
Chlorobenzene	< 0.5	11 (107 %R)	11 (107 %R) (0 RPD)	ug/l	8/11/08 524.2
1,1,1,2-Tetrachloroethane	< 0.5	12 (115 %R)	11 (113 %R) (2 RPD)	ug/l	8/11/08 524.2
Ethylbenzene	< 0.5	11 (105 %R)	11 (106 %R) (1 RPD)	ug/l	8/11/08 524.2
mp-Xylene	< 0.5	21 (107 %R)	21 (106 %R) (1 RPD)	ug/l	8/11/08 524.2
o-Xylene	< 0.5	11 (107 %R)	11 (107 %R) (0 RPD)	ug/l	8/11/08 524.2



# LABORATORY REPORT

Eastern Analytical, Inc. ID#:72075

Batch ID:

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields / 505070090

## QC Report

Date of Analysis

Parameter Name	Blank	LCS	LCS Dup	Units	Method
Styrene	< 0.5	9.9 (99 %R)	9.8 (98 %R) (1 RPD)	ug/l	8/11/08 524.2
Bromoform	< 0.5	12 (122 %R)	12 (123 %R) (1 RPD)	ug/l	8/11/08 524.2
IsoPropylbenzene	< 0.5	11 (113 %R)	11 (113 %R) (0 RPD)	ug/l	8/11/08 524.2
Bromobenzene	< 0.5	11 (111 %R)	11 (110 %R) (1 RPD)	ug/l	8/11/08 524.2
1,1,2,2-Tetrachloroethane	< 0.5	11 (106 %R)	11 (105 %R) (1 RPD)	ug/l	8/11/08 524.2
1,2,3-Trichloropropane	< 0.5	11 (112 %R)	11 (112 %R) (0 RPD)	ug/l	8/11/08 524.2
n-Propylbenzene	< 0.5	11 (107 %R)	11 (106 %R) (1 RPD)	ug/l	8/11/08 524.2
2-Chlorotoluene	< 0.5	11 (109 %R)	11 (108 %R) (1 RPD)	ug/l	8/11/08 524.2
4-Chlorotoluene	< 0.5	11 (108 %R)	11 (109 %R) (1 RPD)	ug/l	8/11/08 524.2
1,3,5-Trimethylbenzene	< 0.5	11 (111 %R)	11 (110 %R) (1 RPD)	ug/l	8/11/08 524.2
tert-Butylbenzene	< 0.5	11 (107 %R)	10 (105 %R) (2 RPD)	ug/l	8/11/08 524.2
1,2,4-Trimethylbenzene	< 0.5	11 (110 %R)	11 (109 %R) (1 RPD)	ug/l	8/11/08 524.2
sec-Butylbenzene	< 0.5	11 (107 %R)	11 (107 %R) (0 RPD)	ug/l	8/11/08 524.2
1,3-Dichlorobenzene	< 0.5	10 (105 %R)	11 (106 %R) (1 RPD)	ug/l	8/11/08 524.2
p-Isopropyltoluene	< 0.5	11 (106 %R)	10 (105 %R) (1 RPD)	ug/l	8/11/08 524.2
1,4-Dichlorobenzene	< 0.5	9.9 (99 %R)	10 (100 %R) (1 RPD)	ug/l	8/11/08 524.2
1,2-Dichlorobenzene	< 0.5	11 (107 %R)	11 (107 %R) (0 RPD)	ug/l	8/11/08 524.2
n-Butylbenzene	< 0.5	10 (100 %R)	9.9 (99 %R) (1 RPD)	ug/l	8/11/08 524.2
1,2-Dibromo-3-chloropropane	< 0.5	10 (105 %R)	10 (101 %R) (4 RPD)	ug/l	8/11/08 524.2
1,3,5-Trichlorobenzene	< 0.5	10 (100 %R)	10 (100 %R) (0 RPD)	ug/l	8/11/08 524.2
1,2,4-Trichlorobenzene	< 0.5	11 (106 %R)	11 (105 %R) (1 RPD)	ug/l	8/11/08 524.2
Hexachlorobutadiene	< 0.5	8.9 (89 %R)	8.6 (86 %R) (3 RPD)	ug/l	8/11/08 524.2
Naphthalene	< 0.5	9.5 (95 %R)	9.5 (95 %R) (0 RPD)	ug/l	8/11/08 524.2
1,2,3-Trichlorobenzene	< 0.5	11 (105 %R)	10 (105 %R) (0 RPD)	ug/l	8/11/08 524.2
4-Bromofluorobenzene (surr)	99 %R	103 %R	101 %R	% Rec	8/11/08 524.2
1,2-Dichlorobenzene-d4 (surr)	103 %R	110 %R	107 %R	% Rec	8/11/08 524.2



# LABORATORY REPORT

Eastern Analytical, Inc. ID#:72075

Batch ID:

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields /  
505070090

## Volatile Organic Compounds QC limits and Narrative Summary

Matrix:	Aqueous
Units:	%
EPA Method:	524.2

Matrix Spike and/or LCS Recovery All Analytes	70-130
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Surrogate Recovery	
4-Bromofluorobenzene	70-130
1,2-Dichlorobenzene-D4	70-130

Samples were extracted and analyzed within holding time limits.

Instrumentation was calibrated in accordance with the method requirements.

The method blanks were free of contamination at the reporting limits.

Sample surrogate recoveries met the above stated criteria.

There were no exceptions in the analyses, unless noted below.

Analytes that exceed the acceptance limits high in the quality control samples but are not detected in the field samples do not impact the data. For analytes that show low recovery in the quality control samples and are not detected in the field samples, a low point calibration standard is analyzed to support the reporting limit.



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72075

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields / 505070090

Sample ID:	SS-1	SS-2	Duplicate
Lab Sample ID:	72075.04	72075.05	72075.06
Matrix:	soil	soil	soil
Date Sampled:	8/5/08	8/5/08	8/5/08
Date Received:	8/8/08	8/8/08	8/8/08
Units:	mg/kg	mg/kg	mg/kg
Date of Extraction/Prep:	8/12/08	8/12/08	8/12/08
Date of Analysis:	8/14/08	8/23/08	8/14/08
Analyst:	BML	BML	BML
Method:	8270C	8270C	8270C
Dilution Factor:	1	2	1
Naphthalene	< 0.2	< 0.3	< 0.2
2-Methylnaphthalene	< 0.2	< 0.3	< 0.2
Acenaphthylene	< 0.2	< 0.3	< 0.2
Acenaphthene	< 0.2	< 0.3	< 0.2
Fluorene	< 0.2	< 0.3	< 0.2
Phenanthrene	< 0.2	< 0.3	< 0.2
Anthracene	< 0.2	< 0.3	< 0.2
Fluoranthene	< 0.2	< 0.3	< 0.2
Pyrene	< 0.2	< 0.3	< 0.2
Benzo[a]anthracene	< 0.2	< 0.3	< 0.2
Chrysene	< 0.2	< 0.3	< 0.2
Benzo[b]fluoranthene	< 0.2	< 0.3	< 0.2
Benzo[k]fluoranthene	< 0.2	< 0.3	< 0.2
Benzo[a]pyrene	< 0.2	< 0.3	< 0.2
Indeno[1,2,3-cd]pyrene	< 0.2	< 0.3	< 0.2
Dibenz[a,h]anthracene	< 0.2	< 0.3	< 0.2
Benzo[g,h,i]perylene	< 0.2	< 0.3	< 0.2
p-Terphenyl-D14 (surr)	102 %R	107 %R	93 %R

Sample SS-2: The dilution factor is elevated due to the low solids content of the sample. There is no impact to the reporting limits.



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72075

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields /  
505070090

Sample ID:	SS-1	SS-2	Duplicate
Lab Sample ID:	72075.04	72075.05	72075.06
Matrix:	soil	soil	soil
Date Sampled:	8/5/08	8/5/08	8/5/08
Date Received:	8/8/08	8/8/08	8/8/08
Units:	mg/kg	mg/kg	mg/kg
Date of Extraction/Prep:	8/12/08	8/12/08	8/12/08
Date of Analysis:	8/14/08	8/23/08	8/14/08
Analyst:	BML	BML	BML
Method:	8270C SIM	8270C SIM	8270C SIM
Dilution Factor:	1	2	1
Benzo[a]anthracene	< 0.02	< 0.03	< 0.02
Chrysene	< 0.02	< 0.03	< 0.02
Benzo[b]fluoranthene	< 0.02	< 0.03	< 0.02
Benzo[k]fluoranthene	< 0.02	< 0.03	< 0.02
Benzo[a]pyrene	< 0.02	< 0.03	< 0.02
Indeno[1,2,3-cd]pyrene	< 0.02	< 0.03	< 0.02
Dibenz[a,h]anthracene	< 0.02	< 0.03	< 0.02
Benzo[g,h,i]perylene	< 0.02	< 0.03	< 0.02

Sample SS-2: The dilution factor is elevated due to the low solids content of the sample. There is no impact to the reporting limits.



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72075

Batch ID: 733267-30156/S081208PAH1

Client: KAS, Inc.

Client Designation: **Warren Town Garage Brownfields /  
505070090**

## QC Report

Parameter Name	Blank	LCS	LCSD	Units	Limits	RPD	Method
Naphthalene	< 0.2	2.8 (83 %R)	3.0 (91 %R) (9 RPD)	mg/kg	30 - 160	50	8270C
2-Methylnaphthalene	< 0.2	2.7 (82 %R)	3.0 (89 %R) (8 RPD)	mg/kg	30 - 160	50	8270C
Acenaphthylene	< 0.2	2.7 (82 %R)	3.3 (98 %R) (18 RPD)	mg/kg	30 - 160	50	8270C
Acenaphthene	< 0.2	2.7 (82 %R)	3.1 (93 %R) (13 RPD)	mg/kg	31 - 137	19	8270C
Fluorene	< 0.2	2.9 (88 %R)	3.2 (96 %R) (9 RPD)	mg/kg	30 - 160	50	8270C
Phenanthrene	< 0.2	2.8 (85 %R)	3.1 (93 %R) (9 RPD)	mg/kg	30 - 160	50	8270C
Anthracene	< 0.2	2.9 (87 %R)	3.2 (96 %R) (10 RPD)	mg/kg	30 - 160	50	8270C
Fluoranthene	< 0.2	3.1 (94 %R)	3.3 (99 %R) (5 RPD)	mg/kg	30 - 160	50	8270C
Pyrene	< 0.2	2.8 (85 %R)	3.3 (98 %R) (14 RPD)	mg/kg	35 - 142	36	8270C
Benzo[a]anthracene	< 0.2	2.9 (88 %R)	3.2 (96 %R) (9 RPD)	mg/kg	30 - 160	50	8270C
Chrysene	< 0.2	2.9 (86 %R)	3.2 (97 %R) (12 RPD)	mg/kg	30 - 160	50	8270C
Benzo[b]fluoranthene	< 0.2	2.9 (87 %R)	3.2 (97 %R) (11 RPD)	mg/kg	30 - 160	50	8270C
Benzo[k]fluoranthene	< 0.2	3.0 (91 %R)	3.4 (103 %R) (12 RPD)	mg/kg	30 - 160	50	8270C
Benzo[a]pyrene	< 0.2	3.1 (92 %R)	3.4 (103 %R) (11 RPD)	mg/kg	30 - 160	50	8270C
Indeno[1,2,3-cd]pyrene	< 0.2	3.3 (98 %R)	3.4 (103 %R) (5 RPD)	mg/kg	30 - 160	50	8270C
Dibenz[a,h]anthracene	< 0.2	3.2 (97 %R)	3.4 (102 %R) (5 RPD)	mg/kg	30 - 160	50	8270C
Benzo[g,h,i]perylene	< 0.2	3.1 (92 %R)	3.2 (96 %R) (4 RPD)	mg/kg	30 - 160	50	8270C
p-Terphenyl-D14 (surr)	101 %R	93 %R	101 %R	mg/kg	18 - 137		8270C



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72075

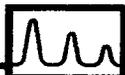
Batch ID: 733267-54546/S081208PAHSI1

Client: KAS, Inc.

Client Designation: **Warren Town Garage Brownfields /  
505070090**

## QC Report

Parameter Name	Blank	LCS	LCSD	Units	Limits	RPD	Method
Naphthalene	< 0.02			mg/kg			8270C SIM
2-Methylnaphthalene	< 0.02			mg/kg			8270C SIM
Acenaphthylene	< 0.02			mg/kg			8270C SIM
Acenaphthene	< 0.02			mg/kg			8270C SIM
Fluorene	< 0.02			mg/kg			8270C SIM
Phenanthrene	< 0.02			mg/kg			8270C SIM
Anthracene	< 0.02			mg/kg			8270C SIM
Fluoranthene	< 0.02			mg/kg			8270C SIM
Pyrene	< 0.02			mg/kg			8270C SIM
Benzo[a]anthracene	< 0.02			mg/kg			8270C SIM
Chrysene	< 0.02			mg/kg			8270C SIM
Benzo[b]fluoranthene	< 0.02			mg/kg			8270C SIM
Benzo[k]fluoranthene	< 0.02			mg/kg			8270C SIM
Benzo[a]pyrene	< 0.02			mg/kg			8270C SIM
Indeno[1,2,3-cd]pyrene	< 0.02			mg/kg			8270C SIM
Dibenz[a,h]anthracene	< 0.02			mg/kg			8270C SIM
Benzo[g,h,i]perylene	< 0.02			mg/kg			8270C SIM



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72075

Batch ID: 733267-30156/S081208PAH1

Client: KAS, Inc.

Client Designation: **Warren Town Garage Brownfields / 505070090**

## Polynuclear Aromatic Hydrocarbons QA/QC and Narrative Report

Matrix:	Aqueous	RPD	Solid	RPD	Oil	RPD
Units:	%	%	%	%	%	%
EPA Method:	8270C		8270C		8270C	
Naphthalene	30-160		30-160		30-160	
2-Methylnaphthalene	30-160		30-160		30-160	
Acenaphthylene	30-160		30-160		30-160	
Acenaphthene	46-118	31	31-137	19	30-160	50
Fluorene	30-160		30-160		30-160	
Phenanthrene	30-160		30-160		30-160	
Anthracene	30-160		30-160		30-160	
Fluoranthene	30-160		30-160		30-160	
Pyrene	26-127	31	35-142	36	30-160	50
Benzo[a]anthracene	30-160		30-160		30-160	
Chrysene	30-160		30-160		30-160	
Benzo[b]fluoranthene	30-160		30-160		30-160	
Benzo[k]fluoranthene	30-160		30-160		30-160	
Benzo[a]pyrene	30-160		30-160		30-160	
Indeno[1,2,3-cd]pyrene	30-160		30-160		30-160	
Dibenz[a,h]anthracene	30-160		30-160		30-160	
Benzo[g,h,i]perylene	30-160		30-160		30-160	
Surrogate (p-Terphenyl-D14)	33-141		18-137		30-160	

Samples were extracted and analyzed within holding time limits.

Instrumentation was tuned and calibrated in accordance with the method requirements.

The associated method blank(s) were free of contamination at the reporting limit.

Sample Surrogate Recoveries met the above stated criteria.

The associated matrix spike(s) and/or Laboratory Control Sample(s) met the above stated criteria.

There were no exceptions in the analyses, unless noted below.



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: **72075**

Client: **KAS, Inc.**

Client Designation: **Warren Town Garage Brownfields /  
505070090**

Sample ID:	SS-1	SS-2	Duplicate
Lab Sample ID:	72075.04	72075.05	72075.06
Matrix:	soil	soil	soil
Date Sampled:	8/5/08	8/5/08	8/5/08
Date Received:	8/8/08	8/8/08	8/8/08
Units:	mg/kg	mg/kg	mg/kg
Date of Extraction/Prep:	8/12/08	8/12/08	8/12/08
Date of Analysis:	8/14/08	8/14/08	8/14/08
Analyst:	RMP	RMP	RMP
Method:	8100mod	8100mod	8100mod
Dilution Factor:	1	2	1
TPH (C9-C40)	< 50	<b>170</b>	< 50
p-Terphenyl-D14 (TPH surr)	<b>91 %R</b>	<b>103 %R</b>	<b>88 %R</b>

Sample SS-2: The dilution factor is elevated due to low solids content of sample.



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72075

Batch ID: 733265-62402/S081108TPHL11

Client: KAS, Inc.

Client Designation: **Warren Town Garage Brownfields / 505070090**

## QC Report

Parameter Name	QC Report			Date of Analysis		Method
	Blank	LCS	LCS Dup	Units		
TPH (C9-C40)	< 50	160 (71 %R)	160 (70 %R) (1 RPD)	mg/kg	8/11/08	8100mod
p-Terphenyl-D14 (TPH surr)	79 %R	74 %R	67 %R	% Rec	8/11/08	8100mod



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72075

Batch ID: 733265-62402/S081108TPHL11

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields /  
505070090

## Total Petroleum Hydrocarbons QA/QC and Narrative Report

Matrix:	Solid	Aqueous	RPD
Units:	%	%	
EPA Method:	8100(Mod)	8100(Mod)	
TPH C9-C40	30-160	30-160	20%
Surrogate (p-Terphenyl-d14)	12-158	33-141	

Samples were extracted and analyzed within holding time limits.

Instrumentation was calibrated in accordance with the method requirements.

The associated blank(s) were free of contamination at the reporting limits.

MI: Matrix Interference

DOR: Diluted Out of Range

NA: None Added



# LABORATORY REPORT

**Eastern Analytical, Inc. ID#: 72075**

Client: **KAS, Inc.**

Client Designation: **Warren Town Garage Brownfields / 505070090**

Sample ID:	SS-1	SS-2	Duplicate
Lab Sample ID:	72075.04	72075.05	72075.06
Matrix:	soil	soil	soil
Date Sampled:	8/5/08	8/5/08	8/5/08
Date Received:	8/8/08	8/8/08	8/8/08
% Solid:	79.6	61.9	80.8
Units:	mg/kg	mg/kg	mg/kg
Date of Extraction/Prep:	8/13/08	8/13/08	8/13/08
Date of Analysis:	8/15/08	8/15/08	8/15/08
Analyst:	JC	JC	JC
Extraction Method:	3540C	3540C	3540C
Analysis Method:	8082	8082	8082
Dilution Factor:	1	2	1
PCB-1016	< 0.1	< 0.1	< 0.1
PCB-1221	< 0.1	< 0.1	< 0.1
PCB-1232	< 0.1	< 0.1	< 0.1
PCB-1242	< 0.1	< 0.1	< 0.1
PCB-1248	< 0.1	< 0.1	< 0.1
PCB-1254	< 0.1	< 0.1	< 0.1
PCB-1260	< 0.1	< 0.1	< 0.1
TMX (surr)	93 %R	89 %R	85 %R
DCB (surr)	87 %R	91 %R	82 %R

Sample SS-2: The dilution factor is elevated due to the low solids content of the sample. There is no impact to the reporting limits.



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72075

Batch ID: 733267-57069/S081308PCB1

Client: KAS, Inc.

Client Designation: **Warren Town Garage Brownfields / 505070090**

## QC Report

Parameter Name	QC Report			Date of Analysis		
	Blank	LCS	LCS Dup	Units		Method
PCB-1016	< 0.1	0.1 (108 %R)	< 0.1 (91 %R) (17 RPD)	mg/kg	8/14/08	8082
PCB-1221	< 0.1	< 0.1 (%R N/A)	< 0.1 (%R N/A) (RPD N/A)	mg/kg	8/14/08	8082
PCB-1232	< 0.1	< 0.1 (%R N/A)	< 0.1 (%R N/A) (RPD N/A)	mg/kg	8/14/08	8082
PCB-1242	< 0.1	< 0.1 (%R N/A)	< 0.1 (%R N/A) (RPD N/A)	mg/kg	8/14/08	8082
PCB-1248	< 0.1	< 0.1 (%R N/A)	< 0.1 (%R N/A) (RPD N/A)	mg/kg	8/14/08	8082
PCB-1254	< 0.1	< 0.1 (%R N/A)	< 0.1 (%R N/A) (RPD N/A)	mg/kg	8/14/08	8082
PCB-1260	< 0.1	0.1 (111 %R)	< 0.1 (90 %R) (21 RPD)	mg/kg	8/14/08	8082
TMX (surr)	114 %R	117 %R	80 %R	% Rec	8/14/08	8082
DCB (surr)	127 %R	125 %R	83 %R	% Rec	8/14/08	8082



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72075

Batch ID: 733267-57069/S081308PCB1

Client: KAS, Inc.

Client Designation: **Warren Town Garage Brownfields /  
505070090**

## PCB QA/QC and Narrative Report

Matrix:	Aqueous	Soil	Oil
Unit	%	%	%
EPA Method:	8082	8082	8082
Aroclors 1016-1260	30-150	30-150	30-150
TMX(Surr)	30-150	30-150	30-150
DCB(Surr)	30-150	30-150	30-150

Samples were extracted and analyzed within holding time limits.  
Instrumentation was calibrated in accordance with the method requirements.  
The associated method blank(s) were free of contamination at the reporting limit.  
All samples met the above stated criteria for surrogate recovery.  
The associated Matrix Spike(s) and/or Laboratory Control Sample(s) met the above stated criteria.  
There were no exceptions in the analyses, unless noted.



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72075

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields / 505070090

Sample ID:	SW-1	SW-2	DWS-1							
Lab Sample ID:	72075.01	72075.02	72075.03							
Matrix:	aqueous	aqueous	aqueous							
Date Sampled:	8/5/08	8/5/08	8/5/08							
Date Received:	8/8/08	8/8/08	8/8/08	Units	Analysis		Date	Time	Method	Analyst
Chloride	5	6	100	mg/L	8/14/08	12:08	4500CIE	KL		



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72075

Client: KAS, Inc.

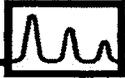
Client Designation: Warren Town Garage Brownfields /

## QC Report

Date of Analysis

Parameter Name	Blank	LCS	LCS Dup	Units	Method	
Chloride	< 1	26 (104 %R)	26 (105 %R) (1 RPD)	mg/L	8/14/08	4500CIE

Parameter Name	MS/MSD Parent ID	MS/MSD Parent	Matrix Spike	Matrix Spike Duplicate
Chloride	72133.08	67	77 (106 %R)	76 (96 %R) (10 RPD)



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72075

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields /

## Wet Chemistry QA/QC and Narrative Report

QA/QC: Matrix: Units:	LCS Aqueous % Recovery	MS/MSD Aqueous % Recovery	Duplicates Aqueous RPD	Method
Fluoride	90-110	85-120	20	EPA 300.0
Chloride	90-110	90-110	20	EPA 300.0
Nitrate	90-110	90-110	20	EPA 300.0
Sulfate	90-110	89-120	20	EPA 300.0
Bromide	90-110	80-120	20	EPA 300.0
Chloride	90-110	80-120	20	EPA 325.2/SM4500CIE
Nitrite	90-110	80-120	20	EPA 353.2
Nitrate	90-110	80-120	20	EPA 353.2
Alkalinity, Total	90-110	80-120	20	EPA 310.1/SM2320B
Alkalinity (all forms)	90-110	80-120	20	SM2320B
Ortho Phosphate	90-110	80-120	20	EPA 365.3
Total Phosphorus	85-115	80-120	20	EPA 365.3
Ammonia	90-110	80-120	20	EPA 350.3/SM4500NH3D
TKN	90-110	80-120	20	EPA 351.4/SM4500NorgC/NH3D
Cyanide, Total	85-115	80-120	20	EPA 335.2/SM4500CN-E
Cyanide, Weak & Dissociable	85-115	80-120	20	SM 4500CN-I
BOD	84-115	75-125	20	EPA 405.1/SM5210B
CBOD	84-115	75-125	20	SM 5210B
COD	85-115	80-120	20	HACH 8000
TOC/DOC	90-110	80-120	20	SM5310C
Oil & Grease	78-114	78-114	18	EPA 1664A
Total Petroleum Hydrocarbons	64-132	64-132	34	EPA 1664A
Phenols, Total	85-115	80-120	20	EPA 420.1
MBAS	80-120	80-120	20	EPA 425.1
Specific Conductance	90-110	NA	20	EPA 120.1/SM2510B
pH	5.93-6.06 SU	NA	20	EPA 150.1/SM4500H+B
pH	7.81-8.12 SU	NA	20	EPA 150.1SM4500H+B
Solids, Total	90-110*	NA	20	EPA 160.3/SM2540G
Solids, Suspended	90-110*	NA	20	EPA 160.2/SM2540D
Solids, Dissolved	90-110*	NA	20	EPA 160.1/SM2540C
Sulfide	80-120	NA	20	EPA 376.2
Sulfite	80-120	NA	20	EPA 377.1
Residual Chlorine	80-120	NA	20	EPA 330.5/SM4500CI-G
Turbidity	90-110	NA	20	EPA 180.1
Ferrous Iron	90-110	80-120	20	Hach 8146

\* or manufacturer's limits

Samples were analyzed within holding times unless noted on the sample results page.

Instrumentation was calibrated in accordance with the method requirements.

The method blanks were free of contamination at the reporting limits.

The associated matrix spikes and/or Laboratory Control Samples met the above stated criteria unless otherwise stated.

Exceptions are noted on the QC results page.



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: **72075**

Client: **KAS, Inc.**

Client Designation: **Warren Town Garage Brownfields / 505070090**

Sample ID:	SW-1	SW-2	DWS-1						
Lab Sample ID:	72075.01	72075.02	72075.03						
Matrix:	aqueous	aqueous	aqueous						
Date Sampled:	8/5/08	8/5/08	8/5/08						
Date Received:	8/8/08	8/8/08	8/8/08	Analytical Matrix	Units	Date of Analysis	Method	Analyst	
Antimony	< 0.001	< 0.001	< 0.001	AqTot	mg/L	8/14/08	200.8	DS	
Arsenic	< 0.001	< 0.001	< 0.001	AqTot	mg/L	8/14/08	200.8	DS	
Beryllium	< 0.001	< 0.001	< 0.001	AqTot	mg/L	8/14/08	200.8	DS	
Cadmium	< 0.001	< 0.001	< 0.001	AqTot	mg/L	8/14/08	200.8	DS	
Chromium	< 0.001	< 0.001	<b>0.002</b>	AqTot	mg/L	8/14/08	200.8	DS	
Copper	<b>0.002</b>	<b>0.002</b>	<b>0.031</b>	AqTot	mg/L	8/14/08	200.8	DS	
Lead	< 0.001	< 0.001	<b>0.003</b>	AqTot	mg/L	8/14/08	200.8	DS	
Mercury	< 0.0001	< 0.0001	< 0.0001	AqTot	mg/L	8/14/08	200.8	DS	
Nickel	<b>0.004</b>	<b>0.002</b>	<b>0.004</b>	AqTot	mg/L	8/14/08	200.8	DS	
Selenium	< 0.001	< 0.001	< 0.001	AqTot	mg/L	8/14/08	200.8	DS	
Silver	< 0.001	< 0.001	< 0.001	AqTot	mg/L	8/14/08	200.8	DS	
Sodium	< 5	< 5	<b>67</b>	AqTot	mg/L	8/14/08	200.8	DS	
Thallium	< 0.001	< 0.001	< 0.001	AqTot	mg/L	8/14/08	200.8	DS	
Zinc	<b>0.006</b>	< 0.005	<b>0.007</b>	AqTot	mg/L	8/14/08	200.8	DS	



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72075

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields /

## QC Report

Date of Analysis

Parameter Name	Blank	LCS	LCS Dup	Units	Method
Antimony	< 0.001	0.91 (91 %R)		mg/L	200.8
Arsenic	< 0.001	0.97 (97 %R)		mg/L	200.8
Beryllium	< 0.001	0.97 (97 %R)		mg/L	200.8
Cadmium	< 0.001	0.90 (90 %R)		mg/L	200.8
Chromium	< 0.001	0.90 (90 %R)		mg/L	200.8
Copper	< 0.001	0.97 (97 %R)		mg/L	200.8
Lead	< 0.001	0.89 (89 %R)		mg/L	200.8
Mercury	< 0.0001	0.0010 (102 %R)		mg/L	200.8
Nickel	< 0.001	1.0 (102 %R)		mg/L	200.8
Selenium	< 0.001	0.99 (99 %R)		mg/L	200.8
Silver	< 0.001	0.10 (101 %R)		mg/L	200.8
Sodium	< 5	12 (109 %R)		mg/L	200.8
Thallium	< 0.001	0.89 (89 %R)		mg/L	200.8
Zinc	< 0.005	0.88 (88 %R)		mg/L	200.8

Parameter Name	MS/MSD Parent ID	MS/MSD Parent	Matrix Spike	Matrix Spike Duplicate
Antimony	72124.01	< 0.001	0.91 (91 %R)	0.91 (91 %R) (0 RPD)
Arsenic	72124.01	0.025	0.94 (92 %R)	0.94 (92 %R) (0 RPD)
Beryllium	72124.01	< 0.001	0.93 (93 %R)	0.88 (88 %R) (6 RPD)
Cadmium	72124.01	< 0.001	0.92 (92 %R)	0.95 (95 %R) (3 RPD)
Chromium	72124.01	< 0.001	0.89 (89 %R)	0.88 (88 %R) (1 RPD)
Copper	72124.01	0.008	0.86 (85 %R)	0.82 (82 %R) (4 RPD)
Lead	72124.01	0.002	0.94 (94 %R)	0.96 (96 %R) (2 RPD)
Mercury	72124.01	< 0.0001	0.0010 (106 %R)	0.0011 (110 %R) (4 RPD)
Nickel	72124.01	< 0.001	0.98 (98 %R)	0.94 (94 %R) (4 RPD)
Selenium	72124.01	< 0.001	0.97 (97 %R)	0.96 (96 %R) (1 RPD)
Silver	72124.01	< 0.001	0.90 (90 %R)	0.94 (94 %R) (4 RPD)
Sodium	72124.01	< 5	13 (106 %R)	13 (103 %R) (3 RPD)
Thallium	72124.01	< 0.001	0.94 (94 %R)	0.97 (97 %R) (3 RPD)
Zinc	72124.01	0.022	0.88 (86 %R)	0.84 (82 %R) (5 RPD)



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72075

Batch ID:

Client: KAS, Inc.

Client Designation: **Warren Town Garage Brownfields / 505070090**

### Metals QA/QC and Narrative Report

QA/QC:	LCS	MS	MSD
Matrix:	Aqueous	Aqueous	Aqueous
Units:	%	%	%
EPA Method:	200.7/200.8	200.7/200.8	200.7/200.8
Aluminum	85-115	70-130	70-130
Antimony	85-115	70-130	70-130
Arsenic	85-115	70-130	70-130
Barium	85-115	70-130	70-130
Beryllium	85-115	70-130	70-130
Boron	85-115	70-130	70-130
Cadmium	85-115	70-130	70-130
Calcium	85-115	70-130	70-130
Chromium	85-115	70-130	70-130
Cobalt	85-115	70-130	70-130
Copper	85-115	70-130	70-130
Iron	85-115	70-130	70-130
Lead	85-115	70-130	70-130
Magnesium	85-115	70-130	70-130
Manganese	85-115	70-130	70-130
Mercury	85-115	70-130	70-130
Molybdenum	85-115	70-130	70-130
Nickel	85-115	70-130	70-130
Phosphorus	85-115	70-130	70-130
Potassium	85-115	70-130	70-130
Selenium	85-115	70-130	70-130
Silicon	85-115	70-130	70-130
Silver	85-115	70-130	70-130
Sodium	85-115	70-130	70-130
Thallium	85-115	70-130	70-130
Tin	85-115	70-130	70-130
Titanium	85-115	70-130	70-130
Vanadium	85-115	70-130	70-130
Zinc	85-115	70-130	70-130

Samples were analyzed within holding time limits.

Instrumentation was calibrated in accordance with the method requirements.

The method blanks were free of contamination at the reporting limits.

The associated matrix spikes and/or Laboratory Control Samples met the above stated criteria.

There were no exceptions in the analyses, unless noted below.



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72075

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields /  
505070090

Sample ID:	SS-1	SS-2	Duplicate						
Lab Sample ID:	72075.04	72075.05	72075.06						
Matrix:	soil	soil	soil						
Date Sampled:	8/5/08	8/5/08	8/5/08						
Date Received:	8/8/08	8/8/08	8/8/08						
				Analytical		Date of			
				Matrix	Units	Analysis	Method	Analyst	
Antimony	< 0.5	< 0.5	< 0.5	SolTotDry	mg/kg	8/13/08	6020	DS	
Arsenic	4.9	8.7	3.9	SolTotDry	mg/kg	8/13/08	6020	DS	
Beryllium	< 0.5	< 0.5	< 0.5	SolTotDry	mg/kg	8/13/08	6020	DS	
Cadmium	< 0.5	< 0.5	< 0.5	SolTotDry	mg/kg	8/13/08	6020	DS	
Chromium	14	15	24	SolTotDry	mg/kg	8/13/08	6020	DS	
Copper	11	20	8.5	SolTotDry	mg/kg	8/13/08	6020	DS	
Lead	4.7	11	5.5	SolTotDry	mg/kg	8/13/08	6020	DS	
Mercury	< 0.1	< 0.1	< 0.1	SolTotDry	mg/kg	8/13/08	6020	DS	
Nickel	18	23	17	SolTotDry	mg/kg	8/13/08	6020	DS	
Selenium	< 0.5	< 0.5	< 0.5	SolTotDry	mg/kg	8/13/08	6020	DS	
Silver	< 0.5	< 0.5	< 0.5	SolTotDry	mg/kg	8/13/08	6020	DS	
Thallium	< 0.5	< 0.5	< 0.5	SolTotDry	mg/kg	8/13/08	6020	DS	
Zinc	39	54	38	SolTotDry	mg/kg	8/13/08	6020	DS	



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72075

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields /

## QC Report

Date of Analysis

Parameter Name	Blank	LCS	LCS Dup	Units	Method
Antimony	< 0.5	36 (91 %R)		mg/kg	6020
Arsenic	< 0.5	35 (88 %R)		mg/kg	6020
Beryllium	< 0.5	36 (90 %R)		mg/kg	6020
Cadmium	< 0.5	35 (88 %R)		mg/kg	6020
Chromium	< 0.5	36 (91 %R)		mg/kg	6020
Copper	< 0.5	36 (89 %R)		mg/kg	6020
Lead	< 0.5	36 (91 %R)		mg/kg	6020
Mercury	< 0.1	0.4 (95 %R)		mg/kg	6020
Nickel	< 0.5	37 (92 %R)		mg/kg	6020
Selenium	< 0.5	34 (86 %R)		mg/kg	6020
Silver	< 0.5	9.0 (90 %R)		mg/kg	6020
Thallium	< 0.5	36 (90 %R)		mg/kg	6020
Zinc	< 0.5	35 (86 %R)		mg/kg	6020

Parameter Name	MS/MSD Parent ID	MS/MSD Parent	Matrix Spike	Matrix Spike Duplicate
Antimony	72119.01	< 0.5	950 (94 %R)	980 (98 %R) (4 RPD)
Arsenic	72119.01	5.6	940 (93 %R)	980 (97 %R) (4 RPD)
Beryllium	72119.01	0.6	820 (82 %R)	820 (81 %R) (1 RPD)
Cadmium	72119.01	< 0.5	900 (89 %R)	940 (93 %R) (4 RPD)
Chromium	72119.01	17	820 (80 %R)	820 (80 %R) (0 RPD)
Copper	72119.01	20	770 (75 %R)	790 (77 %R) (3 RPD)
Lead	72119.01	110	940 (83 %R)	1000 (90 %R) (8 RPD)
Mercury	72119.01	< 0.1	1.1 (99 %R)	1.1 (107 %R) (8 RPD)
Nickel	72119.01	14	800 (78 %R)	800 (78 %R) (0 RPD)
Selenium	72119.01	< 0.5	900 (90 %R)	950 (95 %R) (5 RPD)
Silver	72119.01	< 0.5	770 (76 %R)	790 (79 %R) (5 RPD)
Thallium	72119.01	< 0.5	850 (85 %R)	920 (91 %R) (7 RPD)
Zinc	72119.01	130	930 (79 %R)	930 (80 %R) (1 RPD)



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72075

Batch ID:

Client: KAS, Inc.

Client Designation: **Warren Town Garage Brownfields / 505070090**

### Metals QA/QC and Narrative Report

QA/QC:	LCS	MS	MSD
Matrix:	Aqueous/Soil	Aqueous/Soil	Aqueous/Soil
Units:	%	%	%
EPA Method:	6010B/6020	6010B/6020	6010B/6020
Aluminum	80-120	75-125	75-125
Antimony	80-120	75-125	75-125
Arsenic	80-120	75-125	75-125
Barium	80-120	75-125	75-125
Beryllium	80-120	75-125	75-125
Boron	80-120	75-125	75-125
Cadmium	80-120	75-125	75-125
Calcium	80-120	75-125	75-125
Chromium	80-120	75-125	75-125
Chromium III	80-120	75-125	75-125
Chromium IV	80-120	75-125	75-125
Cobalt	80-120	75-125	75-125
Copper	80-120	75-125	75-125
Iron	80-120	75-125	75-125
Lead	80-120	75-125	75-125
Magnesium	80-120	75-125	75-125
Manganese	80-120	75-125	75-125
Mercury	80-120	75-125	75-125
Molybdenum	80-120	75-125	75-125
Nickel	80-120	75-125	75-125
Phosphorus	80-120	75-125	75-125
Potassium	80-120	75-125	75-125
Selenium	80-120	75-125	75-125
Silicon	80-120	75-125	75-125
Silver	80-120	75-125	75-125
Sodium	80-120	75-125	75-125
Thallium	80-120	75-125	75-125
Tin	80-120	75-125	75-125
Titanium	80-120	75-125	75-125
Vanadium	80-120	75-125	75-125
Zinc	80-120	75-125	75-125

Samples were analyzed within holding time limits.

Instrumentation was calibrated in accordance with the method requirements.

The method blanks were free of contamination at the reporting limits.

The associated matrix spikes and/or Laboratory Control Samples met the above stated criteria.

There were no exceptions in the analyses, unless noted below.



# APPENDIX C

## **Test Pit Soils Tabular Data Summary and Laboratory Analytical Data**



**Test Pit Soil Testing Results**  
**Warren Town Garage, Warren, Vermont**  
**KAS #5005070090**  
**14-Aug-08**

Soil Sample Sample Depth (ft.)	TP-1 8'	TP-2 8'	TP-4 8'	TP-5 2-4'	TP-6 8-10'	Duplicate TP-6 8-10'	EPA Region IX PRG Residential	EPA Region IX PRG Industrial
<b>VOCs, EPA Method 8260b (mg/kg)</b>								
Benzene	ND <0.05	ND <0.05	ND <0.05	ND <0.05	ND <0.06	ND <0.05	0.64	1.4
Toluene	ND <0.05	ND <0.05	ND <0.05	ND <0.05	ND <0.05	ND <0.06	520.	520.
Ethylbenzene	ND <0.05	ND <0.05	ND <0.05	ND <0.05	ND <0.06	ND <0.05	400.	400.
Total Xylenes	ND <0.05	ND <0.05	ND <0.05	ND <0.05	ND <0.06	ND <0.05	2,700.	2,700.
Total BTEX	ND	ND	ND	ND	ND	ND		
1,3,5-trimethylbenzene	ND <0.05	ND <0.05	ND <0.05	ND <0.05	ND <0.06	ND <0.05	210.	700.
1,2,4-trimethylbenzene	ND <0.05	ND <0.05	ND <0.05	ND <0.05	ND <0.06	ND <0.05	520.	1,700.
Naphthalene	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	560.	1,900.
Isopropylbenzene	ND <0.05	ND <0.05	ND <0.05	ND <0.05	ND <0.06	ND <0.05	570.	2,000.
n-Propylbenzene	ND <0.05	ND <0.05	ND <0.05	ND <0.05	ND <0.06	ND <0.05	240.	240.
n-Butylbenzene	ND <0.05	ND <0.05	ND <0.05	ND <0.05	ND <0.06	ND <0.05	240.	240.
sec-Butylbenzene	ND <0.05	ND <0.05	ND <0.05	ND <0.05	ND <0.06	ND <0.05	220.	220.
tert-Butylbenzene	ND <0.05	ND <0.05	ND <0.05	ND <0.05	ND <0.06	ND <0.05	390.	390.
p-Isopropyltoluene	ND <0.05	ND <0.05	ND <0.05	ND <0.05	ND <0.06	ND <0.05	NS	NS
MTBE	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	321.	700.
Acetone	ND <2	ND <2	ND <2	ND <2	ND <2	ND <2	14,000.	54,000.
2-Butanone	ND <0.05	ND <0.05	ND <0.05	ND <0.05	ND <0.06	ND <0.05	22,000.	110,000.
Dibromomethane	ND <0.05	ND <0.05	ND <0.05	ND <0.05	ND <0.06	ND <0.05	1.1	2.6
Diethyl Ether	ND <0.05	ND <0.05	ND <0.05	ND <0.05	ND <0.06	ND <0.05	NS	NS
Tetrachloroethene (PCE)	ND <0.05	ND <0.05	ND <0.05	ND <0.05	ND <0.06	ND <0.05	0.48	1.3
Trichloroethene (TCE)	ND <0.05	ND <0.05	ND <0.05	ND <0.05	ND <0.06	ND <0.05	0.053	0.11
1,1-Dichloroethane	ND <0.05	ND <0.05	ND <0.05	ND <0.05	ND <0.06	ND <0.05	510.	1,700.
cis-1,2-Dichloroethene	ND <0.05	ND <0.05	ND <0.05	ND <0.05	ND <0.06	ND <0.05	43.	150.
trans-1,2-Dichloroethene	ND <0.05	ND <0.05	ND <0.05	ND <0.05	ND <0.06	ND <0.05	69.	230.
1,2,3-Trichloropropane	ND <0.05	ND <0.05	ND <0.05	ND <0.05	ND <0.06	ND <0.05	0.034	0.076
Chloroform	ND <0.05	ND <0.05	ND <0.05	ND <0.05	ND <0.06	ND <0.05	0.22	0.47
Styrene	ND <0.05	ND <0.05	ND <0.05	ND <0.05	ND <0.06	ND <0.05	1,700.	1,700.
Vinyl Chloride	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	0.079	0.75
Total Reported VOCs	ND	ND	ND	ND	ND	ND	-	-
<b>TOTAL PETROLEUM HYDROCARBONS, EPA Method 8015DRO</b>								
TPH 8015 DRO (mg/Kg)	ND <50	ND <50	ND <50	ND <50	ND <50	230	200*	1,000*

NOTES:

Major VOCs tested for are shown in table. All VOCs detected, if any, are shown in the table. Other less common VOCs were tested for and not detected and results are included in the laboratory report.

All values reported in ug/kg, dry, unless otherwise indicated.

PRG = Preliminary Remediation Goal

\*Values based on the VTDEC TPH Soil Cleanup Guideline (ref. DEC Memorandum 12/30/92).

TPH values above the VTDEC TPH Soil Cleanup Guideline are shaded.

Values above PRG are shaded

State/federal guidance levels lower than analytical reporting limits are shaded.

ND <1.0 = Not Detected < Detection Limit

Results reported above detection limits are indicated in bold

NS = No PRG Standard



**Test Pit Soil Testing Results**  
**Warren Town Garage, Warren, Vermont**  
**KAS #5005070090**  
**14-Aug-08**

Soil Sample Sample Depth (ft.)	TP-1 8'	TP-2 8'	TP-4 8'	TP-5 2-4'	TP-6 8-10'	Duplicate TP-6 8-10'	EPA Region IX PRG	EPA Region IX PRG
<b>PAHs, EPA Method 8270 (mg/kg)</b>								
Acenaphthene	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	3,700.	29,000.
Acenaphthylene	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	NS	NS
Anthracene	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	22,000.	100,000.
Benzo(a)anthracene	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	0.62	2.1
Benzo(b)fluoranthene	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	0.62	2.1
Benzo(k)fluoranthene	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	6.2	21.
Benzo(a)pyrene	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	<b>0.03</b>	0.062
Benzo(g,h,i)perylene	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	<b>0.03</b>	NS
Chrysene	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	62.	210.
Dibenzo(a,h)anthracene	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	0.062	0.21
Fluoranthene	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	2,300.	22,000.
Fluorene	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	2,700.	26,000.
Indeno(1,2,3-cd)pyrene	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	0.62	2.1
2-Methylnaphthalene	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	NS	NS
Naphthalene	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	56.	190.
Phenanthrene	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	NS	NS
Pyrene	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	ND <0.02	2,300.	29,000.
Total Reported PAHs	ND	ND	ND	ND	ND	ND	<b>0.06</b>	-
<b>TOTAL METALS (mg/kg)</b>								
Total Antimony	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <0.5	31	410
Total Arsenic	<b>14.0</b>	<b>8.9</b>	<b>6.9</b>	<b>9.6</b>	<b>9.7</b>	<b>8.2</b>	0.39	1.6
Total Beryllium	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <0.5	150	1,900
Total Cadmium	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <0.5	37	450
Total Chromium	<b>9.2</b>	<b>8.9</b>	<b>13</b>	<b>17</b>	<b>14</b>	<b>12</b>	210	450
Total Copper	<b>29</b>	<b>20</b>	<b>26</b>	<b>19</b>	<b>14</b>	<b>19</b>	3,100	41,000
Total Lead	<b>6.3</b>	<b>6.0</b>	<b>7.6</b>	<b>10</b>	<b>8.6</b>	<b>9.3</b>	400	800
Total Mercury	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	23	310
Total Nickel	<b>15</b>	<b>15</b>	<b>24</b>	<b>16</b>	<b>13</b>	<b>13</b>	1,600	20,000
Total Selenium	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <0.5	390	5,100
Total Silver	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <0.5	390	5,100
Total Thallium	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <0.5	5.2	67
Total Zinc	<b>24</b>	<b>25</b>	<b>36</b>	<b>50</b>	<b>33</b>	<b>32</b>	23,000	100,000
<b>PCBs, EPA Method 8082 (ug/kg, dry)</b>								
Arochlor-1016	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	3.9	21.
Arochlor-1221	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	0.22	0.74
Arochlor-1232	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	0.22	0.74
Arochlor-1242	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	0.22	0.74
Arochlor-1248	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	0.22	0.74
Arochlor-1254	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	0.22	0.74
Arochlor-1260	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	ND <0.1	0.22	0.74

NOTES:

All values reported in ug/kg, dry, unless otherwise indicated.

PRG = Preliminary Remediation Goal

\*Values based on the VTDEC TPH Soil Cleanup Guideline (ref. DEC Memorandum 12/30/92).

TPH values above the VTDEC TPH Soil Cleanup Guideline are shaded.

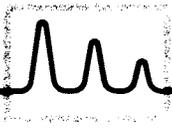
Values above PRG are shaded

State/federal guidance levels lower than analytical reporting limits are shaded.

ND <1.0 = Not Detected < Detection Limit

Results reported above detection limits are indicated in bold

NS = No PRG Standard



Alan Liptak  
KAS, Inc.  
PO Box 787  
Williston, VT 05495



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 72256  
Client Identification: Warren Town Garage Brownfields / 505070090  
Date Received: 8/18/2008

Dear Mr. Liptak :

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. (EAI) certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at [www.eailabs.com](http://www.eailabs.com) for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply throughout all EAI reports:

- Solid samples are reported on a dry weight basis, unless otherwise noted
- <: "less than" followed by the detection limit
- TNR: Testing Not Requested
- ND: None Detected, no established detection limit
- RL: Reporting Limits
- %R: % Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

This report package contains the following information: Sample Conditions summary, Analytical Results/Data and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

**Analytical Deviation & QA/QC Documentation:**

Quality Control Samples associated with this project are included in this report. At a minimum, a Method Blank and Laboratory Control Sample (LCS) are reported. Matrix Spikes and Duplicates are reported where applicable. Deviations are narrated on the QC pages.

If you have any questions regarding the results contained within, please feel free to directly contact me, or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

  
Lorraine Olashaw, Lab Director

9.2.08  
Date

20  
# of pages (excluding cover letter)



# SAMPLE CONDITIONS PAGE

Eastern Analytical, Inc. ID#: 72256

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields / 505070090

Temperature upon receipt (°C): 4.3

Received on ice or cold packs (Yes/No): Y

Lab ID	Sample ID	Date Received	Date Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
72256.01	TP-6	8/18/08	8/14/08	soil	89.7	Adheres to Sample Acceptance Policy
72256.02	TP-5	8/18/08	8/14/08	soil	89.7	Adheres to Sample Acceptance Policy
72256.03	TP-4	8/18/08	8/14/08	soil	93.4	Adheres to Sample Acceptance Policy
72256.04	TP-2	8/18/08	8/14/08	soil	97.1	Adheres to Sample Acceptance Policy
72256.05	TP-1	8/18/08	8/14/08	soil	94.3	Adheres to Sample Acceptance Policy
72256.06	Duplicate	8/18/08	8/14/08	soil	88.0	Adheres to Sample Acceptance Policy
72256.07	Trip Blank	8/18/08	8/14/08	soil	100.0	Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

All results contained in this report relate only to the above listed samples.

References include:

- 1) EPA 600/4-79-020, 1983
- 2) Standard Methods for Examination of Water and Wastewater : Inorganics, 19th Edition, 1995; Microbiology, 20th Edition, 1998
- 3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- 4) Hach Water Analysis Handbook, 2nd edition, 1992



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72256

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields / 505070090

Sample ID:	TP-6	TP-5	TP-4	TP-2	TP-1	Duplicate	Trip Blank
Lab Sample ID:	72256.01	72256.02	72256.03	72256.04	72256.05	72256.06	72256.07
Matrix:	soil	soil	soil	soil	soil	soil	soil
Date Sampled:	8/14/08	8/14/08	8/14/08	8/14/08	8/14/08	8/14/08	8/14/08
Date Received:	8/18/08	8/18/08	8/18/08	8/18/08	8/18/08	8/18/08	8/18/08
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Date of Analysis:	8/26/08	8/26/08	8/26/08	8/26/08	8/26/08	8/26/08	8/26/08
Analyst:	VG	VG	VG	VG	VG	VG	VG
Method:	8260B	8260B	8260B	8260B	8260B	8260B	8260B
Dilution Factor:	1	1	1	1	1	1	1
Dichlorodifluoromethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chloromethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Vinyl chloride	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bromomethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Trichlorofluoromethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diethyl Ether	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acetone	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,1-Dichloroethene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Methylene chloride	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulfide	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl-t-butyl ether(MTBE)	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
trans-1,2-Dichloroethene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,1-Dichloroethane	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,2-Dichloropropane	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
cis-1,2-Dichloroethene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Butanone(MEK)	< 0.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromochloromethane	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tetrahydrofuran(THF)	< 0.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,1,1-Trichloroethane	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Carbon tetrachloride	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,1-Dichloropropene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichloroethane	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Trichloroethene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichloropropane	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibromomethane	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromodichloromethane	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methyl-2-pentanone(MIBK)	< 0.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,3-Dichloropropene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Toluene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
trans-1,3-Dichloropropene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,1,2-Trichloroethane	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Hexanone	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Tetrachloroethene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichloropropane	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibromochloromethane	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dibromoethane(EDB)	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chlorobenzene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,1,1,2-Tetrachloroethane	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ethylbenzene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
mp-Xylene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
o-Xylene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Styrene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromoform	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: **72256**

Client: **KAS, Inc.**

Client Designation: **Warren Town Garage Brownfields / 505070090**

Sample ID:	TP-6	TP-5	TP-4	TP-2	TP-1	Duplicate	Trip Blank
Lab Sample ID:	72256.01	72256.02	72256.03	72256.04	72256.05	72256.06	72256.07
Matrix:	soil	soil	soil	soil	soil	soil	soil
Date Sampled:	8/14/08	8/14/08	8/14/08	8/14/08	8/14/08	8/14/08	8/14/08
Date Received:	8/18/08	8/18/08	8/18/08	8/18/08	8/18/08	8/18/08	8/18/08
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Date of Analysis:	8/26/08	8/26/08	8/26/08	8/26/08	8/26/08	8/26/08	8/26/08
Analyst:	VG	VG	VG	VG	VG	VG	VG
Method:	8260B	8260B	8260B	8260B	8260B	8260B	8260B
Dilution Factor:	1	1	1	1	1	1	1
IsoPropylbenzene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromobenzene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,1,2,2-Tetrachloroethane	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,3-Trichloropropane	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
n-Propylbenzene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorotoluene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorotoluene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3,5-Trimethylbenzene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
tert-Butylbenzene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trimethylbenzene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
sec-Butylbenzene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
p-Isopropyltoluene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
n-Butylbenzene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dibromo-3-chloropropane	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2,3-Trichlorobenzene	< 0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Bromofluorobenzene (surr)	94 %R	95 %R	97 %R	99 %R	95 %R	97 %R	96 %R
1,2-Dichlorobenzene-d4 (surr)	99 %R	97 %R	99 %R	99 %R	100 %R	100 %R	101 %R
Toluene-d8 (surr)	96 %R	97 %R	97 %R	97 %R	96 %R	96 %R	97 %R

TP-6: Reporting limits are elevated due to the % solids content of the sample or the sample mass used for analysis.



# LABORATORY REPORT

Eastern Analytical, Inc. ID#:72256

Batch ID:

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields / 505070090

## QC Report

Date of Analysis

Parameter Name	Blank	LCS	LCS Dup	Units	Method
Dichlorodifluoromethane	< 0.1			mg/kg	8/27/08 8260B
Chloromethane	< 0.1			mg/kg	8/27/08 8260B
Vinyl chloride	< 0.1			mg/kg	8/27/08 8260B
Bromomethane	< 0.1			mg/kg	8/27/08 8260B
Chloroethane	< 0.1			mg/kg	8/27/08 8260B
Trichlorofluoromethane	< 0.1			mg/kg	8/27/08 8260B
Diethyl Ether	< 0.05			mg/kg	8/27/08 8260B
Acetone	< 2			mg/kg	8/27/08 8260B
1,1-Dichloroethene	< 0.05	1.1 (112 %R)	1.2 (124 %R) (10 RPD)	mg/kg	8/27/08 8260B
tert-Butyl Alcohol (TBA)	< 2			mg/kg	8/27/08 8260B
Methylene chloride	< 0.1			mg/kg	8/27/08 8260B
Carbon disulfide	< 0.1			mg/kg	8/27/08 8260B
Methyl-t-butyl ether(MTBE)	< 0.1			mg/kg	8/27/08 8260B
Ethyl-t-butyl ether(ETBE)	< 0.1			mg/kg	8/27/08 8260B
Isopropyl ether(DIPE)	< 0.1			mg/kg	8/27/08 8260B
tert-amyl methyl ether(TAME)	< 0.1			mg/kg	8/27/08 8260B
trans-1,2-Dichloroethene	< 0.05			mg/kg	8/27/08 8260B
1,1-Dichloroethane	< 0.05			mg/kg	8/27/08 8260B
2,2-Dichloropropane	< 0.05			mg/kg	8/27/08 8260B
cis-1,2-Dichloroethene	< 0.05			mg/kg	8/27/08 8260B
2-Butanone(MEK)	< 0.5			mg/kg	8/27/08 8260B
Bromochloromethane	< 0.05			mg/kg	8/27/08 8260B
Tetrahydrofuran(THF)	< 0.5			mg/kg	8/27/08 8260B
Chloroform	< 0.05			mg/kg	8/27/08 8260B
1,1,1-Trichloroethane	< 0.05			mg/kg	8/27/08 8260B
Carbon tetrachloride	< 0.05			mg/kg	8/27/08 8260B
1,1-Dichloropropene	< 0.05			mg/kg	8/27/08 8260B
Benzene	< 0.05	1.2 (122 %R)	1.3 (134 %R) (9 RPD)	mg/kg	8/27/08 8260B
1,2-Dichloroethane	< 0.05			mg/kg	8/27/08 8260B
Trichloroethene	< 0.05	1.1 (112 %R)	1.3 (125 %R) (11 RPD)	mg/kg	8/27/08 8260B
1,2-Dichloropropane	< 0.05			mg/kg	8/27/08 8260B
Dibromomethane	< 0.05			mg/kg	8/27/08 8260B
Bromodichloromethane	< 0.05			mg/kg	8/27/08 8260B
4-Methyl-2-pentanone(MIBK)	< 0.5			mg/kg	8/27/08 8260B
cis-1,3-Dichloropropene	< 0.05			mg/kg	8/27/08 8260B
Toluene	< 0.05	1.1 (112 %R)	1.2 (124 %R) (10 RPD)	mg/kg	8/27/08 8260B
trans-1,3-Dichloropropene	< 0.05			mg/kg	8/27/08 8260B
1,1,2-Trichloroethane	< 0.05			mg/kg	8/27/08 8260B
2-Hexanone	< 0.1			mg/kg	8/27/08 8260B
Tetrachloroethene	< 0.05			mg/kg	8/27/08 8260B
1,3-Dichloropropane	< 0.05			mg/kg	8/27/08 8260B
Dibromochloromethane	< 0.05			mg/kg	8/27/08 8260B
1,2-Dibromoethane(EDB)	< 0.05			mg/kg	8/27/08 8260B
Chlorobenzene	< 0.05	1.2 (117 %R)	1.3 (131 %R) (11 RPD)	mg/kg	8/27/08 8260B



# LABORATORY REPORT

Eastern Analytical, Inc. ID#:72256

Batch ID:

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields / 505070090

## QC Report

Date of Analysis

Parameter Name	Blank	LCS	LCS Dup	Units	Date of Analysis	Method
1,1,1,2-Tetrachloroethane	< 0.05			mg/kg	8/27/08	8260B
Ethylbenzene	< 0.05			mg/kg	8/27/08	8260B
mp-Xylene	< 0.05			mg/kg	8/27/08	8260B
o-Xylene	< 0.05			mg/kg	8/27/08	8260B
Styrene	< 0.05			mg/kg	8/27/08	8260B
Bromoform	< 0.05			mg/kg	8/27/08	8260B
IsoPropylbenzene	< 0.05			mg/kg	8/27/08	8260B
Bromobenzene	< 0.05			mg/kg	8/27/08	8260B
1,1,2,2-Tetrachloroethane	< 0.05			mg/kg	8/27/08	8260B
1,2,3-Trichloropropane	< 0.05			mg/kg	8/27/08	8260B
n-Propylbenzene	< 0.05			mg/kg	8/27/08	8260B
2-Chlorotoluene	< 0.05			mg/kg	8/27/08	8260B
4-Chlorotoluene	< 0.05			mg/kg	8/27/08	8260B
1,3,5-Trimethylbenzene	< 0.05			mg/kg	8/27/08	8260B
tert-Butylbenzene	< 0.05			mg/kg	8/27/08	8260B
1,2,4-Trimethylbenzene	< 0.05			mg/kg	8/27/08	8260B
sec-Butylbenzene	< 0.05			mg/kg	8/27/08	8260B
1,3-Dichlorobenzene	< 0.05			mg/kg	8/27/08	8260B
p-Isopropyltoluene	< 0.05			mg/kg	8/27/08	8260B
1,4-Dichlorobenzene	< 0.05			mg/kg	8/27/08	8260B
1,2-Dichlorobenzene	< 0.05			mg/kg	8/27/08	8260B
n-Butylbenzene	< 0.05			mg/kg	8/27/08	8260B
1,2-Dibromo-3-chloropropane	< 0.05			mg/kg	8/27/08	8260B
1,3,5-Trichlorobenzene	< 0.05			mg/kg	8/27/08	8260B
1,2,4-Trichlorobenzene	< 0.05			mg/kg	8/27/08	8260B
Hexachlorobutadiene	< 0.05			mg/kg	8/27/08	8260B
Naphthalene	< 0.1			mg/kg	8/27/08	8260B
1,2,3-Trichlorobenzene	< 0.05			mg/kg	8/27/08	8260B
4-Bromofluorobenzene (surr)	100 %R	97 %R	97 %R	% Rec	8/27/08	8260B
1,2-Dichlorobenzene-d4 (surr)	102 %R	101 %R	102 %R	% Rec	8/27/08	8260B
Toluene-d8 (surr)	97 %R	97 %R	95 %R	% Rec	8/27/08	8260B



# LABORATORY REPORT

Eastern Analytical, Inc. ID#:72256

Batch ID:

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields /  
505070090

## Volatile Organic Compounds QC limits and Narrative Summary

Matrix:	Solid	RPD	Aqueous	RPD
Units:	%	%	%	%
EPA Method	8260B		8260B	
Surrogate Recovery				
4-Bromofluorobenzene	74-121		86-115	
1,2-Dichlorobenzene-D4	80-120		80-120	
Toluene-d8	70-130		70-130	
Matrix Spike Recovery				
1,1-Dichloroethene	59-172	30	61-145	20
Trichloroethene	62-137	30	71-120	20
Benzene	66-142	30	76-127	20
Toluene	59-139	30	76-125	20
Chlorobenzene	60-133	30	75-130	20

Samples were extracted and analyzed within holding time limits.

Instrumentation was calibrated in accordance with the method requirements.

The method blanks were free of contamination at the reporting limits.

Sample surrogate recoveries met the above stated criteria.

The associated matrix spikes and/or Laboratory Control Samples met acceptance criteria.

There were no exceptions in the analyses, unless noted.



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: **72256**

Client: **KAS, Inc.**

Client Designation: **Warren Town Garage Brownfields / 505070090**

Sample ID:	TP-6	TP-5	TP-4	TP-2	TP-1	Duplicate
Lab Sample ID:	72256.01	72256.02	72256.03	72256.04	72256.05	72256.06
Matrix:	soil	soil	soil	soil	soil	soil
Date Sampled:	8/14/08	8/14/08	8/14/08	8/14/08	8/14/08	8/14/08
Date Received:	8/18/08	8/18/08	8/18/08	8/18/08	8/18/08	8/18/08
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Date of Extraction/Prep:	8/21/08	8/21/08	8/21/08	8/21/08	8/21/08	8/21/08
Date of Analysis:	8/26/08	8/26/08	8/26/08	8/26/08	8/26/08	8/26/08
Analyst:	BML	BML	BML	BML	BML	BML
Method:	8270C SIM					
Dilution Factor:	1	1	1	1	1	1
Naphthalene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
2-Methylnaphthalene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Acenaphthylene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Acenaphthene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Fluorene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Phenanthrene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Anthracene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Fluoranthene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Benzo[a]anthracene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Chrysene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Benzo[b]fluoranthene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Benzo[k]fluoranthene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Benzo[a]pyrene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	<b>0.03</b>
Indeno[1,2,3-cd]pyrene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Dibenz[a,h]anthracene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Benzo[g,h,i]perylene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	<b>0.03</b>
p-Terphenyl-D14 (surr)	<b>112 %R</b>	<b>114 %R</b>	<b>102 %R</b>	<b>122 %R</b>	<b>112 %R</b>	<b>119 %R</b>



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72256

Batch ID: 733282-31978/S082108PAHS11

Client: KAS, Inc.

Client Designation: **Warren Town Garage Brownfields / 505070090**

## QC Report

Parameter Name	Blank	LCS	LCSD	Units	Limits	RPD	Method
Naphthalene	< 0.02	2.6 (77 %R)	3.1 (92 %R) (18 RPD)	mg/kg			8270C SIM
2-Methylnaphthalene	< 0.02	2.4 (72 %R)	3.1 (92 %R) (24 RPD)	mg/kg			8270C SIM
Acenaphthylene	< 0.02	2.3 (69 %R)	3.1 (94 %R) (31 RPD)	mg/kg			8270C SIM
Acenaphthene	< 0.02	2.2 (65 %R)	2.9 (88 %R) (30 RPD)	mg/kg			8270C SIM
Fluorene	< 0.02	2.3 (70 %R)	3.1 (93 %R) (28 RPD)	mg/kg			8270C SIM
Phenanthrene	< 0.02	2.3 (70 %R)	3.1 (94 %R) (29 RPD)	mg/kg			8270C SIM
Anthracene	< 0.02	2.3 (68 %R)	3.0 (91 %R) (29 RPD)	mg/kg			8270C SIM
Fluoranthene	< 0.02	2.4 (73 %R)	3.2 (96 %R) (27 RPD)	mg/kg			8270C SIM
Pyrene	< 0.02	2.3 (68 %R)	3.2 (95 %R) (33 RPD)	mg/kg			8270C SIM
Benzo[a]anthracene	< 0.02	2.3 (68 %R)	3.1 (92 %R) (30 RPD)	mg/kg			8270C SIM
Chrysene	< 0.02	2.2 (67 %R)	3.0 (91 %R) (30 RPD)	mg/kg			8270C SIM
Benzo[b]fluoranthene	< 0.02	2.2 (66 %R)	3.1 (94 %R) (35 RPD)	mg/kg			8270C SIM
Benzo[k]fluoranthene	< 0.02	2.3 (68 %R)	3.2 (95 %R) (33 RPD)	mg/kg			8270C SIM
Benzo[a]pyrene	< 0.02	2.3 (70 %R)	3.3 (99 %R) (34 RPD)	mg/kg			8270C SIM
Indeno[1,2,3-cd]pyrene	< 0.02	2.4 (72 %R)	3.3 (98 %R) (31 RPD)	mg/kg			8270C SIM
Dibenz[a,h]anthracene	< 0.02	2.4 (71 %R)	3.2 (96 %R) (30 RPD)	mg/kg			8270C SIM
Benzo[g,h,i]perylene	< 0.02	2.3 (70 %R)	3.1 (94 %R) (29 RPD)	mg/kg			8270C SIM
p-Terphenyl-D14 (surr)	110 %R	80 %R	109 %R	mg/kg	33 - 141		8270C SIM



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72256

Batch ID: 733282-31978/S082108PAHSI1

Client: KAS, Inc.

Client Designation: **Warren Town Garage Brownfields / 505070090**

## Polynuclear Aromatic Hydrocarbons QA/QC and Narrative Report

Matrix:	Aqueous	RPD	Solid	RPD	Oil	RPD
Units:	%	%	%	%	%	%
EPA Method:	8270C		8270C		8270C	
Naphthalene	30-160		30-160		30-160	
2-Methylnaphthalene	30-160		30-160		30-160	
Acenaphthylene	30-160		30-160		30-160	
Acenaphthene	46-118	31	31-137	19	30-160	50
Fluorene	30-160		30-160		30-160	
Phenanthrene	30-160		30-160		30-160	
Anthracene	30-160		30-160		30-160	
Fluoranthene	30-160		30-160		30-160	
Pyrene	26-127	31	35-142	36	30-160	50
Benzo[a]anthracene	30-160		30-160		30-160	
Chrysene	30-160		30-160		30-160	
Benzo[b]fluoranthene	30-160		30-160		30-160	
Benzo[k]fluoranthene	30-160		30-160		30-160	
Benzo[a]pyrene	30-160		30-160		30-160	
Indeno[1,2,3-cd]pyrene	30-160		30-160		30-160	
Dibenz[a,h]anthracene	30-160		30-160		30-160	
Benzo[g,h,i]perylene	30-160		30-160		30-160	
Surrogate (p-Terphenyl-D14)	33-141		18-137		30-160	

Samples were extracted and analyzed within holding time limits.

Instrumentation was tuned and calibrated in accordance with the method requirements.

The associated method blank(s) were free of contamination at the reporting limit.

Sample Surrogate Recoveries met the above stated criteria.

The associated matrix spike(s) and/or Laboratory Control Sample(s) met the above stated criteria.

There were no exceptions in the analyses, unless noted below.



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: **72256**

Client: **KAS, Inc.**

Client Designation: **Warren Town Garage Brownfields /  
505070090**

Sample ID:	TP-6	TP-5	TP-4	TP-2	TP-1	Duplicate
Lab Sample ID:						
Matrix:	72256.01	72256.02	72256.03	72256.04	72256.05	72256.06
Date Sampled:	soil	soil	soil	soil	soil	soil
Date Received:	8/14/08	8/14/08	8/14/08	8/14/08	8/14/08	8/14/08
Units:	8/18/08	8/18/08	8/18/08	8/18/08	8/18/08	8/18/08
Date of Extraction/Prep:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Date of Analysis:	8/20/08	8/20/08	8/20/08	8/20/08	8/20/08	8/20/08
Analyst:	8/22/08	8/22/08	8/22/08	8/22/08	8/22/08	8/22/08
Method:	JLL	JLL	JLL	JLL	JLL	JLL
Dilution Factor:	8100mod	8100mod	8100mod	8100mod	8100mod	8100mod
	1	1	1	1	1	1
TPH (C9-C40)	< 50	< 50	< 50	< 50	< 50	<b>230</b>
p-Terphenyl-D14 (TPH surr)	<b>85 %R</b>	<b>96 %R</b>	<b>90 %R</b>	<b>108 %R</b>	<b>120 %R</b>	<b>105 %R</b>



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72256

Batch ID: 733280-26748/S082008TPHL11

Client: KAS, Inc.

Client Designation: **Warren Town Garage Brownfields / 505070090**

## QC Report

Parameter Name				Date of Analysis		
	Blank	LCS	LCS Dup	Units	Method	
TPH (C9-C40)	< 50	140 (62 %R)	120 (56 %R) (10 RPD)	mg/kg	8/22/08	8100mod
p-Terphenyl-D14 (TPH surr)	111 %R	93 %R	85 %R	% Rec	8/22/08	8100mod



# LABORATORY REPORT

**Eastern Analytical, Inc. ID#: 72256**

**Batch ID: 733280-26748/S082008TPHL11**

Client: **KAS, Inc.**

Client Designation: **Warren Town Garage Brownfields /  
505070090**

## Total Petroleum Hydrocarbons QA/QC and Narrative Report

<b>Matrix:</b>	Solid	Aqueous	
<b>Units:</b>	%	%	RPD
<b>EPA Method:</b>	8100(Mod)	8100(Mod)	
TPH C9-C40	30-160	30-160	20%
Surrogate (p-Terphenyl-d14)	12-158	33-141	

Samples were extracted and analyzed within holding time limits.

Instrumentation was calibrated in accordance with the method requirements.

The associated blank(s) were free of contamination at the reporting limits.

MI: Matrix Interference

DOR: Diluted Out of Range

NA: None Added



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: **72256**

Client: **KAS, Inc.**

Client Designation: **Warren Town Garage Brownfields /  
505070090**

Sample ID:	TP-6	TP-5	TP-4	TP-2	TP-1	Duplicate
Lab Sample ID:	72256.01	72256.02	72256.03	72256.04	72256.05	72256.06
Matrix:	soil	soil	soil	soil	soil	soil
Date Sampled:	8/14/08	8/14/08	8/14/08	8/14/08	8/14/08	8/14/08
Date Received:	8/18/08	8/18/08	8/18/08	8/18/08	8/18/08	8/18/08
% Solid:	89.7	89.7	93.4	97.1	94.3	88
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Date of Extraction/Prep:	8/25/08	8/25/08	8/25/08	8/25/08	8/25/08	8/25/08
Date of Analysis:	8/27/08	8/27/08	8/27/08	8/27/08	8/27/08	8/27/08
Analyst:	JC	JC	JC	JC	JC	JC
Extraction Method:	3540C	3540C	3540C	3540C	3540C	3540C
Analysis Method:	8082	8082	8082	8082	8082	8082
Dilution Factor:	1	1	1	1	1	1
PCB-1016	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PCB-1221	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PCB-1232	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PCB-1242	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PCB-1248	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PCB-1254	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PCB-1260	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TMX (surr)	<b>107 %R</b>	<b>100 %R</b>	<b>82 %R</b>	<b>109 %R</b>	<b>106 %R</b>	<b>110 %R</b>
DCB (surr)	<b>134 %R</b>	<b>130 %R</b>	<b>120 %R</b>	<b>143 %R</b>	<b>143 %R</b>	<b>130 %R</b>



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72256

Batch ID: 733279-44421/S082508PCB1

Client: KAS, Inc.

Client Designation: **Warren Town Garage Brownfields /  
505070090**

## QC Report

Parameter Name	Date of Analysis			Units	Method	
	Blank	LCS	LCS Dup			
PCB-1016	< 0.1	0.1 (114 %R)	0.1 (113 %R) (1 RPD)	mg/kg	8/27/08	8082
PCB-1221	< 0.1	< 0.1 (%R N/A)	< 0.1 (%R N/A) (RPD N/A)	mg/kg	8/27/08	8082
PCB-1232	< 0.1	< 0.1 (%R N/A)	< 0.1 (%R N/A) (RPD N/A)	mg/kg	8/27/08	8082
PCB-1242	< 0.1	< 0.1 (%R N/A)	< 0.1 (%R N/A) (RPD N/A)	mg/kg	8/27/08	8082
PCB-1248	< 0.1	< 0.1 (%R N/A)	< 0.1 (%R N/A) (RPD N/A)	mg/kg	8/27/08	8082
PCB-1254	< 0.1	< 0.1 (%R N/A)	< 0.1 (%R N/A) (RPD N/A)	mg/kg	8/27/08	8082
PCB-1260	< 0.1	0.1 (116 %R)	0.1 (119 %R) (3 RPD)	mg/kg	8/27/08	8082
TMX (surr)	97 %R	102 %R	101 %R	% Rec	8/27/08	8082
DCB (surr)	136 %R	141 %R	138 %R	% Rec	8/27/08	8082



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72256

Batch ID: 733279-44421/S082508PCB1

Client: KAS, Inc.

Client Designation: **Warren Town Garage Brownfields /  
505070090**

## PCB QA/QC and Narrative Report

Matrix:	Aqueous	Soil	Oil
Unit	%	%	%
EPA Method:	8082	8082	8082
Aroclors 1016-1260	40-140	40-140	40-140
TMX(Surr)	30-150	30-150	30-150
DCB(Surr)	30-150	30-150	30-150

Samples were extracted and analyzed within holding time limits.  
Instrumentation was calibrated in accordance with the method requirements.  
The associated method blank(s) were free of contamination at the reporting limit.  
All samples met the above stated criteria for surrogate recovery.  
The associated Matrix Spike(s) and/or Laboratory Control Sample(s) met the above stated criteria.  
There were no exceptions in the analyses, unless noted.



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: **72256**

Client: **KAS, Inc.**

Client Designation: **Warren Town Garage Brownfields /  
505070090**

Sample ID:	TP-6	TP-5	TP-4	TP-2					
Lab Sample ID:	72256.01	72256.02	72256.03	72256.04					
Matrix:	soil	soil	soil	soil					
Date Sampled:	8/14/08	8/14/08	8/14/08	8/14/08					
Date Received:	8/18/08	8/18/08	8/18/08	8/18/08	<b>Analytical</b>		<b>Date of</b>		
					<b>Matrix</b>	<b>Units</b>	<b>Analysis</b>	<b>Method</b>	<b>Analyst</b>
Antimony	< 0.5	< 0.5	< 0.5	< 0.5	SolTotDry	mg/kg	8/20/08	6020	DS
Arsenic	<b>9.7</b>	<b>9.6</b>	<b>6.9</b>	<b>8.9</b>	SolTotDry	mg/kg	8/20/08	6020	DS
Beryllium	< 0.5	< 0.5	< 0.5	< 0.5	SolTotDry	mg/kg	8/20/08	6020	DS
Cadmium	< 0.5	< 0.5	< 0.5	< 0.5	SolTotDry	mg/kg	8/20/08	6020	DS
Chromium	<b>14</b>	<b>17</b>	<b>13</b>	<b>8.9</b>	SolTotDry	mg/kg	8/20/08	6020	DS
Copper	<b>14</b>	<b>19</b>	<b>26</b>	<b>20</b>	SolTotDry	mg/kg	8/20/08	6020	DS
Lead	<b>8.6</b>	<b>10</b>	<b>7.6</b>	<b>6.0</b>	SolTotDry	mg/kg	8/20/08	6020	DS
Mercury	< 0.1	< 0.1	< 0.1	< 0.1	SolTotDry	mg/kg	8/20/08	6020	DS
Nickel	<b>13</b>	<b>16</b>	<b>24</b>	<b>15</b>	SolTotDry	mg/kg	8/20/08	6020	DS
Selenium	< 0.5	< 0.5	< 0.5	< 0.5	SolTotDry	mg/kg	8/20/08	6020	DS
Silver	< 0.5	< 0.5	< 0.5	< 0.5	SolTotDry	mg/kg	8/20/08	6020	DS
Thallium	< 0.5	< 0.5	< 0.5	< 0.5	SolTotDry	mg/kg	8/20/08	6020	DS
Zinc	<b>33</b>	<b>50</b>	<b>36</b>	<b>25</b>	SolTotDry	mg/kg	8/20/08	6020	DS



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: **72256**

Client: **KAS, Inc.**

Client Designation: **Warren Town Garage Brownfields / 505070090**

Sample ID:	TP-1	Duplicate				
Lab Sample ID:	72256.05	72256.06				
Matrix:	soil	soil				
Date Sampled:	8/14/08	8/14/08				
Date Received:	8/18/08	8/18/08	Analytical Matrix	Units	Date of Analysis	Method Analyst
Antimony	< 0.5	< 0.5	SoiTotDry	mg/kg	8/20/08	6020 DS
Arsenic	14	8.2	SoiTotDry	mg/kg	8/20/08	6020 DS
Beryllium	< 0.5	< 0.5	SoiTotDry	mg/kg	8/20/08	6020 DS
Cadmium	< 0.5	< 0.5	SoiTotDry	mg/kg	8/20/08	6020 DS
Chromium	9.2	12	SoiTotDry	mg/kg	8/20/08	6020 DS
Copper	29	19	SoiTotDry	mg/kg	8/20/08	6020 DS
Lead	6.3	9.3	SoiTotDry	mg/kg	8/20/08	6020 DS
Mercury	< 0.1	< 0.1	SoiTotDry	mg/kg	8/20/08	6020 DS
Nickel	15	13	SoiTotDry	mg/kg	8/20/08	6020 DS
Selenium	< 0.5	< 0.5	SoiTotDry	mg/kg	8/20/08	6020 DS
Silver	< 0.5	< 0.5	SoiTotDry	mg/kg	8/20/08	6020 DS
Thallium	< 0.5	< 0.5	SoiTotDry	mg/kg	8/20/08	6020 DS
Zinc	24	32	SoiTotDry	mg/kg	8/20/08	6020 DS



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72256

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields /

## QC Report

Date of Analysis

Parameter Name	Blank	LCS	LCS Dup	Units	Method
Antimony	< 0.5	34 (85 %R)		mg/kg	8/20/08 6020
Arsenic	< 0.5	33 (83 %R)		mg/kg	8/20/08 6020
Beryllium	< 0.5	39 (99 %R)		mg/kg	8/20/08 6020
Cadmium	< 0.5	33 (83 %R)		mg/kg	8/20/08 6020
Chromium	< 0.5	33 (82 %R)		mg/kg	8/20/08 6020
Copper	< 0.5	35 (87 %R)		mg/kg	8/20/08 6020
Lead	< 0.5	37 (93 %R)		mg/kg	8/20/08 6020
Mercury	< 0.1	0.4 (98 %R)		mg/kg	8/20/08 6020
Nickel	< 0.5	35 (86 %R)		mg/kg	8/20/08 6020
Selenium	< 0.5	38 (96 %R)		mg/kg	8/20/08 6020
Silver	< 0.5	8.7 (87 %R)		mg/kg	8/20/08 6020
Thallium	< 0.5	36 (91 %R)		mg/kg	8/20/08 6020
Zinc	< 0.5	32 (80 %R)		mg/kg	8/20/08 6020

Parameter Name	MS/MSD Parent ID	MS/MSD Parent	Matrix Spike	Matrix Spike Duplicate
Antimony	72256.06	< 0.5	950 (95 %R)	1000 (100 %R) (5 RPD)
Arsenic	72256.06	8.2	920 (91 %R)	940 (94 %R) (3 RPD)
Beryllium	72256.06	< 0.5	1300 (133 %R)	1300 (133 %R) (0 RPD)
Cadmium	72256.06	< 0.5	900 (90 %R)	960 (96 %R) (6 RPD)
Chromium	72256.06	12	900 (89 %R)	910 (90 %R) (1 RPD)
Copper	72256.06	19	870 (85 %R)	880 (87 %R) (2 RPD)
Lead	72256.06	9.3	990 (98 %R)	1000 (102 %R) (4 RPD)
Mercury	72256.06	< 0.1	1.1 (106 %R)	1.1 (112 %R) (6 RPD)
Nickel	72256.06	13	900 (89 %R)	920 (90 %R) (1 RPD)
Selenium	72256.06	< 0.5	960 (96 %R)	980 (98 %R) (2 RPD)
Silver	72256.06	< 0.5	870 (87 %R)	940 (94 %R) (8 RPD)
Thallium	72256.06	< 0.5	980 (98 %R)	1000 (101 %R) (3 RPD)
Zinc	72256.06	32	830 (79 %R)	830 (80 %R) (1 RPD)



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72256

Batch ID:

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields / 505070090

### Metals QA/QC and Narrative Report

QA/QC:	LCS	MS	MSD
Matrix:	Aqueous	Aqueous	Aqueous
Units:	%	%	%
EPA Method:	200.8	200.8	200.8
Aluminum	85-115	70-130	70-130
Antimony	85-115	70-130	70-130
Arsenic	85-115	70-130	70-130
Barium	85-115	70-130	70-130
Beryllium	85-115	70-130	70-130
Boron	85-115	70-130	70-130
Cadmium	85-115	70-130	70-130
Calcium	85-115	70-130	70-130
Chromium	85-115	70-130	70-130
Cobalt	85-115	70-130	70-130
Copper	85-115	70-130	70-130
Iron	85-115	70-130	70-130
Lead	85-115	70-130	70-130
Magnesium	85-115	70-130	70-130
Manganese	85-115	70-130	70-130
Mercury	85-115	70-130	70-130
Molybdenum	85-115	70-130	70-130
Nickel	85-115	70-130	70-130
Phosphorus	85-115	70-130	70-130
Potassium	85-115	70-130	70-130
Selenium	85-115	70-130	70-130
Silicon	85-115	70-130	70-130
Silver	85-115	70-130	70-130
Sodium	85-115	70-130	70-130
Thallium	85-115	70-130	70-130
Tin	85-115	70-130	70-130
Titanium	85-115	70-130	70-130
Vanadium	85-115	70-130	70-130
Zinc	85-115	70-130	70-130

Samples were analyzed within holding time limits.  
 Instrumentation was calibrated in accordance with the method requirements.  
 The method blanks were free of contamination at the reporting limits.  
 The associated matrix spikes and/or Laboratory Control Samples met the above stated criteria.  
 There were no exceptions in the analyses, unless noted below.



# APPENDIX D

**Soil Boring Logs and Monitoring Well Completion Diagrams  
Laboratory Analytical Data**

# BORING LOG AND WELL CONSTRUCTION DIAGRAM

Well No: MW-08-1

Site: Warren Town Garage  
Town, State: Warren, VT



KAS Project #: 505070090	Date Installed: 9/4/2008	Letter Symbol Graphic Symbol
VTDEC Site #: Not Listed	Drilling Method: HSA	
Drilled by: T & K Drilling	Boring Diameter.: 8.25"	
Driller: Sean McGarry	Development Method: Bailer	
Logged by: ARL	Screened Length: 10'	

Grade = 0	Well Construction	Pen/Rec(')	Interval (')	Soil Characteristics	Letter Symbol	Graphic Symbol	
		BlowCounts	PID (ppm)				
1.0		n/a	0-8'	Well Graded Sand (SW)-fine, medium, coarse sand with some gravel, loose, moist.	SW		
2.0		n/a	0.1	Note: soil sampling 0-8' performed during advancement of Test Pit TP-1 on 8/14/08			
3.0							
4.0							
5.0							
6.0							
7.0							
8.0							
9.0							
10.0			0"/0"	10-12'	Attempted to sample 10-12', no advancement or recovery		
11.0			n/a	n/a			
12.0							
13.0							
14.0							
15.0			24"/14"	15-17'	Silty Sand (SM)-75% medium sand, 25% silt, dense, wet	SM	
16.0		6-4-7-7	0.1	Collected soil sample for lab analysis.			
17.0							
18.0							
19.0							
20.0							
21.0							
22.0							
23.0				Base of Exploration at 20'			
24.0							
25.0							
26.0							
27.0							
28.0							
29.0							
30.0							

Legend

- Road Box with Bolt Down Cover, Set in Cement.
- Existing Surface.
- Bentonite Seal Placed in Annulus.
- Grade #1 Silica Sand Pack Placed in Annulus.
- Drill Cuttings Placed in Annulus.

- Locking Plug.
- 2" ID, Schedule 40 PVC Riser.
- 2" ID, Schedule 40 PVC, 0.010"-Slotted Well Screen
- Plug Point
- Approximate Water Level During Drilling, below grade
- Static Water Level, below top of casing

## BORING LOG AND WELL CONSTRUCTION DIAGRAM

Well No: MW-08-2

**Site: Warren Town Garage**  
 Town, State: Warren, VT



KAS Project #: 505070090	Date Installed: 9/4/2008	
VTDEC Site #: Not Listed	Drilling Method: HSA	
Drilled by: T & K Drilling	Boring Diameter: 8.25"	
Driller: Sean McGarry	Development Method: Bailer	
Logged by: ARL	Screened Length: 10'	

Letter Symbol  
Graphic Symbol

Grade = 0	Well Construction	Pen/Rec(*)	Interval (*)	Soil Characteristics	Letter Symbol	Graphic Symbol	
		BlowCounts	PID (ppm)				
1.0		n/a	0-8'	Well Graded Sand (SW)-fine, medium, coarse sand with some gravel, loose, moist.	SW		
2.0		n/a	0.1				
3.0					Note: soil sampling 0-8' performed during advancement of Test Pit TP-2 on 8/14/08		
4.0							
5.0							
6.0							
7.0							
8.0							
9.0							
10.0			24"/18" 13-15-14-14	10-12' 0.1	Well Graded Sand (SW)-fine, medium, coarse sand with some gravel, loose, dry.		SW
11.0							
12.0							
13.0							
14.0							
15.0		24"/15" 11-16-15-21	15-17' 0.1	Well Graded Sand (SW)-fine, medium, coarse sand, loose, wet. Collected lab sample for analysis.	SW		
16.0							
17.0							
18.0							
19.0							
20.0							
21.0							
22.0							
23.0				Base of Exploration at 20'			
24.0							
25.0							
26.0							
27.0							
28.0							
29.0							
30.0							

Legend

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li> Road Box with Bolt Down Cover, Set in Cement.</li> <li> Existing Surface.</li> <li> Bentonite Seal Placed in Annulus.</li> <li> Grade #1 Silica Sand Pack Placed in Annulus.</li> <li> Drill Cuttings Placed in Annulus.</li> </ul> | <ul style="list-style-type: none"> <li> Locking Plug.</li> <li> 2" ID, Schedule 40 PVC Riser.</li> <li> 2" ID, Schedule 40 PVC, 0.010"-Slotted Well Screen</li> <li> Plug Point</li> <li> Approximate Water Level During Drilling, below grade</li> <li> Static Water Level, below top of casing</li> </ul> |
|---|---|

# BORING LOG AND WELL CONSTRUCTION DIAGRAM

Well No: MW-08-3

**Site: Warren Town Garage**  
Town, State: Warren, VT



KAS Project #: 505070090	Date Installed: 9/4/2008	
VTDEC Site #: Not Listed	Drilling Method: HSA	
Drilled by: T & K Drilling	Boring Diameter.: 8.25"	
Driller: Sean McGarry	Development Method: Bailer	
Logged by: ARL	Screened Length: 10'	

Letter Symbol  
Graphic Symbol

Grade = 0	Well Construction	Pen/Rec(*)	Interval (*)	Soil Characteristics	Letter Symbol	Graphic Symbol	
		BlowCounts	PID (ppm)				
1.0		n/a	0-8'	Well Graded Sand (SW)-fine, medium, coarse sand with some gravel, loose, moist.	SW		
2.0		n/a	0.1	Note: soil sampling 0-8' performed during advancement of Test Pit TP-4 on 8/14/08			
3.0							
4.0							
5.0							
6.0							
7.0							
8.0							
9.0							
10.0			24"/16" 15-18-19-13	10-12' 0.2	Well Graded Sand (SW)-medium, coarse sand, little gravel, loose, dry.		SW
11.0							
12.0							
13.0		▽ 12.40' 9/18/08					
14.0							
15.0		24"/16" 6-5-5-12	15-17' 0.1	Silty Sand (SM)-fine, medium sand with silt, loose, wet, interbedded sandy silt bands noted.	SM		
16.0	▼ ~15' 9/4/08						
17.0							
18.0							
19.0							
20.0							
21.0		24"/7" 4-4-7-9	20-22' 0.2	Silty Sand (SM)-fine sand 50%, silt 50%. Dense, wet. Collected soil sample for laboratory.	SM		
22.0				Base of Exploration at 22'			
23.0							
24.0							
25.0							
26.0							
27.0							
28.0							
29.0							
30.0							

Legend

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li> Road Box with Bolt Down Cover, Set in Cement.</li> <li> Existing Surface.</li> <li> Bentonite Seal Placed in Annulus.</li> <li> Grade #1 Silica Sand Pack Placed in Annulus.</li> <li> Drill Cuttings Placed in Annulus.</li> </ul> | <ul style="list-style-type: none"> <li> Locking Plug.</li> <li> 2" ID, Schedule 40 PVC Riser.</li> <li> 2" ID, Schedule 40 PVC, 0.010"-Slotted Well Screen</li> <li> Plug Point</li> <li> Approximate Water Level During Drilling, below grade</li> <li> Static Water Level, below top of casing</li> </ul> |
|---|---|

# BORING LOG AND WELL CONSTRUCTION DIAGRAM

Well No: MW-08-4

Site: Warren Town Garage  
Town, State: Warren, VT



KAS Project #: 505070090	Date Installed: 9/4/2008
VTDEC Site #: Not Listed	Drilling Method: HSA
Drilled by: T & K Drilling	Boring Diameter: 8.25"
Driller: Sean McGarry	Development Method: Bailer
Logged by: ARL	Screened Length: 10'

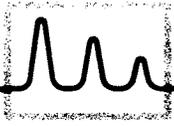
Letter Symbol  
Graphic Symbol

Grade = 0	Well Construction	Pen/Rec(')	Interval (')	Soil Characteristics	Letter Symbol	Graphic Symbol	
		BlowCounts	PID (ppm)				
1.0		n/a	0-8'	Well Graded Sand (SW)-fine, medium, coarse sand with some gravel, loose, moist. Metal and rubber junk.	SW		
2.0		n/a	0.1	Note: soil sampling 0-10' performed during advancement of Test Pit TP-6 on 8/14/08			
3.0							
4.0							
5.0							
6.0							
7.0							
8.0							
9.0			24"/9"	10-12'	Silty Sand (SM)-fine, medium, coarse sand and silt, loose, moist, probable fill soils.		SM
10.0			3-4-10-12	0.6			
11.0							
12.0							
13.0							
14.0							
15.0			24"/13"	15-17'	Well Graded Sand (SW)-fine, medium, coarse sand, medium dense, moist.		SW
16.0		30-20-19-20	0.6				
17.0							
18.0							
19.0							
20.0							
21.0		24"/16"	20-22'	Poorly Graded Sand (SP)-fine, medium sand, medium dense, dry to moist.	SP		
22.0		14-9-13-13	0.4				
23.0							
24.0							
25.0							
26.0							
27.0		24"/16"	25-27'	Poorly Graded Sand (SP)-fine, medium sand, medium dense, dry	SP		
28.0		7-12-14-15	0.4				
29.0							
30.0							
31.0		24"/17"	30-32'	Poorly Graded Sand (SP)-fine, medium sand, loose, moist	SP		
32.0		8-13-15-17	0.4				
33.0							
34.0							
35.0		24"/18"	35-37'	Poorly Graded Sand (SP)-fine, medium sand, medium dense, moist to wet.	SP		
36.0		55-12-14-17	0.4				
37.0							
38.0							
39.0							
40.0							
41.0		24"/15"	40-42'	Poorly Graded Sand (SP)-medium and coarse sand, dense, wet. Collected soil sample for laboratory	SP		
42.0		7-9-10-14	0.6				
43.0							

▼ -35' 9/4/08  
▽ 36.50' 9/18/08

Legend

- Road Box with Bolt Down Cover, Set in Cement.
- Existing Surface.
- Bentonite Seal Placed in Annulus.
- Grade #1 Silica Sand Pack Placed in Annulus.
- Drill Cuttings Placed in Annulus.
- Locking Plug.
- 2" ID, Schedule 40 PVC Riser.
- 2" ID, Schedule 40 PVC, 0.010"-Slotted Well Screen
- Plug Point
- Approximate Water Level During Drilling, below grade
- Static Water Level, below top of casing



Alan Liptak  
KAS, Inc.  
PO Box 787  
Williston, VT 05495



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 72953  
Client Identification: Warren Town Garage Brownfield | 505070090  
Date Received: 9/12/2008

Dear Mr. Liptak :

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. (EAI) certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at [www.eailabs.com](http://www.eailabs.com) for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply throughout all EAI reports:

- Solid samples are reported on a dry weight basis, unless otherwise noted
- <: "less than" followed by the detection limit
- TNR: Testing Not Requested
- ND: None Detected, no established detection limit
- RL: Reporting Limits
- %R: % Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

This report package contains the following information: Sample Conditions summary, Analytical Results/Data and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

**Analytical Deviation & QA/QC Documentation:**

Quality Control Samples associated with this project are included in this report. At a minimum, a Method Blank and Laboratory Control Sample (LCS) are reported. Matrix Spikes and Duplicates are reported where applicable. Deviations are narrated on the QC pages.

If you have any questions regarding the results contained within, please feel free to directly contact me, or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw  
Lorraine Olashaw, Lab Director

9.30.08  
Date

19  
# of pages (excluding cover letter)



# SAMPLE CONDITIONS PAGE

Eastern Analytical, Inc. ID#: 72953

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfield | 505070090

Temperature upon receipt (°C): 4.1

Received on ice or cold packs (Yes/No): Y

Lab ID	Sample ID	Date Received	Date Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
72953.01	MW-08-1	9/12/08	9/4/08	soil	81.7	Adheres to Sample Acceptance Policy
72953.02	MW-08-2	9/12/08	9/4/08	soil	88.7	Adheres to Sample Acceptance Policy
72953.03	MW-08-3	9/12/08	9/4/08	soil	77.7	Adheres to Sample Acceptance Policy
72953.04	MW-08-4	9/12/08	9/4/08	soil	80.7	Adheres to Sample Acceptance Policy
72953.05	Trip Blank	9/12/08	9/4/08	soil	100.0	Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

All results contained in this report relate only to the above listed samples.

References include:

- 1) EPA 600/4-79-020, 1983
- 2) Standard Methods for Examination of Water and Wastewater : Inorganics, 19th Edition, 1995; Microbiology, 20th Edition, 1998
- 3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- 4) Hach Water Analysis Handbook, 2nd edition, 1992



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72953

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfield | 505070090

Sample ID:	MW-08-1	MW-08-2	MW-08-3	MW-08-4	Trip Blank
Lab Sample ID:	72953.01	72953.02	72953.03	72953.04	72953.05
Matrix:	soil	soil	soil	soil	soil
Date Sampled:	9/4/08	9/4/08	9/4/08	9/4/08	9/4/08
Date Received:	9/12/08	9/12/08	9/12/08	9/12/08	9/12/08
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Date of Analysis:	9/16/08	9/16/08	9/16/08	9/16/08	9/16/08
Analyst:	BAM	BAM	BAM	BAM	BAM
Method:	8260B	8260B	8260B	8260B	8260B
Dilution Factor:	1	1	1	1	1
Dichlorodifluoromethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chloromethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Vinyl chloride	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bromomethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Trichlorofluoromethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diethyl Ether	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acetone	< 2	< 2	< 2	< 2	< 2
1,1-Dichloroethene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Methylene chloride	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulfide	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl-t-butyl ether(MTBE)	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
trans-1,2-Dichloroethene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,1-Dichloroethane	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,2-Dichloropropane	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
cis-1,2-Dichloroethene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Butanone(MEK)	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromochloromethane	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tetrahydrofuran(THF)	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,1,1-Trichloroethane	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Carbon tetrachloride	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,1-Dichloropropene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichloroethane	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Trichloroethene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichloropropane	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibromomethane	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromodichloromethane	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methyl-2-pentanone(MIBK)	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,3-Dichloropropene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Toluene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
trans-1,3-Dichloropropene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,1,2-Trichloroethane	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Hexanone	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Tetrachloroethene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichloropropane	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibromochloromethane	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dibromoethane(EDB)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chlorobenzene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,1,1,2-Tetrachloroethane	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ethylbenzene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
mp-Xylene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
o-Xylene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Styrene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromoform	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: **72953**

Client: **KAS, Inc.**

Client Designation: **Warren Town Garage Brownfield | 505070090**

Sample ID:	MW-08-1	MW-08-2	MW-08-3	MW-08-4	Trip Blank
Lab Sample ID:	72953.01	72953.02	72953.03	72953.04	72953.05
Matrix:	soil	soil	soil	soil	soil
Date Sampled:	9/4/08	9/4/08	9/4/08	9/4/08	9/4/08
Date Received:	9/12/08	9/12/08	9/12/08	9/12/08	9/12/08
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Date of Analysis:	9/16/08	9/16/08	9/16/08	9/16/08	9/16/08
Analyst:	BAM	BAM	BAM	BAM	BAM
Method:	8260B	8260B	8260B	8260B	8260B
Dilution Factor:	1	1	1	1	1
IsoPropylbenzene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromobenzene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,1,2,2-Tetrachloroethane	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,3-Trichloropropane	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
n-Propylbenzene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorotoluene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorotoluene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3,5-Trimethylbenzene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
tert-Butylbenzene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trimethylbenzene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
sec-Butylbenzene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
p-Isopropyltoluene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
n-Butylbenzene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dibromo-3-chloropropane	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2,3-Trichlorobenzene	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Bromofluorobenzene (surr)	96 %R	96 %R	98 %R	97 %R	96 %R
1,2-Dichlorobenzene-d4 (surr)	102 %R	104 %R	102 %R	107 %R	105 %R
Toluene-d8 (surr)	96 %R	95 %R	94 %R	93 %R	94 %R



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72953

Batch ID:

Client: KAS, Inc.

Client Designation: **Warren Town Garage Brownfield |  
505070090**

## QC Report

Date of Analysis

Parameter Name	Blank	LCS	LCS Dup	Units	Date of Analysis	Method
Dichlorodifluoromethane	< 0.1			mg/kg	9/15/08	8260B
Chloromethane	< 0.1			mg/kg	9/15/08	8260B
Vinyl chloride	< 0.1			mg/kg	9/15/08	8260B
Bromomethane	< 0.1			mg/kg	9/15/08	8260B
Chloroethane	< 0.1			mg/kg	9/15/08	8260B
Trichlorofluoromethane	< 0.1			mg/kg	9/15/08	8260B
Diethyl Ether	< 0.05			mg/kg	9/15/08	8260B
Acetone	< 2			mg/kg	9/15/08	8260B
1,1-Dichloroethene	< 0.05	1.0 (102 %R)	0.95 (95 %R) (7 RPD)	mg/kg	9/15/08	8260B
Methylene chloride	< 0.1			mg/kg	9/15/08	8260B
Carbon disulfide	< 0.1			mg/kg	9/15/08	8260B
Methyl-t-butyl ether(MTBE)	< 0.1			mg/kg	9/15/08	8260B
trans-1,2-Dichloroethene	< 0.05			mg/kg	9/15/08	8260B
1,1-Dichloroethane	< 0.05			mg/kg	9/15/08	8260B
2,2-Dichloropropane	< 0.05			mg/kg	9/15/08	8260B
cis-1,2-Dichloroethene	< 0.05			mg/kg	9/15/08	8260B
2-Butanone(MEK)	< 0.5			mg/kg	9/15/08	8260B
Bromochloromethane	< 0.05			mg/kg	9/15/08	8260B
Tetrahydrofuran(THF)	< 0.5			mg/kg	9/15/08	8260B
Chloroform	< 0.05			mg/kg	9/15/08	8260B
1,1,1-Trichloroethane	< 0.05			mg/kg	9/15/08	8260B
Carbon tetrachloride	< 0.05			mg/kg	9/15/08	8260B
1,1-Dichloropropene	< 0.05			mg/kg	9/15/08	8260B
Benzene	< 0.05	1.2 (123 %R)	1.2 (115 %R) (7 RPD)	mg/kg	9/15/08	8260B
1,2-Dichloroethane	< 0.05			mg/kg	9/15/08	8260B
Trichloroethene	< 0.05	1.2 (117 %R)	1.1 (108 %R) (8 RPD)	mg/kg	9/15/08	8260B
1,2-Dichloropropane	< 0.05			mg/kg	9/15/08	8260B
Dibromomethane	< 0.05			mg/kg	9/15/08	8260B
Bromodichloromethane	< 0.05			mg/kg	9/15/08	8260B
4-Methyl-2-pentanone(MIBK)	< 0.5			mg/kg	9/15/08	8260B
cis-1,3-Dichloropropene	< 0.05			mg/kg	9/15/08	8260B
Toluene	< 0.05	1.1 (111 %R)	1.0 (102 %R) (8 RPD)	mg/kg	9/15/08	8260B
trans-1,3-Dichloropropene	< 0.05			mg/kg	9/15/08	8260B
1,1,2-Trichloroethane	< 0.05			mg/kg	9/15/08	8260B
2-Hexanone	< 0.1			mg/kg	9/15/08	8260B
Tetrachloroethene	< 0.05			mg/kg	9/15/08	8260B
1,3-Dichloropropane	< 0.05			mg/kg	9/15/08	8260B
Dibromochloromethane	< 0.05			mg/kg	9/15/08	8260B
1,2-Dibromoethane(EDB)	< 0.05			mg/kg	9/15/08	8260B
Chlorobenzene	< 0.05	1.2 (116 %R)	1.1 (110 %R) (5 RPD)	mg/kg	9/15/08	8260B
1,1,1,2-Tetrachloroethane	< 0.05			mg/kg	9/15/08	8260B
Ethylbenzene	< 0.05			mg/kg	9/15/08	8260B
mp-Xylene	< 0.05			mg/kg	9/15/08	8260B
o-Xylene	< 0.05			mg/kg	9/15/08	8260B



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72953

Batch ID:

Client: KAS, Inc.

Client Designation: **Warren Town Garage Brownfield | 505070090**

## QC Report

Date of Analysis

Parameter Name	Blank	LCS	LCS Dup	Units	Date of Analysis	Method
Styrene	< 0.05			mg/kg	9/15/08	8260B
Bromoform	< 0.05			mg/kg	9/15/08	8260B
IsoPropylbenzene	< 0.05			mg/kg	9/15/08	8260B
Bromobenzene	< 0.05			mg/kg	9/15/08	8260B
1,1,2,2-Tetrachloroethane	< 0.05			mg/kg	9/15/08	8260B
1,2,3-Trichloropropane	< 0.05			mg/kg	9/15/08	8260B
n-Propylbenzene	< 0.05			mg/kg	9/15/08	8260B
2-Chlorotoluene	< 0.05			mg/kg	9/15/08	8260B
4-Chlorotoluene	< 0.05			mg/kg	9/15/08	8260B
1,3,5-Trimethylbenzene	< 0.05			mg/kg	9/15/08	8260B
tert-Butylbenzene	< 0.05			mg/kg	9/15/08	8260B
1,2,4-Trimethylbenzene	< 0.05			mg/kg	9/15/08	8260B
sec-Butylbenzene	< 0.05			mg/kg	9/15/08	8260B
1,3-Dichlorobenzene	< 0.05			mg/kg	9/15/08	8260B
p-Isopropyltoluene	< 0.05			mg/kg	9/15/08	8260B
1,4-Dichlorobenzene	< 0.05			mg/kg	9/15/08	8260B
1,2-Dichlorobenzene	< 0.05			mg/kg	9/15/08	8260B
n-Butylbenzene	< 0.05			mg/kg	9/15/08	8260B
1,2-Dibromo-3-chloropropane	< 0.05			mg/kg	9/15/08	8260B
1,2,4-Trichlorobenzene	< 0.05			mg/kg	9/15/08	8260B
Hexachlorobutadiene	< 0.05			mg/kg	9/15/08	8260B
Naphthalene	< 0.1			mg/kg	9/15/08	8260B
1,2,3-Trichlorobenzene	< 0.05			mg/kg	9/15/08	8260B
4-Bromofluorobenzene (surr)	95 %R	97 %R	96 %R	% Rec	9/15/08	8260B
1,2-Dichlorobenzene-d4 (surr)	107 %R	104 %R	100 %R	% Rec	9/15/08	8260B
Toluene-d8 (surr)	90 %R	92 %R	92 %R	% Rec	9/15/08	8260B



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72953

Batch ID:

Client: KAS, Inc.

Client Designation: **Warren Town Garage Brownfield |  
505070090**

## Volatile Organic Compounds QC limits and Narrative Summary

Matrix:	Solid	RPD	Aqueous	RPD
Units:	%	%	%	%
EPA Method	8260B		8260B	
Surrogate Recovery				
4-Bromofluorobenzene	74-121		86-115	
1,2-Dichlorobenzene-D4	80-120		80-120	
Toluene-d8	70-130		70-130	
Matrix Spike Recovery				
1,1-Dichloroethene	59-172	30	61-145	20
Trichloroethene	62-137	30	71-120	20
Benzene	66-142	30	76-127	20
Toluene	59-139	30	76-125	20
Chlorobenzene	60-133	30	75-130	20

Samples were extracted and analyzed within holding time limits.

Instrumentation was calibrated in accordance with the method requirements.

The method blanks were free of contamination at the reporting limits.

Sample surrogate recoveries met the above stated criteria.

The associated matrix spikes and/or Laboratory Control Samples met acceptance criteria.

There were no exceptions in the analyses, unless noted.



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72953

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfield |  
505070090

Sample ID:	MW-08-1	MW-08-2	MW-08-3	MW-08-4
	SolTotDry	SolTotDry	SolTotDry	SolTotDry
Lab Sample ID:	72953.01	72953.02	72953.03	72953.04
Matrix:	soil	soil	soil	soil
Date Sampled:	9/4/08	9/4/08	9/4/08	9/4/08
Date Received:	9/12/08	9/12/08	9/12/08	9/12/08
Units:	mg/kg	mg/kg	mg/kg	mg/kg
Date of Extraction/Prep:	9/18/08	9/18/08	9/18/08	9/18/08
Date of Analysis:	9/24/08	9/24/08	9/24/08	9/24/08
Analyst:	BML	BML	BML	BML
Method:	8270C SIM	8270C SIM	8270C SIM	8270C SIM
Dilution Factor:	1	1	1	1
Naphthalene	< 0.02	< 0.02	< 0.02	< 0.02
2-Methylnaphthalene	< 0.02	< 0.02	< 0.02	< 0.02
Acenaphthylene	< 0.02	< 0.02	< 0.02	< 0.02
Acenaphthene	< 0.02	< 0.02	< 0.02	< 0.02
Fluorene	< 0.02	< 0.02	< 0.02	< 0.02
Phenanthrene	< 0.02	< 0.02	< 0.02	< 0.02
Anthracene	< 0.02	< 0.02	< 0.02	< 0.02
Fluoranthene	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	< 0.02	< 0.02	< 0.02	< 0.02
Benzo[a]anthracene	< 0.02	< 0.02	< 0.02	< 0.02
Chrysene	< 0.02	< 0.02	< 0.02	< 0.02
Benzo[b]fluoranthene	< 0.02	< 0.02	< 0.02	< 0.02
Benzo[k]fluoranthene	< 0.02	< 0.02	< 0.02	< 0.02
Benzo[a]pyrene	< 0.02	< 0.02	< 0.02	< 0.02
Indeno[1,2,3-cd]pyrene	< 0.02	< 0.02	< 0.02	< 0.02
Dibenz[a,h]anthracene	< 0.02	< 0.02	< 0.02	< 0.02
Benzo[g,h,i]perylene	< 0.02	< 0.02	< 0.02	< 0.02
p-Terphenyl-D14 (surr)	100 %R	95 %R	87 %R	105 %R

SIM Technique was employed to provide low level quantitation for these compounds.



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72953

Batch ID: 733303-61404/S091808PAHSI1

Client: KAS, Inc.

Client Designation: **Warren Town Garage Brownfield | 505070090**

## QC Report

Parameter Name	Blank	LCS	LCSD	Units	Limits	RPD	Method
Naphthalene	< 0.02	3.2 (96 %R)	2.8 (84 %R) (13 RPD)	mg/kg			8270C SIM
2-Methylnaphthalene	< 0.02	3.1 (94 %R)	2.8 (85 %R) (10 RPD)	mg/kg			8270C SIM
Acenaphthylene	< 0.02	3.2 (96 %R)	2.8 (84 %R) (13 RPD)	mg/kg			8270C SIM
Acenaphthene	< 0.02	3.1 (93 %R)	2.8 (84 %R) (10 RPD)	mg/kg			8270C SIM
Fluorene	< 0.02	3.3 (99 %R)	3.0 (91 %R) (8 RPD)	mg/kg			8270C SIM
Phenanthrene	< 0.02	3.1 (93 %R)	3.0 (90 %R) (3 RPD)	mg/kg			8270C SIM
Anthracene	< 0.02	3.2 (97 %R)	3.1 (92 %R) (5 RPD)	mg/kg			8270C SIM
Fluoranthene	< 0.02	3.5 (104 %R)	3.3 (100 %R) (4 RPD)	mg/kg			8270C SIM
Pyrene	< 0.02	3.4 (101 %R)	3.0 (89 %R) (13 RPD)	mg/kg			8270C SIM
Benzo[a]anthracene	< 0.02	3.2 (97 %R)	3.1 (92 %R) (5 RPD)	mg/kg			8270C SIM
Chrysene	< 0.02	3.2 (97 %R)	3.0 (90 %R) (7 RPD)	mg/kg			8270C SIM
Benzo[b]fluoranthene	< 0.02	3.1 (93 %R)	3.0 (90 %R) (3 RPD)	mg/kg			8270C SIM
Benzo[k]fluoranthene	< 0.02	3.4 (102 %R)	3.1 (93 %R) (9 RPD)	mg/kg			8270C SIM
Benzo[a]pyrene	< 0.02	3.4 (102 %R)	3.3 (98 %R) (4 RPD)	mg/kg			8270C SIM
Indeno[1,2,3-cd]pyrene	< 0.02	3.3 (100 %R)	3.4 (102 %R) (2 RPD)	mg/kg			8270C SIM
Dibenz[a,h]anthracene	< 0.02	3.3 (98 %R)	3.3 (100 %R) (2 RPD)	mg/kg			8270C SIM
Benzo[g,h,i]perylene	< 0.02	3.2 (96 %R)	3.3 (99 %R) (3 RPD)	mg/kg			8270C SIM
p-Terphenyl-D14 (surr)	101 %R	110 %R	100 %R	mg/kg	33 - 141		8270C SIM



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72953

Batch ID: 733303-61404/S091808PAHS11

Client: KAS, Inc.

Client Designation: **Warren Town Garage Brownfield | 505070090**

## Polynuclear Aromatic Hydrocarbons QA/QC and Narrative Report

Matrix:	Aqueous	RPD	Solid	RPD	Oil	RPD
Units:	%	%	%	%	%	%
EPA Method:	8270C		8270C		8270C	
Naphthalene	30-160		30-160		30-160	
2-Methylnaphthalene	30-160		30-160		30-160	
Acenaphthylene	30-160		30-160		30-160	
Acenaphthene	46-118	31	31-137	19	30-160	50
Fluorene	30-160		30-160		30-160	
Phenanthrene	30-160		30-160		30-160	
Anthracene	30-160		30-160		30-160	
Fluoranthene	30-160		30-160		30-160	
Pyrene	26-127	31	35-142	36	30-160	50
Benzo[a]anthracene	30-160		30-160		30-160	
Chrysene	30-160		30-160		30-160	
Benzo[b]fluoranthene	30-160		30-160		30-160	
Benzo[k]fluoranthene	30-160		30-160		30-160	
Benzo[a]pyrene	30-160		30-160		30-160	
Indeno[1,2,3-cd]pyrene	30-160		30-160		30-160	
Dibenz[a,h]anthracene	30-160		30-160		30-160	
Benzo[g,h,i]perylene	30-160		30-160		30-160	
Surrogate (p-Terphenyl-D14)	33-141		18-137		30-160	

Samples were extracted and analyzed within holding time limits.  
 Instrumentation was tuned and calibrated in accordance with the method requirements.  
 The associated method blank(s) were free of contamination at the reporting limit.  
 Sample Surrogate Recoveries met the above stated criteria.  
 The associated matrix spike(s) and/or Laboratory Control Sample(s) met the above stated criteria.  
 There were no exceptions in the analyses, unless noted below.



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: **72953**

Client: **KAS, Inc.**

Client Designation: **Warren Town Garage Brownfield | 505070090**

Sample ID:	MW-08-1	MW-08-2	MW-08-3	MW-08-4
Lab Sample ID:	72953.01	72953.02	72953.03	72953.04
Matrix:	soil	soil	soil	soil
Date Sampled:	9/4/08	9/4/08	9/4/08	9/4/08
Date Received:	9/12/08	9/12/08	9/12/08	9/12/08
Units:	mg/kg	mg/kg	mg/kg	mg/kg
Date of Extraction/Prep:	9/18/08	9/18/08	9/18/08	9/18/08
Date of Analysis:	9/23/08	9/23/08	9/23/08	9/23/08
Analyst:	JLL	JLL	JLL	JLL
Method:	8100mod	8100mod	8100mod	8100mod
Dilution Factor:	1	1	1	1
TPH (C9-C40)	< 50	< 50	< 50	< 50
p-Terphenyl-D14 (TPH surr)	118 %R	116 %R	116 %R	89 %R



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72953

Batch ID: 733303-44810/S091808TPHL11

Client: KAS, Inc.

Client Designation: **Warren Town Garage Brownfield |  
505070090**

## QC Report

Parameter Name	QC Report			Date of Analysis		Method
	Blank	LCS	LCS Dup	Units		
TPH (C9-C40)	< 50	220 (101 %R)	220 (100 %R) (1 RPD)	mg/kg	9/23/08	8100mod
p-Terphenyl-D14 (TPH surr)	100 %R	121 %R	113 %R	% Rec	9/23/08	8100mod



# LABORATORY REPORT

**Eastern Analytical, Inc. ID#: 72953**

**Batch ID: 733303-44810/S091808TPHL11**

Client: **KAS, Inc.**

Client Designation: **Warren Town Garage Brownfield |  
505070090**

## Total Petroleum Hydrocarbons QA/QC and Narrative Report

<b>Matrix:</b>	Solid	Aqueous	
<b>Units:</b>	%	%	RPD
<b>EPA Method:</b>	8100(Mod)	8100(Mod)	
TPH C9-C40	30-160	30-160	20%
Surrogate (p-Terphenyl-d14)	12-158	33-141	

Samples were extracted and analyzed within holding time limits.

Instrumentation was calibrated in accordance with the method requirements.

The associated blank(s) were free of contamination at the reporting limits.

MI: Matrix Interference

DOR: Diluted Out of Range

NA: None Added



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: **72953**

Client: **KAS, Inc.**

Client Designation: **Warren Town Garage Brownfield | 505070090**

Sample ID:	MW-08-1	MW-08-2	MW-08-3	MW-08-4
Lab Sample ID:	72953.01	72953.02	72953.03	72953.04
Matrix:	soil	soil	soil	soil
Date Sampled:	9/4/08	9/4/08	9/4/08	9/4/08
Date Received:	9/12/08	9/12/08	9/12/08	9/12/08
% Solid:	81.7	88.7	77.7	80.7
Units:	mg/kg	mg/kg	mg/kg	mg/kg
Date of Extraction/Prep:	9/17/08	9/17/08	9/17/08	9/17/08
Date of Analysis:	9/23/08	9/23/08	9/23/08	9/23/08
Analyst:	JC	JC	JC	JC
Extraction Method:	3540C	3540C	3540C	3540C
Analysis Method:	8082	8082	8082	8082
Dilution Factor:	1	1	1	1
PCB-1016	< 0.1	< 0.1	< 0.1	< 0.1
PCB-1221	< 0.1	< 0.1	< 0.1	< 0.1
PCB-1232	< 0.1	< 0.1	< 0.1	< 0.1
PCB-1242	< 0.1	< 0.1	< 0.1	< 0.1
PCB-1248	< 0.1	< 0.1	< 0.1	< 0.1
PCB-1254	< 0.1	< 0.1	< 0.1	< 0.1
PCB-1260	< 0.1	< 0.1	< 0.1	< 0.1
TMX (surr)	56 %R	59 %R	55 %R	63 %R
DCB (surr)	64 %R	55 %R	39 %R	44 %R



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72953

Batch ID: 733302-62133/S091708PCB1

Client: KAS, Inc.

Client Designation: **Warren Town Garage Brownfield |  
505070090**

## QC Report

Parameter Name	Date of Analysis			Units	Method	
	Blank	LCS	LCS Dup			
PCB-1016	< 0.1	< 0.1 (96 %R)	0.1 (126 %R) (27 RPD)	mg/kg	9/22/08	8082
PCB-1221	< 0.1	< 0.1 (%R N/A)	< 0.1 (%R N/A) (RPD N/A)	mg/kg	9/22/08	8082
PCB-1232	< 0.1	< 0.1 (%R N/A)	< 0.1 (%R N/A) (RPD N/A)	mg/kg	9/22/08	8082
PCB-1242	< 0.1	< 0.1 (%R N/A)	< 0.1 (%R N/A) (RPD N/A)	mg/kg	9/22/08	8082
PCB-1248	< 0.1	< 0.1 (%R N/A)	< 0.1 (%R N/A) (RPD N/A)	mg/kg	9/22/08	8082
PCB-1254	< 0.1	< 0.1 (%R N/A)	< 0.1 (%R N/A) (RPD N/A)	mg/kg	9/22/08	8082
PCB-1260	< 0.1	< 0.1 (95 %R)	0.1 (110 %R) (15 RPD)	mg/kg	9/22/08	8082
TMX (surr)	66 %R	44 %R	68 %R	% Rec	9/22/08	8082
DCB (surr)	57 %R	37 %R	69 %R	% Rec	9/22/08	8082



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72953

Batch ID: 733302-62133/S091708PCB1

Client: KAS, Inc.

Client Designation: **Warren Town Garage Brownfield |  
505070090**

## PCB QA/QC and Narrative Report

Matrix:	Aqueous	Soil	Oil
Unit	%	%	%
EPA Method:	8082	8082	8082
Aroclors 1016-1260	40-140	40-140	40-140
TMX(Surr)	30-150	30-150	30-150
DCB(Surr)	30-150	30-150	30-150

Samples were extracted and analyzed within holding time limits.  
Instrumentation was calibrated in accordance with the method requirements.  
The associated method blank(s) were free of contamination at the reporting limit.  
All samples met the above stated criteria for surrogate recovery.  
The associated Matrix Spike(s) and/or Laboratory Control Sample(s) met the above stated criteria.  
There were no exceptions in the analyses, unless noted.



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: **72953**

Client: **KAS, Inc.**

Client Designation: **Warren Town Garage Brownfield | 505070090**

Sample ID:	MW-08-1	MW-08-2	MW-08-3	MW-08-4					
Lab Sample ID:	72953.01	72953.02	72953.03	72953.04					
Matrix:	soil	soil	soil	soil					
Date Sampled:	9/4/08	9/4/08	9/4/08	9/4/08	Analytical		Date of		
Date Received:	9/12/08	9/12/08	9/12/08	9/12/08	Matrix	Units	Analysis	Method	Analyst
Antimony	< 0.5	< 0.5	< 0.5	< 0.5	SolTotDry	mg/kg	9/19/08	6020	DS
Arsenic	<b>4.8</b>	<b>8.9</b>	<b>9.8</b>	<b>5.2</b>	SolTotDry	mg/kg	9/19/08	6020	DS
Beryllium	< 0.5	< 0.5	<b>0.8</b>	< 0.5	SolTotDry	mg/kg	9/19/08	6020	DS
Cadmium	< 0.5	< 0.5	< 0.5	< 0.5	SolTotDry	mg/kg	9/19/08	6020	DS
Chromium	<b>13</b>	<b>32</b>	<b>43</b>	<b>8.8</b>	SolTotDry	mg/kg	9/19/08	6020	DS
Copper	<b>17</b>	<b>28</b>	<b>37</b>	<b>17</b>	SolTotDry	mg/kg	9/19/08	6020	DS
Lead	<b>5.1</b>	<b>11</b>	<b>13</b>	<b>4.0</b>	SolTotDry	mg/kg	9/19/08	6020	DS
Mercury	< 0.1	< 0.1	< 0.1	< 0.1	SolTotDry	mg/kg	9/19/08	6020	DS
Nickel	<b>15</b>	<b>34</b>	<b>42</b>	<b>13</b>	SolTotDry	mg/kg	9/19/08	6020	DS
Selenium	< 0.5	< 0.5	< 0.5	< 0.5	SolTotDry	mg/kg	9/19/08	6020	DS
Silver	< 0.5	< 0.5	< 0.5	< 0.5	SolTotDry	mg/kg	9/19/08	6020	DS
Thallium	< 0.5	< 0.5	< 0.5	< 0.5	SolTotDry	mg/kg	9/19/08	6020	DS
Zinc	<b>25</b>	<b>67</b>	<b>84</b>	<b>24</b>	SolTotDry	mg/kg	9/19/08	6020	DS



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72953

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfield |

## QC Report

Date of Analysis

Parameter Name	Blank	LCS	LCS Dup	Units	Method
Antimony	< 0.5	35 (87 %R)		mg/kg	9/19/08 6020
Arsenic	< 0.5	34 (84 %R)		mg/kg	9/19/08 6020
Beryllium	< 0.5	40 (100 %R)		mg/kg	9/19/08 6020
Cadmium	< 0.5	34 (86 %R)		mg/kg	9/19/08 6020
Chromium	< 0.5	34 (84 %R)		mg/kg	9/19/08 6020
Copper	< 0.5	34 (84 %R)		mg/kg	9/19/08 6020
Lead	< 0.5	36 (90 %R)		mg/kg	9/19/08 6020
Mercury	< 0.1	0.4 (90 %R)		mg/kg	9/19/08 6020
Nickel	< 0.5	34 (85 %R)		mg/kg	9/19/08 6020
Selenium	< 0.5	33 (82 %R)		mg/kg	9/19/08 6020
Silver	< 0.5	9.4 (94 %R)		mg/kg	9/19/08 6020
Thallium	< 0.5	36 (89 %R)		mg/kg	9/19/08 6020
Zinc	< 5	33 (83 %R)		mg/kg	9/19/08 6020

Parameter Name	MS/MSD Parent ID	MS/MSD Parent	Matrix Spike	Matrix Spike Duplicate
Antimony	72953.04	< 0.5	1000 (102 %R)	1100 (105 %R) (3 RPD)
Arsenic	72953.04	5.2	930 (93 %R)	950 (95 %R) (2 RPD)
Beryllium	72953.04	< 0.5	1100 (111 %R)	1100 (115 %R) (4 RPD)
Cadmium	72953.04	< 0.5	950 (95 %R)	970 (97 %R) (2 RPD)
Chromium	72953.04	8.8	880 (88 %R)	910 (90 %R) (2 RPD)
Copper	72953.04	17	860 (84 %R)	890 (87 %R) (4 RPD)
Lead	72953.04	4.0	970 (97 %R)	1000 (101 %R) (4 RPD)
Mercury	72953.04	< 0.1	1.0 (98 %R)	1.0 (102 %R) (4 RPD)
Nickel	72953.04	13	850 (83 %R)	870 (86 %R) (4 RPD)
Selenium	72953.04	< 0.5	960 (96 %R)	970 (97 %R) (1 RPD)
Silver	72953.04	< 0.5	900 (90 %R)	950 (95 %R) (5 RPD)
Thallium	72953.04	< 0.5	960 (97 %R)	990 (99 %R) (2 RPD)
Zinc	72953.04	24	850 (82 %R)	880 (86 %R) (5 RPD)



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 72953

Batch ID:

Client: KAS, Inc.

Client Designation: **Warren Town Garage Brownfield | 505070090**

### Metals QA/QC and Narrative Report

QA/QC:	LCS	MS	MSD
Matrix:	Aqueous/Soil	Aqueous/Soil	Aqueous/Soil
Units:	%	%	%
EPA Method:	6010B/6020	6010B/6020	6010B/6020
Aluminum	80-120	75-125	75-125
Antimony	80-120	75-125	75-125
Arsenic	80-120	75-125	75-125
Barium	80-120	75-125	75-125
Beryllium	80-120	75-125	75-125
Boron	80-120	75-125	75-125
Cadmium	80-120	75-125	75-125
Calcium	80-120	75-125	75-125
Chromium	80-120	75-125	75-125
Chromium III	80-120	75-125	75-125
Chromium IV	80-120	75-125	75-125
Cobalt	80-120	75-125	75-125
Copper	80-120	75-125	75-125
Iron	80-120	75-125	75-125
Lead	80-120	75-125	75-125
Magnesium	80-120	75-125	75-125
Manganese	80-120	75-125	75-125
Mercury	80-120	75-125	75-125
Molybdenum	80-120	75-125	75-125
Nickel	80-120	75-125	75-125
Phosphorus	80-120	75-125	75-125
Potassium	80-120	75-125	75-125
Selenium	80-120	75-125	75-125
Silicon	80-120	75-125	75-125
Silver	80-120	75-125	75-125
Sodium	80-120	75-125	75-125
Thallium	80-120	75-125	75-125
Tin	80-120	75-125	75-125
Titanium	80-120	75-125	75-125
Vanadium	80-120	75-125	75-125
Zinc	80-120	75-125	75-125

Samples were analyzed within holding time limits.

Instrumentation was calibrated in accordance with the method requirements.

The method blanks were free of contamination at the reporting limits.

The associated matrix spikes and/or Laboratory Control Samples met the above stated criteria.

There were no exceptions in the analyses, unless noted below.

SAMPLE I.D.	SAMPLING DATE/TIME *IF COMPOSITE, INDICATE BOTH START & FINISH DATE/TIME	MATRIX (SEE BELOW) GRAB/*COMPOSITE	VOC		SVOC		TCR METALS		INORGANICS		MICRO		OTHER	NOTES MEQ VIAL #							
			524.2 524.2 BTEX 8260B 624 1,4 DIOXANE	524.2 MTBE ONLY VTICS EDB DBCP	8021B BTEX HALOS	8015B GRO MEGRO MAVPH	8270C 625 SVTIC ABN A BN PAH TPH8100B LI L2	8015B DRO MEDRO MAEPH	608 PEST/PCB PEST 8081A PCB 8082	OIL & GREASE 1664 TPH 1664	TCLP 1311 ABN METALS VOC PEST HERR	DISSOLVED METALS (LIST BELOW)			TOTAL METALS (LIST BELOW)	TS TSS TDS SPEC. CON.	Br Cl F SO <sub>4</sub> NO <sub>2</sub> NO <sub>3</sub> NO <sub>2</sub> /NO <sub>3</sub>	BOD CBOD T. ALK.	TKN NH <sub>3</sub> T. PHOS.	pH T. RES. CHLORINE	COD PHENOLS TOC
MW-08-1	9/4/08 1340	SG	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	3 26581							
MW-08-2	9/4/08 1445		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	3 26580							
MW-08-3	9/4/08 0930		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	3 26579							
MW-08-4	9/4/08 1210		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	3 26571							
Trip Blank	9/4/08																				

MATRIX: A-AIR; S-SOIL; GW-GROUND WATER; SW-SURFACE WATER; DW-DRINKING WATER;  
 WW-WASTE WATER  
 PRESERVATIVE: H-HCL, N-HNO<sub>3</sub>; S-H<sub>2</sub>SO<sub>4</sub>; Na-NaOH; M-MEQU

PROJECT MANAGER: Alan Liptak  
 COMPANY: KAS, Inc.  
 ADDRESS: PO Box 787  
 CITY: Williston STATE: VT ZIP: 05495  
 PHONE: 802-383-0486 EXT: \_\_\_\_\_  
 FAX: 802-383-0490  
 E-MAIL: alanl@kas-consulting.com  
 SITE NAME: Warren Town Garage Brown field  
 PROJECT #: 505070090  
 STATE: NH MA ME VT OTHER: \_\_\_\_\_  
 Is Your Project RGP? Y / (N)  
 QUOTE #: \_\_\_\_\_ PO #: \_\_\_\_\_

DATE NEEDED: \_\_\_\_\_  
 QA/QC REPORTING LEVEL: A (B) C OR MA MCP PRESUMPTIVE CERTAINTY  
 REPORTING OPTIONS: PRELIMS: YES OR (NO) IF YES: FAX OR PDF  
 ELECTRONIC OPTIONS: NO FAX E-MAIL (PDF) EQUIS  
 TEMPERATURE: 4.1 °C  
 ICF: (YES) (NO)

SAMPLERS: Alan Liptak  
 RELINQUISHED BY: [Signature] DATE: 9/12/08 TIME: 11:35  
 RELINQUISHED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_  
 RELINQUISHED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

METALS: 8 RMA (13 PP) FE, MN, PA, CU  
 OTHER METALS: \_\_\_\_\_  
 DISSOLVED METALS FIELD FILTERED? YES NO  
 NOTES: (E-SPECIAL DETECTION LIMITS, BILLING INFO. IF DIFFERENT)

# APPENDIX E

## **Groundwater Tabular Summary Tables and Laboratory Analytical Data**



**Liquid Level Measurement Data**  
**Warren Town Garage, Warren, Vermont**  
**KAS #5005070090**  
**18-Sep-08**

Well I.D.	Top of Casing Elevation	Depth To Product	Depth To Water	Product Thickness	Specific Gravity Of Product	Water Equivalent	Corrected Depth To Water	Corrected Water Table Elevation
MW-08-1	934.61	--	<b>13.93</b>					<b>920.68</b>
MW-08-2	933.63	--	<b>13.23</b>					<b>920.40</b>
MW-08-3	931.61	--	<b>12.40</b>					<b>919.21</b>
MW-08-4	929.55	--	<b>36.50</b>					<b>893.05</b>

All Values Reported in Feet

Top-of-Casing Elevations Measured in Feet Relative to rear building floor set at 934.40'

Top-of-Casing Elevations Surveyed September 4, 2008



368 Avenue D Suite 15  
WILLISTON, VERMONT 05495  
(802) 383-0486 Fax (802) 383-0490

JOB Warren 505070040  
SHEET NO. 1 OF 1  
CALCULATED BY Ar DATE 10/10/08  
CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
SCALE \_\_\_\_\_

Est. Hydraulic conductivity + GW Flow Velocity

Freeze + Chert pg 29  $10^{-2} \text{ cm/sec} = k$

Fetter, pg 75 " same

$$V = k \cdot i \quad (\text{Fetter, pg 116})$$

$$= 0.1 \text{ cm/sec} \times 0.25 \text{ ft/ft} = 0.025 \text{ cm/sec}$$

$$\rightarrow \frac{0.025 \text{ cm/sec}}{1} \times \frac{1 \text{ in}}{2.54 \text{ cm}} \times \frac{1 \text{ ft}}{12 \text{ in}} \times \frac{60 \text{ sec}}{\text{min}} \times \frac{1440 \text{ min}}{\text{day}} = 71 \text{ feet/day} \checkmark$$



**Low Flow Sampling Data**  
**Warren Town Garage, Warren, Vermont**  
**KAS #5005070090**  
**18-Sep-08**

MW-08-1		Pump rate about 100 ml/minute			
Time	pH	conductivity (us)	Temperature (C)	Turbidity (NTU)	
9:45	6.38	358	15.9	129.0	
9:52	6.51	356	16.2	75.8	
9:55	6.51	324	16.4	66.0	
9:57	6.51	299	16.6	53.0	
10:00	6.52	366	16.4	39.2	
10:04	6.53	105	16.2	22.5	
10:15	6.46	349	17	15.9	
10:20	6.63	242	17.1	7.9	
10:25	6.47	322	17.1	7.6	
10:30	6.47	336	16.9	5.5	
10:33	6.45	335	16.8	4.7	
10:35	6.44	335	16.7	4.6	
10:37	6.47	335	16.8	4.7	
10:40	Sample Collected				

MW-08-2		Pump rate about 100 ml/minute			
Time	pH	conductivity (us)	Temperature (C)	Turbidity (NTU)	
10:55	6.79	518	19.8	367	
11:03	7.10	455	17.4	369	
11:05	7.07	485	17.3	235	
11:10	7.08	484	17.1	153	
11:15	7.14	484	17.3	168	
11:20	7.09	482	17.2	158	
11:25	7.11	481	17.3	132	
11:30	7.03	475	17.4	93.8	
11:35	7.11	464	17.3	48.0	
11:40	7.11	460	17.6	31.0	
11:45	7.12	460	17.2	21.6	
11:50	7.06	453	17.8	13.8	
11:55	7.07	451	18.1	9.7	
12:00	7.13	451	17.8	7.1	
12:05	7.08	449	18.2	6.5	
12:07	7.10	450	17.8	6.2	
12:10	NM	450	17.8	5.7	
12:12	7.09	447	18.0	5.1	
12:15	Sample Collected				



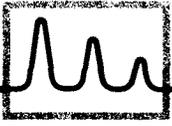


**Groundwater Quality Summary**  
**Warren Town Garage, Warren, Vermont**  
**KAS #5005070090**  
**18-Sep-08**

	Sampling Location						VGES (ug/L)
	MW-08-1	MW-08-2	MW-08-3	MW-08-4	Duplicate	Trip Blank	
<b>Volatile Organic Compounds (8260b)</b>							
Benzene	ND <1.0	ND <1.0	ND <1.0	ND <1.0	ND <1.0	ND <1.0	5.
Toluene	ND <1.0	ND <1.0	ND <1.0	ND <1.0	ND <1.0	ND <1.0	1,000.
Ethylbenzene	ND <1.0	ND <1.0	ND <1.0	ND <1.0	ND <1.0	ND <1.0	700.
Xylenes	ND <1.0	ND <1.0	ND <1.0	ND <1.0	ND <1.0	ND <1.0	10,000.
<b>Total BTEX</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	
1,3,5-Trimethylbenzene	ND <1.0	ND <1.0	ND <1.0	ND <1.0	ND <1.0	ND <1.0	350.
1,2,4-Trimethylbenzene	ND <1.0	ND <1.0	ND <1.0	ND <1.0	ND <1.0	ND <1.0	
Naphthalene	ND <5.0	ND <5.0	ND <5.0	ND <5.0	ND <5.0	ND <5.0	20.
Isopropylbenzene	ND <1.0	ND <1.0	ND <1.0	ND <1.0	ND <1.0	ND <1.0	-
n-Propylbenzene	ND <1.0	ND <1.0	ND <1.0	ND <1.0	ND <1.0	ND <1.0	-
n-Butylbenzene	ND <1.0	ND <1.0	ND <1.0	ND <1.0	ND <1.0	ND <1.0	-
sec-Butylbenzene	ND <1.0	ND <1.0	ND <1.0	ND <1.0	ND <1.0	ND <1.0	-
tert-Butylbenzene	ND <1.0	ND <1.0	ND <1.0	ND <1.0	ND <1.0	ND <1.0	-
p-Isopropyltoluene	ND <1.0	ND <1.0	ND <1.0	ND <1.0	ND <1.0	ND <1.0	-
MTBE	ND <5.0	ND <5.0	ND <5.0	ND <5.0	ND <5.0	ND <5.0	40.
Acetone	ND <10.0	ND <10.0	ND <10.0	ND <10.0	ND <10.0	ND <10.0	700.
2-Butanone	ND <10.0	ND <10.0	ND <10.0	ND <10.0	ND <10.0	ND <10.0	4,200.
Dibromomethane	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	-
Diethyl Ether	ND <5.0	ND <5.0	ND <5.0	ND <5.0	ND <5.0	ND <5.0	-
Tetrachloroethene	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	5.
Trichloroethene	ND <1.0	ND <1.0	ND <1.0	ND <1.0	ND <1.0	ND <1.0	5.
Vinyl Chloride	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	2.
<b>Total VOCs</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>-</b>
<b>TOTAL CHLORIDE AND SODIUM (mg/l)</b>							
Chloride	<b>73</b>	<b>74</b>	<b>130</b>	<b>52</b>	<b>53</b>	NT	250
Sodium	<b>29</b>	<b>66</b>	<b>73</b>	<b>30</b>	<b>29</b>	NT	250
<b>PP 13 Metals (mg/L)</b>							<b>VGES (mg/L)</b>
Total Antimony	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	NT	0.006
Total Arsenic	ND <0.001	<b>0.001</b>	ND <0.001	ND <0.001	ND <0.001	NT	0.010
Total Beryllium	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	NT	0.004
Total Cadmium	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	NT	0.005
Total Chromium	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	NT	0.10
Total Copper	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	NT	1.3
Total Lead	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	NT	0.015
Total Mercury	ND <0.0001	ND <0.0001	ND <0.0001	ND <0.0001	ND <0.0001	NT	0.002
Total Nickel	<b>0.004</b>	<b>0.001</b>	ND <0.001	<b>0.004</b>	<b>0.004</b>	NT	0.100
Total Selenium	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	NT	0.050
Total Silver	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	NT	0.1
Total Thallium	ND <0.001	ND <0.001	ND <0.001	ND <0.001	ND <0.001	NT	0.002
Total Zinc	ND <0.005	ND <0.005	ND <0.005	<b>0.034</b>	<b>0.034</b>	NT	5

**NOTES:**

- All values reported in ug/L, unless otherwise indicated.
- EPA Method 8260b used for laboratory analysis for VOCs
- EPA Method 6020 used for laboratory analysis for metals
- ND<X - Not Detected (Detection Limit)
- Values above VGES (Vermont Groundwater Enforcement Standards) are shaded.
- Values above the laboratory detection limit are in bold
- means no VGES for this compound
- Only detected compounds, major petroleum and chlorinated solvents included in table.
- NT means not tested.



Alan Liptak  
KAS, Inc.  
PO Box 787  
Williston, VT 05495



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 73208  
Client Identification: Warren Town Garage Brownfields | 505070090  
Date Received: 9/24/2008

Dear Mr. Liptak :

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. (EAI) certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at [www.eailabs.com](http://www.eailabs.com) for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply throughout all EAI reports:

- Solid samples are reported on a dry weight basis, unless otherwise noted
- <: "less than" followed by the detection limit
- TNR: Testing Not Requested
- ND: None Detected, no established detection limit
- RL: Reporting Limits
- %R: % Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

This report package contains the following information: Sample Conditions summary, Analytical Results/Data and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

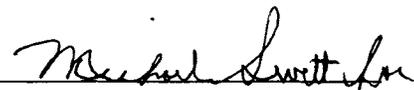
**Analytical Deviation & QA/QC Documentation:**

Quality Control Samples associated with this project are included in this report. At a minimum, a Method Blank and Laboratory Control Sample (LCS) are reported. Matrix Spikes and Duplicates are reported where applicable. Deviations are narrated on the QC pages.

If you have any questions regarding the results contained within, please feel free to directly contact me, or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

  
Lorraine Olashaw, Lab Director

10/8/08  
Date

16  
# of pages (excluding cover letter)



# SAMPLE CONDITIONS PAGE

Eastern Analytical, Inc. ID#: 73208

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields | 505070090

Temperature upon receipt (°C): 5.7

Received on ice or cold packs (Yes/No): Y

Lab ID	Sample ID	Date Received	Date Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
73208.01	MW-08-1	9/24/08	9/18/08	aqueous		Adheres to Sample Acceptance Policy
73208.02	MW-08-2	9/24/08	9/18/08	aqueous		Adheres to Sample Acceptance Policy
73208.03	MW-08-3	9/24/08	9/18/08	aqueous		Adheres to Sample Acceptance Policy
73208.04	MW-08-4	9/24/08	9/18/08	aqueous		Adheres to Sample Acceptance Policy
73208.05	Duplicate	9/24/08	9/18/08	aqueous		Adheres to Sample Acceptance Policy
73208.06	Trip Blank	9/24/08	9/8/08	aqueous		Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

All results contained in this report relate only to the above listed samples.

References include:

- 1) EPA 600/4-79-020, 1983
- 2) Standard Methods for Examination of Water and Wastewater : Inorganics, 19th Edition, 1995; Microbiology, 20th Edition, 1998
- 3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- 4) Hach Water Analysis Handbook, 2nd edition, 1992



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 73208

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields | 505070090

Sample ID:	MW-08-1	MW-08-2	MW-08-3	MW-08-4	Duplicate	Trip Blank
Lab Sample ID:	73208.01	73208.02	73208.03	73208.04	73208.05	73208.06
Matrix:	aqueous	aqueous	aqueous	aqueous	aqueous	aqueous
Date Sampled:	9/18/08	9/18/08	9/18/08	9/18/08	9/18/08	9/8/08
Date Received:	9/24/08	9/24/08	9/24/08	9/24/08	9/24/08	9/24/08
Units:	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Date of Analysis:	9/27/08	9/27/08	9/27/08	9/27/08	9/27/08	10/2/08
Analyst:	BAM	BAM	BAM	BAM	BAM	BAM
Method:	8260B	8260B	8260B	8260B	8260B	8260B
Dilution Factor:	1	1	1	1	1	1
Dichlorodifluoromethane	< 5	< 5	< 5	< 5	< 5	< 5
Chloromethane	< 2	< 2	< 2	< 2	< 2	< 2
Vinyl chloride	< 2	< 2	< 2	< 2	< 2	< 2
Bromomethane	< 2	< 2	< 2	< 2	< 2	< 2
Chloroethane	< 5	< 5	< 5	< 5	< 5	< 5
Trichlorofluoromethane	< 5	< 5	< 5	< 5	< 5	< 5
Diethyl Ether	< 5	< 5	< 5	< 5	< 5	< 5
Acetone	< 10	< 10	< 10	< 10	< 10	< 10
1,1-Dichloroethene	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	< 5	< 5	< 5	< 5	< 5	< 5
Carbon disulfide	< 5	< 5	< 5	< 5	< 5	< 5
Methyl-t-butyl ether(MTBE)	< 5	< 5	< 5	< 5	< 5	< 5
trans-1,2-Dichloroethene	< 2	< 2	< 2	< 2	< 2	< 2
1,1-Dichloroethane	< 2	< 2	< 2	< 2	< 2	< 2
2,2-Dichloropropane	< 2	< 2	< 2	< 2	< 2	< 2
cis-1,2-Dichloroethene	< 2	< 2	< 2	< 2	< 2	< 2
2-Butanone(MEK)	< 10	< 10	< 10	< 10	< 10	< 10
Bromochloromethane	< 2	< 2	< 2	< 2	< 2	< 2
Tetrahydrofuran(THF)	< 10	< 10	< 10	< 10	< 10	< 10
Chloroform	< 2	< 2	< 2	< 2	< 2	< 2
1,1,1-Trichloroethane	< 2	< 2	< 2	< 2	< 2	< 2
Carbon tetrachloride	< 2	< 2	< 2	< 2	< 2	< 2
1,1-Dichloropropene	< 2	< 2	< 2	< 2	< 2	< 2
Benzene	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichloroethane	< 2	< 2	< 2	< 2	< 2	< 2
Trichloroethene	< 2	< 2	< 2	< 2	< 2	< 2
1,2-Dichloropropane	< 2	< 2	< 2	< 2	< 2	< 2
Dibromomethane	< 2	< 2	< 2	< 2	< 2	< 2
Bromodichloromethane	< 1	< 1	< 1	< 1	< 1	< 1
4-Methyl-2-pentanone(MIBK)	< 10	< 10	< 10	< 10	< 10	< 10
cis-1,3-Dichloropropene	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	< 1	< 1	< 1	< 1	< 1	< 1
trans-1,3-Dichloropropene	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	< 2	< 2	< 2	< 2	< 2	< 2
2-Hexanone	< 10	< 10	< 10	< 10	< 10	< 10
Tetrachloroethene	< 2	< 2	< 2	< 2	< 2	< 2
1,3-Dichloropropane	< 2	< 2	< 2	< 2	< 2	< 2
Dibromochloromethane	< 2	< 2	< 2	< 2	< 2	< 2
1,2-Dibromoethane(EDB)	< 1	< 1	< 1	< 1	< 1	< 1
Chlorobenzene	< 2	< 2	< 2	< 2	< 2	< 2
1,1,1,2-Tetrachloroethane	< 2	< 2	< 2	< 2	< 2	< 2
Ethylbenzene	< 1	< 1	< 1	< 1	< 1	< 1
mp-Xylene	< 1	< 1	< 1	< 1	< 1	< 1
o-Xylene	< 1	< 1	< 1	< 1	< 1	< 1
Styrene	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform	< 2	< 2	< 2	< 2	< 2	< 2



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 73208

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields | 505070090

Sample ID:	MW-08-1	MW-08-2	MW-08-3	MW-08-4	Duplicate	Trip Blank
Lab Sample ID:	73208.01	73208.02	73208.03	73208.04	73208.05	73208.06
Matrix:	aqueous	aqueous	aqueous	aqueous	aqueous	aqueous
Date Sampled:	9/18/08	9/18/08	9/18/08	9/18/08	9/18/08	9/8/08
Date Received:	9/24/08	9/24/08	9/24/08	9/24/08	9/24/08	9/24/08
Units:	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Date of Analysis:	9/27/08	9/27/08	9/27/08	9/27/08	9/27/08	10/2/08
Analyst:	BAM	BAM	BAM	BAM	BAM	BAM
Method:	8260B	8260B	8260B	8260B	8260B	8260B
Dilution Factor:	1	1	1	1	1	1
IscPropylbenzene	< 1	< 1	< 1	< 1	< 1	< 1
Bromobenzene	< 2	< 2	< 2	< 2	< 2	< 2
1,1,2,2-Tetrachloroethane	< 2	< 2	< 2	< 2	< 2	< 2
1,2,3-Trichloropropane	< 2	< 2	< 2	< 2	< 2	< 2
n-Propylbenzene	< 1	< 1	< 1	< 1	< 1	< 1
2-Chlorotoluene	< 2	< 2	< 2	< 2	< 2	< 2
4-Chlorotoluene	< 2	< 2	< 2	< 2	< 2	< 2
1,3,5-Trimethylbenzene	< 1	< 1	< 1	< 1	< 1	< 1
tert-Butylbenzene	< 1	< 1	< 1	< 1	< 1	< 1
1,2,4-Trimethylbenzene	< 1	< 1	< 1	< 1	< 1	< 1
sec-Butylbenzene	< 1	< 1	< 1	< 1	< 1	< 1
1,3-Dichlorobenzene	< 1	< 1	< 1	< 1	< 1	< 1
p-Isopropyltoluene	< 1	< 1	< 1	< 1	< 1	< 1
1,4-Dichlorobenzene	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichlorobenzene	< 1	< 1	< 1	< 1	< 1	< 1
n-Butylbenzene	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromo-3-chloropropane	< 1	< 1	< 1	< 1	< 1	< 1
1,2,4-Trichlorobenzene	< 1	< 1	< 1	< 1	< 1	< 1
Hexachlorobutadiene	< 1	< 1	< 1	< 1	< 1	< 1
Naphthalene	< 5	< 5	< 5	< 5	< 5	< 5
1,2,3-Trichlorobenzene	< 1	< 1	< 1	< 1	< 1	< 1
4-Bromofluorobenzene (surr)	99 %R	97 %R	97 %R	99 %R	99 %R	97 %R
1,2-Dichlorobenzene-d4 (surr)	104 %R	105 %R	105 %R	102 %R	104 %R	105 %R
Toluene-d8 (surr)	93 %R	92 %R	91 %R	91 %R	90 %R	96 %R



# LABORATORY REPORT

Eastern Analytical, Inc. ID#:73208

Batch ID:

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields |  
505070090

## QC Report

Date of Analysis

Parameter Name	Blank	LCS	LCS Dup	Units	Date of Analysis	Method
Dichlorodifluoromethane	< 5			ug/l	9/26/08	8260B
Chloromethane	< 2			ug/l	9/26/08	8260B
Vinyl chloride	< 2			ug/l	9/26/08	8260B
Bromomethane	< 2			ug/l	9/26/08	8260B
Chloroethane	< 5			ug/l	9/26/08	8260B
Trichlorofluoromethane	< 5			ug/l	9/26/08	8260B
Diethyl Ether	< 5			ug/l	9/26/08	8260B
Acetone	< 10			ug/l	9/26/08	8260B
1,1-Dichloroethene	< 1	20 (98 %R)	20 (101 %R) (3 RPD)	ug/l	9/26/08	8260B
tert-Butyl Alcohol (TBA)	< 30			ug/l	9/26/08	8260B
Methylene chloride	< 5			ug/l	9/26/08	8260B
Carbon disulfide	< 5			ug/l	9/26/08	8260B
Methyl-t-butyl ether(MTBE)	< 5			ug/l	9/26/08	8260B
Ethyl-t-butyl ether(ETBE)	< 5			ug/l	9/26/08	8260B
Isopropyl ether(DIPE)	< 5			ug/l	9/26/08	8260B
tert-amyl methyl ether(TAME)	< 5			ug/l	9/26/08	8260B
trans-1,2-Dichloroethene	< 2			ug/l	9/26/08	8260B
1,1-Dichloroethane	< 2			ug/l	9/26/08	8260B
2,2-Dichloropropane	< 2			ug/l	9/26/08	8260B
cis-1,2-Dichloroethene	< 2			ug/l	9/26/08	8260B
2-Butanone(MEK)	< 10			ug/l	9/26/08	8260B
Bromochloromethane	< 2			ug/l	9/26/08	8260B
Tetrahydrofuran(THF)	< 10			ug/l	9/26/08	8260B
Chloroform	< 2			ug/l	9/26/08	8260B
1,1,1-Trichloroethane	< 2			ug/l	9/26/08	8260B
Carbon tetrachloride	< 2			ug/l	9/26/08	8260B
1,1-Dichloropropene	< 2			ug/l	9/26/08	8260B
Benzene	< 1	20 (102 %R)	21 (105 %R) (3 RPD)	ug/l	9/26/08	8260B
1,2-Dichloroethane	< 2			ug/l	9/26/08	8260B
Trichloroethene	< 2	20 (101 %R)	21 (103 %R) (2 RPD)	ug/l	9/26/08	8260B
1,2-Dichloropropane	< 2			ug/l	9/26/08	8260B
Dibromomethane	< 2			ug/l	9/26/08	8260B
Bromodichloromethane	< 0.5			ug/l	9/26/08	8260B
4-Methyl-2-pentanone(MIBK)	< 10			ug/l	9/26/08	8260B
cis-1,3-Dichloropropene	< 2			ug/l	9/26/08	8260B
Toluene	< 1	20 (98 %R)	20 (102 %R) (4 RPD)	ug/l	9/26/08	8260B
trans-1,3-Dichloropropene	< 2			ug/l	9/26/08	8260B
1,1,2-Trichloroethane	< 2			ug/l	9/26/08	8260B
2-Hexanone	< 10			ug/l	9/26/08	8260B
Tetrachloroethene	< 2			ug/l	9/26/08	8260B
1,3-Dichloropropane	< 2			ug/l	9/26/08	8260B
Dibromochloromethane	< 2			ug/l	9/26/08	8260B
1,2-Dibromoethane(EDB)	< 2			ug/l	9/26/08	8260B
Chlorobenzene	< 2	21 (104 %R)	22 (108 %R) (4 RPD)	ug/l	9/26/08	8260B



# LABORATORY REPORT

Eastern Analytical, Inc. ID#:73208

Batch ID:

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields |  
505070090

## QC Report

Date of Analysis

Parameter Name	Blank	LCS	LCS Dup	Units	Method
1,1,1,2-Tetrachloroethane	< 2			ug/l	9/26/08 8260B
Ethylbenzene	< 1			ug/l	9/26/08 8260B
mp-Xylene	< 1			ug/l	9/26/08 8260B
o-Xylene	< 1			ug/l	9/26/08 8260B
Styrene	< 1			ug/l	9/26/08 8260B
Bromoform	< 2			ug/l	9/26/08 8260B
IsoPropylbenzene	< 1			ug/l	9/26/08 8260B
Bromobenzene	< 2			ug/l	9/26/08 8260B
1,1,2,2-Tetrachloroethane	< 2			ug/l	9/26/08 8260B
1,2,3-Trichloropropane	< 2			ug/l	9/26/08 8260B
n-Propylbenzene	< 1			ug/l	9/26/08 8260B
2-Chlorotoluene	< 2			ug/l	9/26/08 8260B
4-Chlorotoluene	< 2			ug/l	9/26/08 8260B
1,3,5-Trimethylbenzene	< 1			ug/l	9/26/08 8260B
tert-Butylbenzene	< 1			ug/l	9/26/08 8260B
1,2,4-Trimethylbenzene	< 1			ug/l	9/26/08 8260B
sec-Butylbenzene	< 1			ug/l	9/26/08 8260B
1,3-Dichlorobenzene	< 1			ug/l	9/26/08 8260B
p-Isopropyltoluene	< 1			ug/l	9/26/08 8260B
1,4-Dichlorobenzene	< 1			ug/l	9/26/08 8260B
1,2-Dichlorobenzene	< 1			ug/l	9/26/08 8260B
n-Butylbenzene	< 1			ug/l	9/26/08 8260B
1,2-Dibromo-3-chloropropane	< 2			ug/l	9/26/08 8260B
1,3,5-Trichlorobenzene	< 1			ug/l	9/26/08 8260B
1,2,4-Trichlorobenzene	< 1			ug/l	9/26/08 8260B
Hexachlorobutadiene	< 0.5			ug/l	9/26/08 8260B
Naphthalene	< 5			ug/l	9/26/08 8260B
1,2,3-Trichlorobenzene	< 1			ug/l	9/26/08 8260B
4-Bromofluorobenzene (surr)	97 %R	101 %R	101 %R	% Rec	9/26/08 8260B
1,2-Dichlorobenzene-d4 (surr)	102 %R	100 %R	100 %R	% Rec	9/26/08 8260B
Toluene-d8 (surr)	94 %R	98 %R	99 %R	% Rec	9/26/08 8260B



# LABORATORY REPORT

Eastern Analytical, Inc. ID#:73208

Batch ID:

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields |  
505070090

## QC Report

Date of Analysis

Parameter Name	Blank	LCS	LCS Dup	Units	Method
Dichlorodifluoromethane	< 5			ug/l	10/2/08 8260B
Chloromethane	< 2			ug/l	10/2/08 8260B
Vinyl chloride	< 2			ug/l	10/2/08 8260B
Bromomethane	< 2			ug/l	10/2/08 8260B
Chloroethane	< 5			ug/l	10/2/08 8260B
Trichlorofluoromethane	< 5			ug/l	10/2/08 8260B
Diethyl Ether	< 5			ug/l	10/2/08 8260B
Acetone	< 10			ug/l	10/2/08 8260B
1,1-Dichloroethene	< 1	21 (105 %R)	21 (104 %R) (1 RPD)	ug/l	10/2/08 8260B
tert-Butyl Alcohol (TBA)	< 30			ug/l	10/2/08 8260B
Methylene chloride	< 5			ug/l	10/2/08 8260B
Carbon disulfide	< 5			ug/l	10/2/08 8260B
Methyl-t-butyl ether(MTBE)	< 5			ug/l	10/2/08 8260B
Ethyl-t-butyl ether(ETBE)	< 5			ug/l	10/2/08 8260B
Isopropyl ether(DIPE)	< 5			ug/l	10/2/08 8260B
tert-amyl methyl ether(TAME)	< 5			ug/l	10/2/08 8260B
trans-1,2-Dichloroethene	< 2			ug/l	10/2/08 8260B
1,1-Dichloroethane	< 2			ug/l	10/2/08 8260B
2,2-Dichloropropane	< 2			ug/l	10/2/08 8260B
cis-1,2-Dichloroethene	< 2			ug/l	10/2/08 8260B
2-Butanone(MEK)	< 10			ug/l	10/2/08 8260B
Bromochloromethane	< 2			ug/l	10/2/08 8260B
Tetrahydrofuran(THF)	< 10			ug/l	10/2/08 8260B
Chloroform	< 2			ug/l	10/2/08 8260B
1,1,1-Trichloroethane	< 2			ug/l	10/2/08 8260B
Carbon tetrachloride	< 2			ug/l	10/2/08 8260B
1,1-Dichloropropene	< 2			ug/l	10/2/08 8260B
Benzene	< 1	21 (103 %R)	21 (104 %R) (1 RPD)	ug/l	10/2/08 8260B
1,2-Dichloroethane	< 2			ug/l	10/2/08 8260B
Trichloroethene	< 2	20 (100 %R)	20 (101 %R) (1 RPD)	ug/l	10/2/08 8260B
1,2-Dichloropropane	< 2			ug/l	10/2/08 8260B
Dibromomethane	< 2			ug/l	10/2/08 8260B
Bromodichloromethane	< 0.5			ug/l	10/2/08 8260B
4-Methyl-2-pentanone(MIBK)	< 10			ug/l	10/2/08 8260B
cis-1,3-Dichloropropene	< 2			ug/l	10/2/08 8260B
Toluene	< 1	19 (97 %R)	20 (98 %R) (1 RPD)	ug/l	10/2/08 8260B
trans-1,3-Dichloropropene	< 2			ug/l	10/2/08 8260B
1,1,2-Trichloroethane	< 2			ug/l	10/2/08 8260B
2-Hexanone	< 10			ug/l	10/2/08 8260B
Tetrachloroethene	< 2			ug/l	10/2/08 8260B
1,3-Dichloropropane	< 2			ug/l	10/2/08 8260B
Dibromochloromethane	< 2			ug/l	10/2/08 8260B
1,2-Dibromoethane(EDB)	< 2			ug/l	10/2/08 8260B
Chlorobenzene	< 2	21 (103 %R)	21 (105 %R) (2 RPD)	ug/l	10/2/08 8260B



# LABORATORY REPORT

Eastern Analytical, Inc. ID#:73208

Batch ID:

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields |  
505070090

## QC Report

Date of Analysis

Parameter Name	Blank	LCS	LCS Dup	Units	Date of Analysis	Method
1,1,1,2-Tetrachloroethane	< 2			ug/l	10/2/08	8260B
Ethylbenzene	< 1			ug/l	10/2/08	8260B
mp-Xylene	< 1			ug/l	10/2/08	8260B
o-Xylene	< 1			ug/l	10/2/08	8260B
Styrene	< 1			ug/l	10/2/08	8260B
Bromoform	< 2			ug/l	10/2/08	8260B
IsoPropylbenzene	< 1			ug/l	10/2/08	8260B
Bromobenzene	< 2			ug/l	10/2/08	8260B
1,1,2,2-Tetrachloroethane	< 2			ug/l	10/2/08	8260B
1,2,3-Trichloropropane	< 2			ug/l	10/2/08	8260B
n-Propylbenzene	< 1			ug/l	10/2/08	8260B
2-Chlorotoluene	< 2			ug/l	10/2/08	8260B
4-Chlorotoluene	< 2			ug/l	10/2/08	8260B
1,3,5-Trimethylbenzene	< 1			ug/l	10/2/08	8260B
tert-Butylbenzene	< 1			ug/l	10/2/08	8260B
1,2,4-Trimethylbenzene	< 1			ug/l	10/2/08	8260B
sec-Butylbenzene	< 1			ug/l	10/2/08	8260B
1,3-Dichlorobenzene	< 1			ug/l	10/2/08	8260B
p-Isopropyltoluene	< 1			ug/l	10/2/08	8260B
1,4-Dichlorobenzene	< 1			ug/l	10/2/08	8260B
1,2-Dichlorobenzene	< 1			ug/l	10/2/08	8260B
n-Butylbenzene	< 1			ug/l	10/2/08	8260B
1,2-Dibromo-3-chloropropane	< 2			ug/l	10/2/08	8260B
1,3,5-Trichlorobenzene	< 1			ug/l	10/2/08	8260B
1,2,4-Trichlorobenzene	< 1			ug/l	10/2/08	8260B
Hexachlorobutadiene	< 0.5			ug/l	10/2/08	8260B
Naphthalene	< 5			ug/l	10/2/08	8260B
1,2,3-Trichlorobenzene	< 1			ug/l	10/2/08	8260B
4-Bromofluorobenzene (surr)	96 %R	101 %R	104 %R	% Rec	10/2/08	8260B
1,2-Dichlorobenzene-d4 (surr)	102 %R	100 %R	102 %R	% Rec	10/2/08	8260B
Toluene-d8 (surr)	97 %R	98 %R	99 %R	% Rec	10/2/08	8260B



# LABORATORY REPORT

Eastern Analytical, Inc. ID#:73208

Batch ID:

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields |  
505070090

## Volatile Organic Compounds QC limits and Narrative Summary

Matrix:	Solid	RPD	Aqueous	RPD
Units:	%	%	%	%
EPA Method	8260B		8260B	
Surrogate Recovery				
4-Bromofluorobenzene	74-121		86-115	
1,2-Dichlorobenzene-D4	80-120		80-120	
Toluene-d8	70-130		70-130	
Matrix Spike Recovery:				
1,1-Dichloroethene	59-172	30	61-145	20
Trichloroethene	62-137	30	71-120	20
Benzene	66-142	30	76-127	20
Toluene	59-139	30	76-125	20
Chlorobenzene	60-133	30	75-130	20

Samples were extracted and analyzed within holding time limits.

Instrumentation was calibrated in accordance with the method requirements.

The method blanks were free of contamination at the reporting limits.

Sample surrogate recoveries met the above stated criteria.

The associated matrix spikes and/or Laboratory Control Samples met acceptance criteria.

There were no exceptions in the analyses, unless noted.



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 73208

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields | 505070090

Sample ID:	MW-08-1	MW-08-2	MW-08-3	MW-08-4							
Lab Sample ID:	73208.01	73208.02	73208.03	73208.04							
Matrix:	aqueous	aqueous	aqueous	aqueous							
Date Sampled:	9/18/08	9/18/08	9/18/08	9/18/08							
Date Received:	9/24/08	9/24/08	9/24/08	9/24/08	Units	Analysis		Date	Time	Method	Analyst
Chloride	73	74	130	52	mg/L	09/26/08	12:38	4500CIE	KL		

Sample ID:	Duplicate										
Lab Sample ID:	73208.05										
Matrix:	aqueous										
Date Sampled:	9/18/08										
Date Received:	9/24/08				Units	Analysis		Date	Time	Method	Analyst
Chloride	53				mg/L	09/26/08	12:42	4500CIE	KL		



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 73208

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields |

## QC Report

Parameter Name	Blank	LCS	LCS Dup	Date of Analysis		Method
				Units		
Chloride	< 1	26 (105 %R)	26 (105 %R) (0 RPD)	mg/L	9/26/08	4500CIE

Parameter Name	MS/MSD Parent ID	MS/MSD Parent	Matrix Spike	Matrix Spike Duplicate
Chloride	73252.01	3	13 (97 %R)	13 (98 %R) (1 RPD)



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 73208

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields |

## Wet Chemistry QA/QC and Narrative Report

QA/QC:	LCS	MS/MSD	Duplicates	
Matrix:	Aqueous	Aqueous	Aqueous	
Units:	% Recovery	% Recovery	RPD	Method
Fluoride	90-110	85-120	20	EPA 300.0
Chloride	90-110	90-110	20	EPA 300.0
Nitrate	90-110	90-110	20	EPA 300.0
Sulfate	90-110	89-120	20	EPA 300.0
Bromide	90-110	80-120	20	EPA 300.0
Chloride	90-110	80-120	20	EPA 325.2/SM4500CIE
Nitrite	90-110	80-120	20	EPA 353.2
Nitrate	90-110	80-120	20	EPA 353.2
Alkalinity, Total	90-110	80-120	20	EPA 310.1/SM2320B
Alkalinity (all forms)	90-110	80-120	20	SM2320B
Ortho Phosphate	90-110	80-120	20	EPA 365.3
Total Phosphorus	85-115	80-120	20	EPA 365.3
Ammonia	90-110	80-120	20	EPA 350.3/SM4500NH3D
TKN	90-110	80-120	20	EPA 351.4/SM4500NorgC/NH3D
Cyanide, Total	85-115	80-120	20	EPA 335.2/SM4500CN-E
Cyanide, Weak & Dissociable	85-115	80-120	20	SM 4500CN-I
BOD	84-115	75-125	20	EPA 405.1/SM5210B
CBOD	84-115	75-125	20	SM 5210B
COD	85-115	80-120	20	HACH 8000
TOC/DOC	90-110	80-120	20	SM5310C
Oil & Grease	78-114	78-114	18	EPA 1664A
Total Petroleum Hydrocarbons	64-132	64-132	34	EPA 1664A
Phenols, Total	85-115	80-120	20	EPA 420.1
MBAS	80-120	80-120	20	EPA 425.1
Specific Conductance	90-110	NA	20	EPA 120.1/SM2510B
pH	5.93-6.06 SU	NA	20	EPA 150.1/SM4500H+B
pH	7.81-8.12 SU	NA	20	EPA 150.1SM4500H+B
Solids, Total	90-110*	NA	20	EPA 160.3/SM2540G
Solids, Suspended	90-110*	NA	20	EPA 160.2/SM2540D
Solids, Dissolved	90-110*	NA	20	EPA 160.1/SM2540C
Sulfide	80-120	NA	20	EPA 376.2
Sulfite	80-120	NA	20	EPA 377.1
Residual Chlorine	80-120	NA	20	EPA 330.5/SM4500CI-G
Turbidity	90-110	NA	20	EPA 180.1
Ferrous Iron	90-110	80-120	20	Hach 8146

\* or manufacturer's limits

Samples were analyzed within holding times unless noted on the sample results page.

Instrumentation was calibrated in accordance with the method requirements.

The method blanks were free of contamination at the reporting limits.

The associated matrix spikes and/or Laboratory Control Samples met the above stated criteria unless otherwise stated.

Exceptions are noted on the QC results page.



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 73208

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields | 505070090

Sample ID:	MW-08-1	MW-08-2	MW-08-3	MW-08-4					
Lab Sample ID:	73208.01	73208.02	73208.03	73208.04					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	9/18/08	9/18/08	9/18/08	9/18/08	Analytical		Date of		
Date Received:	9/24/08	9/24/08	9/24/08	9/24/08	Matrix	Units	Analysis	Method	Analyst
Antimony	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	10/1/08	6020	DS
Arsenic	< 0.001	<b>0.001</b>	< 0.001	< 0.001	AqTot	mg/L	10/1/08	6020	DS
Beryllium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	10/1/08	6020	DS
Cadmium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	10/1/08	6020	DS
Chromium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	10/1/08	6020	DS
Copper	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	10/1/08	6020	DS
Lead	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	10/1/08	6020	DS
Mercury	< 0.0001	< 0.0001	< 0.0001	< 0.0001	AqTot	mg/L	10/1/08	6020	DS
Nickel	<b>0.004</b>	<b>0.001</b>	< 0.001	<b>0.004</b>	AqTot	mg/L	10/1/08	6020	DS
Selenium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	10/1/08	6020	DS
Silver	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	10/1/08	6020	DS
Sodium	<b>29</b>	<b>66</b>	<b>73</b>	<b>30</b>	AqTot	mg/L	10/1/08	6020	DS
Thallium	< 0.001	< 0.001	< 0.001	< 0.001	AqTot	mg/L	10/1/08	6020	DS
Zinc	< 0.005	< 0.005	< 0.005	<b>0.034</b>	AqTot	mg/L	10/1/08	6020	DS



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 73208

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields |  
505070090

Sample ID: Duplicate

Lab Sample ID: 73208.05

Matrix: aqueous

Date Sampled: 9/18/08

Date Received: 9/24/08

		Analytical Matrix	Units	Date of Analysis	Method	Analyst
Antimony	< 0.001	AqTot	mg/L	10/1/08	6020	DS
Arsenic	< 0.001	AqTot	mg/L	10/1/08	6020	DS
Beryllium	< 0.001	AqTot	mg/L	10/1/08	6020	DS
Cadmium	< 0.001	AqTot	mg/L	10/1/08	6020	DS
Chromium	< 0.001	AqTot	mg/L	10/1/08	6020	DS
Copper	< 0.001	AqTot	mg/L	10/1/08	6020	DS
Lead	< 0.001	AqTot	mg/L	10/1/08	6020	DS
Mercury	< 0.0001	AqTot	mg/L	10/1/08	6020	DS
Nickel	<b>0.004</b>	AqTot	mg/L	10/1/08	6020	DS
Selenium	< 0.001	AqTot	mg/L	10/1/08	6020	DS
Silver	< 0.001	AqTot	mg/L	10/1/08	6020	DS
Sodium	<b>29</b>	AqTot	mg/L	10/1/08	6020	DS
Thallium	< 0.001	AqTot	mg/L	10/1/08	6020	DS
Zinc	<b>0.034</b>	AqTot	mg/L	10/1/08	6020	DS



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 73208

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields |

## QC Report

Parameter Name	Blank	LCS	LCS Dup	Date of Analysis		
				Units	Method	
Antimony	< 0.001	1.0 (103 %R)		mg/L	10/1/08	6020
Arsenic	< 0.001	1.0 (101 %R)		mg/L	10/1/08	6020
Beryllium	< 0.001	1.1 (107 %R)		mg/L	10/1/08	6020
Cadmium	< 0.001	1.0 (105 %R)		mg/L	10/1/08	6020
Chromium	< 0.001	0.95 (95 %R)		mg/L	10/1/08	6020
Copper	< 0.001	0.90 (90 %R)		mg/L	10/1/08	6020
Lead	< 0.001	0.98 (98 %R)		mg/L	10/1/08	6020
Mercury	< 0.0001	0.0010 (103 %R)		mg/L	10/1/08	6020
Nickel	< 0.001	0.95 (95 %R)		mg/L	10/1/08	6020
Selenium	< 0.001	1.0 (103 %R)		mg/L	10/1/08	6020
Silver	< 0.001	0.10 (104 %R)		mg/L	10/1/08	6020
Sodium	< 5	11 (102 %R)		mg/L	10/1/08	6020
Thallium	< 0.001	0.99 (99 %R)		mg/L	10/1/08	6020
Zinc	< 0.005	0.85 (85 %R)		mg/L	10/1/08	6020

Parameter Name	MS/MSD Parent ID	MS/MSD Parent	Matrix Spike	Matrix Spike Duplicate
Antimony	73208.05	< 0.001	1.0 (103 %R)	1.0 (105 %R) (2 RPD)
Arsenic	73208.05	< 0.001	1.0 (99 %R)	0.98 (98 %R) (1 RPD)
Beryllium	73208.05	< 0.001	0.95 (95 %R)	0.96 (96 %R) (1 RPD)
Cadmium	73208.05	< 0.001	1.1 (106 %R)	1.1 (107 %R) (1 RPD)
Chromium	73208.05	< 0.001	0.89 (89 %R)	0.90 (90 %R) (1 RPD)
Copper	73208.05	< 0.001	0.85 (84 %R)	0.87 (87 %R) (4 RPD)
Lead	73208.05	< 0.001	0.95 (95 %R)	0.97 (97 %R) (2 RPD)
Mercury	73208.05	< 0.0001	0.0010 (100 %R)	0.0010 (104 %R) (4 RPD)
Nickel	73208.05	0.004	0.90 (89 %R)	0.90 (90 %R) (1 RPD)
Selenium	73208.05	< 0.001	0.98 (98 %R)	0.97 (97 %R) (1 RPD)
Silver	73208.05	< 0.001	0.95 (95 %R)	0.97 (97 %R) (2 RPD)
Sodium	73208.05	29	38 (79 %R)	40 (93 %R) (16 RPD)
Thallium	73208.05	< 0.001	0.94 (94 %R)	0.98 (98 %R) (4 RPD)
Zinc	73208.05	0.034	0.80 (77 %R)	0.80 (76 %R) (1 RPD)



# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 73208

Batch ID:

Client: KAS, Inc.

Client Designation: Warren Town Garage Brownfields |  
505070090

### Metals QA/QC and Narrative Report

QA/QC:	LCS	MS	MSD
Matrix:	Aqueous/Soil	Aqueous/Soil	Aqueous/Soil
Units:	%	%	%
EPA Method:	6010B/6020	6010B/6020	6010B/6020
Aluminum	80-120	75-125	75-125
Antimony	80-120	75-125	75-125
Arsenic	80-120	75-125	75-125
Barium	80-120	75-125	75-125
Beryllium	80-120	75-125	75-125
Boron	80-120	75-125	75-125
Cadmium	80-120	75-125	75-125
Calcium	80-120	75-125	75-125
Chromium	80-120	75-125	75-125
Chromium III	80-120	75-125	75-125
Chromium IV	80-120	75-125	75-125
Cobalt	80-120	75-125	75-125
Copper	80-120	75-125	75-125
Iron	80-120	75-125	75-125
Lead	80-120	75-125	75-125
Magnesium	80-120	75-125	75-125
Manganese	80-120	75-125	75-125
Mercury	80-120	75-125	75-125
Molybdenum	80-120	75-125	75-125
Nickel	80-120	75-125	75-125
Phosphorus	80-120	75-125	75-125
Potassium	80-120	75-125	75-125
Selenium	80-120	75-125	75-125
Silicon	80-120	75-125	75-125
Silver	80-120	75-125	75-125
Sodium	80-120	75-125	75-125
Thallium	80-120	75-125	75-125
Tin	80-120	75-125	75-125
Titanium	80-120	75-125	75-125
Vanadium	80-120	75-125	75-125
Zinc	80-120	75-125	75-125

Samples were analyzed within holding time limits.

Instrumentation was calibrated in accordance with the method requirements.

The method blanks were free of contamination at the reporting limits.

The associated matrix spikes and/or Laboratory Control Samples met the above stated criteria.

There were no exceptions in the analyses, unless noted below.



# APPENDIX F

## **Data Validation Report**

**Project Description Summary:**

This data validation report applies to surface water sampling, from a stream that runs along the site's southern border, stream sediment sampling, a drinking water sample from an on site well, shallow soil sampling, soil boring sampling, and groundwater sampling taken in and around at the Warren Town Garage in Warren, Vermont. Samples were collected using the scope of work according to the approved Quality Assurance Project Plan (QAPP) Addendum Phase II Environmental Site Assessment dated June 2008. The sampling occurred on the following dates: August 5, 2008, August 14, 2008, September 4, 2008 and September 18, 2008. Field quality control samples included a duplicate sediment sample, a duplicate shallow soil sample and a duplicate groundwater sample. Laboratory analysis was performed by Eastern Analytical, Inc. of Concord, NH. Please refer to the QAPP addendums for additional details concerning the site background, work scope, and standard operating procedures. The following specific data were validated:

- Two surface water samples were taken from the stream on the southern border of the property in the approximate locations specified in the QAPP. These samples were collected on August 5, 2008, and analyzed for volatile organic compounds (VOCs) (M8260b), priority pollutants (PP) 13 metals (M6020), sodium (M6020), and chloride (M4500CIE).
- Two sediments samples were taken in the approximate locations of the two surface water samples on August 5, 2008, and analyzed for PP 13 metals (M6020), total petroleum hydrocarbons (TPH M8100), polycyclic aromatic hydrocarbons (PAHs) (M8270c), and polychlorinated biphenyls (PCBs) (M8082).
- One drinking water sample was taken from an on-site drinking water tap on August 5, 2008, and analyzed for VOCs (M524.2), PP 13 metals (M6020), sodium (M6020), and chloride (M4500CIE).
- Five shallow soil samples and one duplicate were taken from test pits excavated in the locations specified as RECs during the Phase I ESA on August 14, 2008, and analyzed for VOCs (M8260b), PAHs (M8270c), TPH (M8100mod), PCBs (M8082), and PP 13 metals (M6020).

- Four soil boring samples were taken in the approximate location specified in the QAPP on September 4, 2008 and analyzed for VOCs (M8260b), PAHs (M8270c), TPHs (M8100mod), PCBs (M8082), and PP 13 Metals (M6020).
- Four groundwater samples and one duplicate sample were taken from the monitoring wells installed during the soil boring investigation, on September 18, 2008, and analyzed for VOCs (M8260B), PP 13 Metals (M6020), sodium (M6020), and chloride (M4500CIE).

**Field Quality Control:***Field Duplicate (8/5/08)*

A duplicate analysis of SS-1 was collected. The contaminant concentrations for the duplicate samples for PAHs, TPHs, and PCBs were all below laboratory detection levels, and, therefore, RPD value could not be calculated. On an absolute scale, the RPD values for the duplicate samples of PP 13 Metals range from 2.6% for total zinc to 52.63% for total chromium. All values were below the accepted value of 50% with the exception of chromium, indicating a good correlation between the duplicated samples.

*Field Duplicate (08/14/08)*

A duplicate analysis of TP-6 was collected. The contaminant concentrations for the samples for VOCs, PAHs, TPHs, and PCBs were all below laboratory detection levels, and, therefore, RPD values could not be calculated. On an absolute scale, the RPD values of the duplicate samples of PP 13 metals ranged from 0.0% for total nickel to 30.30% for total copper. These RPD values are below the accepted values of 50%, indicating a good correlation between the duplicated samples.

*Field Duplicate (09/18/08)*

A duplicate analysis of MW08-4 was collected. The contaminant concentrations of the duplicate samples for VOCs were all below laboratory detection levels, and, therefore, RPD values could not be calculated. On an absolute scale, the RPD values of the duplicate samples of PP 13 metals and sodium ranged from 0.0% for total nickel and total zinc to 3.39% for total sodium. On an absolute scale, the RPD value of the duplicate sample for

chloride was 1.9. These RPD values are below the accepted values of 30%, indicating an excellent correlation between the duplicated samples.

### **Verification of Sampling Procedures:**

#### *Sampling Procedures:*

Field data sheets and the field notebooks were reviewed to ensure proper documentation of the sampling conditions. All entries were made with permanent ink. Entries included the initials of the sampler, sampling location, time, and date. All entries and equipment used were recorded on the daily work report. The samplers were interviewed to confirm the sampling conditions documented in the field data sheets. Sampling was performed in accordance with the procedures specified in the QAPP.

#### *Chain of Custody:*

The chain of custody forms were reviewed to ensure the sample identification, number, type and size of sample containers, preservatives used; and signatures were properly recorded and were in accordance with the requirements of the QAPP. The laboratory was able to analyze these samples in accordance with the standard procedure.

### **Laboratory Quality Control Findings:**

The laboratory data was examined to evaluate whether data should be accepted, qualified, or rejected. The following are the significant findings of the laboratory data validation.

Laboratory surrogate testing results were within the laboratory-specified acceptance limits.

Matrix spike and matrix spike duplicate recovery data indicated acceptable accuracy and precision. Results of matrix spike testing were well within laboratory-specified acceptance limits in most instances.

Lack of spurious influences derived from laboratory sources was evidenced by the lack of detectable concentrations in the laboratory blank.

•VOCs surface water analysis should be accepted with the following qualification:

1. Laboratory detection limits for Tetrachloroethene tested by EPA Method 8260b, exceed the Vermont Water Quality Standard (VWQS) for this compound. It is thought that if this compound were to be present in the sample under the laboratory detection limits, it would be found in conjunction with structurally similar analytes tested for via EPA Method 8260b, with detection limits above the VWQS. It is not thought to have a material affect on the outcome of testing or conclusions drawn.

•PP 13 Metals and sodium surface water analysis should be accepted with the following qualification:

1. Laboratory detection limits for Arsenic tested by EPA Method 6020, exceed the VWQS for this compound. This level of uncertainty associated with the risk for this compound would pose a problem if it was shown that contaminants were migrating downstream, away from the source of contamination. Variation was negligible in upstream and downstream sample contaminant concentrations and it is not thought that this situation presents a tangible risk to human health or the environment.

•Chloride surface water analysis should be accepted without condition.

•VOCs drinking water analysis should be accepted with the following qualification:

1. Matrix spike testing for 524.2 analysis indicated that tetrachloroethene was biased high during recovery. This would have resulted in higher than actual VOC results during the 524.2 testing, had this compound been detected. This compound was not detected and it is believed that the situation does not materially affect the results or conclusions of the testing.

•PP 13 Metals and sodium drinking water analysis should be accepted without condition.

•Chloride drinking water analysis should be accepted without condition.

•PAH sediment analysis should be accepted without condition.

•TPH sediment analysis should be accepted without condition.

•PCB sediment analysis should be accepted without condition.

•PP 13 Metals sediment analysis should be accepted without condition.

•VOCs shallow soil analysis should be accepted with the following qualification:

1. Laboratory detection limits for three volatile organic compounds (1,2,3,-Trichloropropane, Ethylene dibromide, and Vinyl chloride) tested by EPA method 8260B, exceed the EPA Region IX residential soil guidance limits, as listed in Form K of the generic QAPP. This situation has been addressed in the QAPP Addendum approval process. It is not thought to have a material affect on the outcome of testing or conclusions drawn.
2. Laboratory detection limits for several VOCs in sample T-6 were elevated, due to the high percent of solids in the sample, exceeding the Region IX residential soil guidance limits, as listed in Form K of the generic QAPP. Since no other VOCs were detected in any of the exterior shallow soil samples on the site, it is not thought that this situation presents a tangible risk to human health or the environment.

•PAH shallow soil analysis should be accepted without condition

•TPH shallow soil analysis should be accepted without condition.

•PCB shallow soil analysis should be accepted without condition.

•PP 13 Metals shallow soil analysis should be accepted with the following qualification:

1. Matrix spike testing for 6020 analysis indicated that beryllium was biased high during recovery. This would have resulted in higher than actual VOC results during the 6020 testing, had this compound been detected. This compound was not detected and it is believed that the situation does not materially affect the results or conclusions of the testing.
2. Laboratory detection limits for Arsenic were greater than the Region IX soil guidance limits, as listed in the Form K of the generic QAPP. Since arsenic was detected in the soil at quantities greater than the Region IX soil guidance limit, it is believed that the situation does not materially affect the results or the conclusions of the testing.

•VOCs soil boring analysis should be accepted with the following qualification:

1. Laboratory detection limits for three volatile organic compounds (1,2,3,-Trichloropropane, Ethylene dibromide, and Vinyl chloride) tested by EPA method 8260B, exceed the EPA Region IX residential soil guidance limits,

as listed in Form K of the generic QAPP. This situation has been addressed in the QAPP Addendum approval process. It is not thought to have a material affect on the outcome of testing or conclusions drawn.

- PAH soil boring analysis should be accepted without condition.
- TPH soil boring analysis should be accepted without condition.
- PCB soil boring analysis should be accepted without condition.
- PP 13 Metals soil boring analysis should be accepted with the following qualification:
  1. Laboratory detection limits for Arsenic were greater than the Region IX soil guidance limits, as listed in the Form K of the generic QAPP. Since arsenic was detected in the soil at quantities greater than the Region IX soil guidance limit, it is believed that the situation does not materially affect the results or the conclusions of the testing.
- VOCs groundwater analysis should be accepted without condition.
- PP 13 Metals and sodium groundwater analysis should be accepted without condition.
- Chloride groundwater analysis should be accepted without condition.

Caitlin Andrews

Quality Assurance Officer

Attachments:

Laboratory Data Validation Check Lists and RPD Calculations



Laboratory Data Validation  
Quality Assurance / Quality Control  
(QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: SW-1

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8260B

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Aqueous Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 08/05/08 Analysis Date: 08/08/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: Tetrachloroethene detection limits are above the Vermont Water Quality Standard

Any additional comments: Temperature of samples (7.7C) upon arrival to the lab exceeded the limit listed in the QAPP. Since the samples were properly preserved and/or the compounds tested for do not degrade at this temperature it is not thought to have an effect on the results listed.



Laboratory Data Validation  
Quality Assurance / Quality Control  
(QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: SW-2

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8260B

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Aqueous Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 08/05/08 Analysis Date: 08/08/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain:

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: Tetrachloroethene detection limits are above the Vermont Water Quality Standard

Any additional comments: Temperature of samples (7.7C) upon arrival to the lab exceeded the limit listed in the QAPP. Since the samples were properly preserved and/or the compounds tested for do not degrade at this temperature it is not thought to have an effect on the results listed.



Laboratory Data Validation  
Quality Assurance / Quality Control  
(QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: SW-1

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: PP-13 Metals + Sodium

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Aqueous Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 08/05/08 Analysis Date: 08/14/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain:

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: Arsenic detection limits are above the Vermont Water Quality Standard.

Any additional comments: Temperature of samples (7.7C) upon arrival to the lab exceeded the limit listed in the QAPP. Since the samples were properly preserved and/or the compounds tested for do not degrade at this temperature it is not thought to have an effect on the results listed.



Laboratory Data Validation  
Quality Assurance / Quality Control  
(QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: SW-2

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: PP-13 Metals + Sodium

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Aqueous Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 08/05/08 Analysis Date: 08/14/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain:

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: Arsenic detection limits are above the Vermont Water Quality Standard.

Any additional comments: Temperature of samples (7.7C) upon arrival to the lab exceeded the limit listed in the QAPP. Since the samples were properly preserved and/or the compounds tested for do not degrade at this temperature it is not thought to have an effect on the results listed.



Laboratory Data Validation  
Quality Assurance / Quality Control  
(QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: SW-1

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 4500CIE Chloride

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Aqueous Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 08/05/08 Analysis Date: 08/14/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain:

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

Any additional comments: Temperature of samples (7.7C) upon arrival to the lab exceeded the limit listed in the QAPP. Since the samples were properly preserved and/or the compounds tested for do not degrade at this temperature it is not thought to have an effect on the results listed.



Laboratory Data Validation  
Quality Assurance / Quality Control  
(QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: SW-2

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 4500CIE Chloride

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Aqueous Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 08/05/08 Analysis Date: 08/14/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain:

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: Temperature of samples (7.7C) upon arrival to the lab exceeded the limit listed in the QAPP. Since the samples were properly preserved and/or the compounds tested for do not degrade at this temperature it is not thought to have an effect on the results listed.



Laboratory Data Validation  
Quality Assurance / Quality Control  
(QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: DWS-1

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 524.2

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Aqueous Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 08/05/08 Analysis Date: 08/11/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: Tetrachloroethane is high

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: Temperature of samples (7.7C) upon arrival to the lab exceeded the limit listed in the QAPP. Since the samples were properly preserved and/or the compounds tested for do not degrade at this temperature it is not thought to have an effect on the results listed.



Laboratory Data Validation  
Quality Assurance / Quality Control  
(QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: DWS-1

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: PP-13 Metals + Sodium

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Aqueous Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 08/05/08 Analysis Date: 08/14/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: Temperature of samples (7.7C) upon arrival to the lab exceeded the limit listed in the QAPP. Since the samples were properly preserved and/or the compounds tested for do not degrade at this temperature it is not thought to have an effect on the results listed.



Laboratory Data Validation  
Quality Assurance / Quality Control  
(QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: DWS-1

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 4500CIE Chloride

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Aqueous Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 08/05/08 Analysis Date: 08/14/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain:

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: Temperature of samples (7.7C) upon arrival to the lab exceeded the limit listed in the QAPP. Since the samples were properly preserved and/or the compounds tested for do not degrade at this temperature it is not thought to have an effect on the results listed.



Laboratory Data Validation  
Quality Assurance / Quality Control  
(QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: SS-1

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8270C

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Sediment Extraction Date (if applicable): 08/12/08

Sample Date: 08/05/08 Analysis Date: 08/14/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: Temperature of samples (7.7C) upon arrival to the lab exceeded the limit listed in the QAPP. Since the samples were properly preserved and/or the compounds tested for do not degrade at this temperature it is not thought to have an effect on the results listed.



Laboratory Data Validation  
Quality Assurance / Quality Control  
(QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: SS-2

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8270C

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: Dilution factor is elevated due to the low solids content of the sample.

Sample Matrix: Sediment Extraction Date (if applicable): 08/12/08

Sample Date: 08/05/08 Analysis Date: 08/14/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain:

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: Temperature of samples (7.7C) upon arrival to the lab exceeded the limit listed in the QAPP. Since the samples were properly preserved and/or the compounds tested for do not degrade at this temperature it is not thought to have an effect on the results listed.



Laboratory Data Validation  
Quality Assurance / Quality Control  
(QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: SS-1

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8100 mod

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Sediment Extraction Date (if applicable): 08/12/08

Sample Date: 08/05/08 Analysis Date: 08/14/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain:

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: Temperature of samples (7.7C) upon arrival to the lab exceeded the limit listed in the QAPP. Since the samples were properly preserved and/or the compounds tested for do not degrade at this temperature it is not thought to have an effect on the results listed.



Laboratory Data Validation  
Quality Assurance / Quality Control  
(QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: SS-2

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8100 mod

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: Dilution factor is elevated due to the low solids content of the sample.

Sample Matrix: Sediment Extraction Date (if applicable): 08/12/08

Sample Date: 08/05/08 Analysis Date: 08/14/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain:

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: Temperature of samples (7.7C) upon arrival to the lab exceeded the limit listed in the QAPP. Since the samples were properly preserved and/or the compounds tested for do not degrade at this temperature it is not thought to have an effect on the results listed.



Laboratory Data Validation  
Quality Assurance / Quality Control  
(QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: SS-1

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8082

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Sediment Extraction Date (if applicable): 08/13/08

Sample Date: 08/05/08 Analysis Date: 08/15/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: Temperature of samples (7.7C) upon arrival to the lab exceeded the limit listed in the QAPP. Since the samples were properly preserved and/or the compounds tested for do not degrade at this temperature it is not thought to have an effect on the results listed.



Laboratory Data Validation  
Quality Assurance / Quality Control  
(QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: SS-2

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8082

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: Dilution factor is elevated due to the low solids content of the sample.

Sample Matrix: Sediment Extraction Date (if applicable): 08/13/08

Sample Date: 08/05/08 Analysis Date: 08/15/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain:

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: Temperature of samples (7.7C) upon arrival to the lab exceeded the limit listed in the QAPP. Since the samples were properly preserved and/or the compounds tested for do not degrade at this temperature it is not thought to have an effect on the results listed.



Laboratory Data Validation  
Quality Assurance / Quality Control  
(QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: SS-1

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: Total Metals

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Sediment Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 08/05/08 Analysis Date: 08/13/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: Temperature of samples (7.7C) upon arrival to the lab exceeded the limit listed in the QAPP. Since the samples were properly preserved and/or the compounds tested for do not degrade at this temperature it is not thought to have an effect on the results listed.



Laboratory Data Validation  
Quality Assurance / Quality Control  
(QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: SS-2

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: Total Metals

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Sediment Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 08/05/08 Analysis Date: 08/13/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain:

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: Temperature of samples (7.7C) upon arrival to the lab exceeded the limit listed in the QAPP. Since the samples were properly preserved and/or the compounds tested for do not degrade at this temperature it is not thought to have an effect on the results listed.



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: TP-1

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8260B

Were any abnormalities presented within the Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 08/14/08 Analysis Date: 08/26/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain:

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: Vinyl Chloride, 1,2, Dibromoethane, and 1,2,3-Trichloropropane were above the EPA IX Regional Guidelines referenced in the QAPP.

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: TP-2

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8260B

Were any abnormalities presented within the Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 08/14/08 Analysis Date: 08/26/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain:

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: Vinyl Chloride, 1,2, Dibromoethane, and 1,2,3-Trichloropropane were above the EPA IX Regional Guidelines referenced in the QAPP.

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: TP-4

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8260B

Were any abnormalities presented within the Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 08/14/08 Analysis Date: 08/26/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain:

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: Vinyl Chloride, 1,2, Dibromoethane, and 1,2,3-Trichloropropane were above the EPA IX Regional Guidelines referenced in the QAPP.

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: TP-5

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8260B

Were any abnormalities presented within the Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 08/14/08 Analysis Date: 08/26/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain:

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: Vinyl Chloride, 1,2, Dibromoethane, and 1,2,3-Trichloropropane were above the EPA IX Regional Guidelines referenced in the QAPP.

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: TP-6

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8260B

Were any abnormalities presented within the Lab cover letter?  Yes  No

If yes, explain: Reporting limits are elevated due to the % solids content of the sample

Sample Matrix: Soil Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 08/14/08 Analysis Date: 08/26/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain:

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: Detection limits for the compounds tested were elevated due to the % solid content of the sample, elevating many of the laboratory detection limits above the applicable standards



Laboratory Data Validation  
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referenced in the QAPP. It is not thought to be of concern as none of these compounds were found in other TP samples.



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: TP-1

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8270c

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): 08/21/08

Sample Date: 08/14/08 Analysis Date: 08/26/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: TP-2

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8270c

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): 08/21/08

Sample Date: 08/14/08 Analysis Date: 08/26/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: TP-4

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8270c

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): 08/21/08

Sample Date: 08/14/08 Analysis Date: 08/26/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: TP-5

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8270c

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): 08/21/08

Sample Date: 08/14/08 Analysis Date: 08/26/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: TP-6

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8270c

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): 08/21/08

Sample Date: 08/14/08 Analysis Date: 08/26/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: TP-1

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8100mod

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): 08/20/08

Sample Date: 08/14/08 Analysis Date: 08/22/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: TP-2

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8100mod

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): 08/20/08

Sample Date: 08/14/08 Analysis Date: 08/22/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: TP-4

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8100mod

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): 08/20/08

Sample Date: 08/14/08 Analysis Date: 08/22/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: TP-5

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8100mod

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): 08/20/08

Sample Date: 08/14/08 Analysis Date: 08/22/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: TP-6

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8100mod

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): 08/20/08

Sample Date: 08/14/08 Analysis Date: 08/22/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: TP-1

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8082

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): 08/25/08

Sample Date: 08/14/08 Analysis Date: 08/27/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: TP-2

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8082

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): 08/25/08

Sample Date: 08/14/08 Analysis Date: 08/27/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: TP-4

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8082

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): 08/25/08

Sample Date: 08/14/08 Analysis Date: 08/27/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: TP-5

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8082

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): 08/25/08

Sample Date: 08/14/08 Analysis Date: 08/27/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: TP-6

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8082

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): 08/25/08

Sample Date: 08/14/08 Analysis Date: 08/27/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: TP-1

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 6020

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 08/14/08 Analysis Date: 08/20/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: The matrix spike for beryllium was biased high. It is not thought to have a tangible effect on the results as beryllium was found to be non-detect in all samples.

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: The laboratory detection limits for arsenic is greater than the EPA Region IX residential levels referenced in the QAPP.



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: TP-2

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 6020

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 08/14/08 Analysis Date: 08/20/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: The matrix spike for beryllium was biased high. It is not thought to have a tangible effect on the results as beryllium was found to be non-detect in all samples.

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: The laboratory detection limits for arsenic is greater than the EPA Region IX residential levels referenced in the QAPP.



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: TP-4

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 6020

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 08/14/08 Analysis Date: 08/20/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: The matrix spike for beryllium was biased high. It is not thought to have a tangible effect on the results as beryllium was found to be non-detect in all samples.

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: The laboratory detection limits for arsenic is greater than the EPA Region IX residential levels referenced in the QAPP.



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: TP-5

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 6020

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 08/14/08 Analysis Date: 08/20/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: The matrix spike for beryllium was biased high. It is not thought to have a tangible effect on the results as beryllium was found to be non-detect in all samples.

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: The laboratory detection limits for arsenic is greater than the EPA Region IX residential levels referenced in the QAPP.



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: TP-6

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 6020

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 08/14/08 Analysis Date: 08/20/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: The matrix spike for beryllium was biased high. It is not thought to have a tangible effect on the results as beryllium was found to be non-detect in all samples.

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: The laboratory detection limits for arsenic is greater than the EPA Region IX residential levels referenced in the QAPP.



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-1

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8260B

Were any abnormalities presented within the Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 09/04/08 Analysis Date: 09/16/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain:

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: Vinyl Chloride, 1,2, Dibromoethane, and 1,2,3-Trichloropropane were above the EPA IX Regional Guidelines referenced in the QAPP.

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-2

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8260B

Were any abnormalities presented within the Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 09/04/08 Analysis Date: 09/16/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain:

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: Vinyl Chloride, 1,2, Dibromoethane, and 1,2,3-Trichloropropane were above the EPA IX Regional Guidelines referenced in the QAPP.

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-3

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8260B

Were any abnormalities presented within the Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 09/04/08 Analysis Date: 09/16/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain:

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: Vinyl Chloride, 1,2, Dibromoethane, and 1,2,3-Trichloropropane were above the EPA IX Regional Guidelines referenced in the QAPP.

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-4

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8260B

Were any abnormalities presented within the Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 09/04/08 Analysis Date: 09/16/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain:

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: Vinyl Chloride, 1,2, Dibromoethane, and 1,2,3-Trichloropropane were above the EPA IX Regional Guidelines referenced in the QAPP.

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-1

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8270c

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): 09/18/08

Sample Date: 09/04/08 Analysis Date: 09/24/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-2

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8270c

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): 09/18/08

Sample Date: 09/04/08 Analysis Date: 09/24/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-3

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8270c

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): 09/18/08

Sample Date: 09/04/08 Analysis Date: 09/24/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-4

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8270c

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): 09/18/08

Sample Date: 09/04/08 Analysis Date: 09/24/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-1

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8100mod

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): 09/18/08

Sample Date: 09/04/08 Analysis Date: 09/23/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-2

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8100mod

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): 09/18/08

Sample Date: 09/04/08 Analysis Date: 09/23/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-3

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8100mod

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): 09/18/08

Sample Date: 09/04/08 Analysis Date: 09/23/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-4

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8100mod

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): 09/18/08

Sample Date: 09/04/08 Analysis Date: 09/23/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-1

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8082

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): 09/17/08

Sample Date: 09/04/08 Analysis Date: 09/23/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-2

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8082

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): 09/17/08

Sample Date: 09/04/08 Analysis Date: 09/23/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-3

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8082

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): 09/17/08

Sample Date: 09/04/08 Analysis Date: 09/23/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-4

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8082

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): 09/17/08

Sample Date: 09/04/08 Analysis Date: 09/23/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: \_\_\_\_\_



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-1

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 6020

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 09/04/08 Analysis Date: 09/19/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: The laboratory detection limits for arsenic is greater than the EPA Region IX residential levels referenced in the QAPP.



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-2

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 6020

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 09/04/08 Analysis Date: 09/19/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: The laboratory detection limits for arsenic is greater than the EPA Region IX residential levels referenced in the QAPP.



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-3

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 6020

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 09/04/08 Analysis Date: 09/19/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: The laboratory detection limits for arsenic is greater than the EPA Region IX residential levels referenced in the QAPP.



Laboratory Data Validation  
Quality Assurance / Quality  
Control (QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-4

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 6020

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Soil Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 09/04/08 Analysis Date: 09/19/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: The laboratory detection limits for arsenic is greater than the EPA Region IX residential levels referenced in the QAPP.



Laboratory Data Validation  
Quality Assurance / Quality Control  
(QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-1

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8260B

Were any abnormalities presented within the Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Aqueous Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 09/18/08 Analysis Date: 09/27/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: Temperature of samples (5.7C) upon arrival to the lab exceeded the limit listed in the QAPP. Since the samples were properly preserved and/or the compounds tested for do not degrade at this temperature it is not thought to have an effect on the results listed.



Laboratory Data Validation  
Quality Assurance / Quality Control  
(QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-2

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8260B

Were any abnormalities presented within the Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Aqueous Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 09/18/08 Analysis Date: 09/27/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: Temperature of samples (5.7C) upon arrival to the lab exceeded the limit listed in the QAPP. Since the samples were properly preserved and/or the compounds tested for do not degrade at this temperature it is not thought to have an effect on the results listed.



Laboratory Data Validation  
Quality Assurance / Quality Control  
(QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-3

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8260B

Were any abnormalities presented within the Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Aqueous Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 09/18/08 Analysis Date: 09/27/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: Temperature of samples (5.7C) upon arrival to the lab exceeded the limit listed in the QAPP. Since the samples were properly preserved and/or the compounds tested for do not degrade at this temperature it is not thought to have an effect on the results listed.



Laboratory Data Validation  
Quality Assurance / Quality Control  
(QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-4

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 8260B

Were any abnormalities presented within the Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Aqueous Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 09/18/08 Analysis Date: 09/27/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$\text{RPD} = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: Temperature of samples (5.7C) upon arrival to the lab exceeded the limit listed in the QAPP. Since the samples were properly preserved and/or the compounds tested for do not degrade at this temperature it is not thought to have an effect on the results listed.



Laboratory Data Validation  
Quality Assurance / Quality Control  
(QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-1

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 4500CIE

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Aqueous Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 09/18/08 Analysis Date: 09/26/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: Temperature of samples (5.7C) upon arrival to the lab exceeded the limit listed in the QAPP. Since the samples were properly preserved and/or the compounds tested for do not degrade at this temperature it is not thought to have an effect on the results listed.



Laboratory Data Validation  
Quality Assurance / Quality Control  
(QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-2

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 4500CIE

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Aqueous Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 09/18/08 Analysis Date: 09/26/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: Temperature of samples (5.7C) upon arrival to the lab exceeded the limit listed in the QAPP. Since the samples were properly preserved and/or the compounds tested for do not degrade at this temperature it is not thought to have an effect on the results listed.



Laboratory Data Validation  
Quality Assurance / Quality Control  
(QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-3

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 4500CIE

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Aqueous Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 09/18/08 Analysis Date: 09/26/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: Temperature of samples (5.7C) upon arrival to the lab exceeded the limit listed in the QAPP. Since the samples were properly preserved and/or the compounds tested for do not degrade at this temperature it is not thought to have an effect on the results listed.



Laboratory Data Validation  
Quality Assurance / Quality Control  
(QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-4

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 4500CIE

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Aqueous Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 09/18/08 Analysis Date: 09/26/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: Temperature of samples (5.7C) upon arrival to the lab exceeded the limit listed in the QAPP. Since the samples were properly preserved and/or the compounds tested for do not degrade at this temperature it is not thought to have an effect on the results listed.



Laboratory Data Validation  
Quality Assurance / Quality Control  
(QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-1

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 6020

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Aqueous Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 09/18/08 Analysis Date: 10/01/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: Temperature of samples (5.7C) upon arrival to the lab exceeded the limit listed in the QAPP. Since the samples were properly preserved and/or the compounds tested for do not degrade at this temperature it is not thought to have an effect on the results listed.



Laboratory Data Validation  
Quality Assurance / Quality Control  
(QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-2

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 6020

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Aqueous Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 09/18/08 Analysis Date: 10/01/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: Temperature of samples (5.7C) upon arrival to the lab exceeded the limit listed in the QAPP. Since the samples were properly preserved and/or the compounds tested for do not degrade at this temperature it is not thought to have an effect on the results listed.



Laboratory Data Validation  
Quality Assurance / Quality Control  
(QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-3

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 6020

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Aqueous Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 09/18/08 Analysis Date: 10/01/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: Temperature of samples (5.7C) upon arrival to the lab exceeded the limit listed in the QAPP. Since the samples were properly preserved and/or the compounds tested for do not degrade at this temperature it is not thought to have an effect on the results listed.



Laboratory Data Validation  
Quality Assurance / Quality Control  
(QA/QC) Checklist

Site Name: Warren Town Garage Sample Identification: MW-08-4

Job Number: 505070090

Sampler: ARL QA / QC Completed By: CA

Analytical Laboratory: Eastern Analytical, Inc. EPA Analytical Method: 6020

Were any abnormalities presented within Lab cover letter?  Yes  No

If yes, explain: \_\_\_\_\_

Sample Matrix: Aqueous Extraction Date (if applicable): \_\_\_\_\_

Sample Date: 09/18/08 Analysis Date: 10/01/08

Was analysis completed within EPA Method specified holding time?

Yes  No  N/A

Any compounds detected in field or trip blanks?

Yes  No  N/A

If yes, were these compounds detected in any of the samples analyzed?

Yes  No  N/A

Was this sample properly labeled?

Yes  No  N/A

Attach spreadsheet of sample and duplicated Relative Percent Difference (RPD) for applicable samples:

$$RPD = \frac{100\% \times (\text{sample} - \text{duplicate})}{(\text{sample} + \text{duplicate})/2}$$

Is RPD within QAPP specified limits ( $\leq 50\%$  soil,  $\leq 30\%$  GW)?

Yes  No  N/A (sample not duplicated)

Were laboratory surrogate recovery concentrations acceptable (70% - 130% VOCs; 30%-150% PCBs; 40% - 130% PAHs)?

Yes  No  N/A

Were laboratory matrix spike and matrix spike duplicates acceptable?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Are detection limits at or below the limits specified in Form K of the QAPP?

Yes  No  N/A

Are laboratory detection limits below the applicable standards referenced in the QAPP?

Yes  No  N/A

If no, explain: \_\_\_\_\_

Any additional comments: Temperature of samples (5.7C) upon arrival to the lab exceeded the limit listed in the QAPP. Since the samples were properly preserved and/or the compounds tested for do not degrade at this temperature it is not thought to have an effect on the results listed.