LIMITED PHASE II
ENVIRONMENTAL SITE ASSESSMENT REPORT

RAMPART AREA DRAINAGE AND PAVING SUB-PROJECT NO. 2
HOUSTON, HARRIS COUNTY, TEXAS

WBS NO. M-000265-0002-3

PREPARED FOR:

KLOTZ ASSOCIATES, INC.

BY:

BERG♦OLIVER ASSOCIATES, INC.
HOUSTON, TEXAS

REPORT NO: 9529H-P2
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November 21, 2014

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RE: Limited Phase II Environmental Site Assessment (ESA) Report
Rampart Area Drainage and Paving Sub-Project No. 2
Houston, Harris County, Texas
WBS No. M-000265-0002-3

BOA Project No.: 9529H-P2

Mr. Conger:

EXECUTIVE SUMMARY

Berg♦Oliver Associates, Inc. is pleased to present our report summarizing the findings and conclusions of the Limited Phase II ESA conducted for the Rampart Area Drainage & Paving Sub-Project No. 2 in Houston, Harris County, Texas. The following provides a brief summary of the Phase II ESA:

Nine soil borings were completed at four sites of potential Recognized Environmental Conditions (RECs). Soil borings, SB-1 through SB-3 were completed to 20 below ground surface (bgs) and soil borings SB-4 through SB-9 were completed to 24 feet bgs. Nine soil samples were collected and submitted for laboratory analytical testing. Soil samples were analyzed for total petroleum hydrocarbons and methyl-tert butyl ether and benzene toluene, ethyl-benzene and total xylenes (MTBE/BTEX) or volatile organic compounds (VOCs). Groundwater was collected from two soil borings, SB-6/TWP-6 and SB-9/TWP-9. Groundwater from TWP-6 was analyzed for VOCs and TPH and groundwater from TWP-9 was analyzed for MTBE/BTEX and TPH.

Soil Laboratory Analytical Results

The following was reported for the soil laboratory analytical results for the four REC locations:

- Based on the soil laboratory analytical results, the following is noted:

6102-A Bissonnet at Rampart Streets

- A portion of this REC location was determined to have been affected by hydrocarbons (gasoline). Benzene (0.52 mg/kg), toluene (23.0 mg/kg), ethyl-benzene (13.0 mg/kg) and total xylenes (72.0 mg/kg) concentrations were reported in the soil sample collected from soil boring SB-9, please refer to the following recommendations. The concentrations exceed the Texas Commission on Environmental Quality (TCEQ) Texas Risk Reduction Program (TRRP) Groundwater Protective Concentration Levels (PCLs). In soil boring, SB-9 PID readings were not encountered until 12 feet bgs. Due to the detections, a portion of the REC area is defined as a Potentially Petroleum Contaminated Area. The soil samples collected from soil borings SB-7 and SB-8 at the location were determined to be acceptable and no additional work is required at that portion of the alignment.

- The two remaining investigated REC locations were determined not to require additional work related to soil.

Groundwater and Groundwater Laboratory Analytical Results

During the Phase II ESA, adequate groundwater to collect groundwater samples was not present at one REC location (6030 Dashwood Street at Rampart Street). Groundwater was encountered at 16 feet in soil borings SB-4 & SB-5 and 23 feet bgs in soil boring SB-6 (6050 Jessamine at Rampart Streets and 7207 Rampart Street). Groundwater was encountered at 20 feet in soil borings SB-7 & SB-8 and 23 feet bgs in soil boring SB-9 (6012-A Bissonnet at Rampart Streets).

Groundwater was sampled at soil borings SB-6 and SB-9. The following is noted:

- *SB-6 Groundwater Sample*: No VOC analytes were detected at this temporary well point (TWP) location. With the exception a detection in TPH carbon range >C_{12}-C_{28} (1.2 mg/L), TPH carbon ranges were non-detect (<0.60 mg/L) for the groundwater laboratory analytical results. Due to the minor detection, part of the REC location is a PPCA. It should be noted that groundwater samples collected and analyzed may be acceptable for discharge to the surface. The groundwater will be required to be contained/store until this is ascertained (if applicable related to dewatering needs for the project).

- *SB-9 Groundwater Sample*: Benzene (1.5 mg/L), toluene (6.8 mg/L), ethyl-benzene (1.6 mg/L), total xylenes (7.1 mg/L) and TPH carbon range C_6-C_{12} (19 mg/L) concentrations were reported that exceed PCLs or MCLs at this TWP location. MTBE and TPH carbon ranges >C_{12}-C_{28} and >C_{28}-C_{35} were reported to be non-detect. Due to the detection, part of the REC location is a PPCA. If dewatering is required at the location, based on the lab results, groundwater is anticipated to require disposal.

Recommendations

Based on the laboratory analytical results and field observations of the Limited Phase II ESA for the Rampart Area Drainage & Paving Sub-Project No. 2 in Houston, Harris County, Texas, the following is recommended:

Soil/Groundwater Laboratory Analytical Results

- Based on the soil laboratory analytical results, the soil was determined not to be a concern to construction workers. Based on the laboratory analytical results, air monitoring is not warranted with the exception of the location of soil boring SB-9. Confined space protocols still apply. No additional environmental assessment is warranted. However, the following is noted:

  Nine Stop Food Store/Moneygram (6102-A Bissonnet Street)

  - BTEX detections and one TPH carbon range detection that exceed the TCEQ TRRP $^{GW}Soil_{Ing}$ PCLs were reported in the soil sample collected from soil boring SB-9 at a portion of this REC location. Due to the detections, the area is identified as a Potentially Petroleum Contaminated Area. The constraints of the area are presented on *Figure 4*. Special handling practices of the soil are required. Groundwater was also determined to be hydrocarbon-affected at this REC (Tables I and II).
    - The Station No. range is from 18+00 to 19+50 (Rampart Street) and 00+75 to 1+50 (Bissonnet Street).

*Groundwater Laboratory Analytical Results

Rampart Office Park/Former Print Shop (7207 Rampart Street)

- *This location was only identified as having very minor groundwater impact (SB-6 vicinity only). A minor TPH carbon range >C_{12}-C_{28}.was reported at a portion of this REC location. Table II presented in the Tables Appendix provide additional details on the groundwater laboratory analytical results. The area is identified as a Potentially Contaminated Area. Special handling practices of the groundwater are required, unless determined to be acceptable for discharge by pre-discharge sampling and analyses (construction-related activity). The constraints of the area are presented on *Figure 3*.
  - The Station No. range is from 33+75 to 34+25 (Rampart Street).

If you have any questions or comments, please contact me at 281-589-0898.

Regards,

Ben Price, PG
Vice President
Attachment

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1.0 INTRODUCTION

Storm sewer replacement and paving improvements (street reconstruction) are proposed for the Rampart Area Drainage & Paving Sub-Project No. 2. Location maps (Key Map©® and United States Geological Survey Topographic Map), FIGURES 1A and 1B identify the general area of the project and are presented in the Figures of this report.

2.0 SCOPE-OF-WORK

Berg♦Oliver Associates, Inc. (BOA) was retained by Klotz Associates, Inc. to evaluate whether the project alignment has been affected by three leaking petroleum storage tank (LPST) facilities and one Texas Voluntary Cleanup Program (TxVCP) facility/site at four Recognized Environmental Conditions (REC) locations along the road alignment. The REC locations are as follows:

1. Former National Convenience Store/Stop-N-Go/successor Diamond Shamrock and subsequently Valero gasoline service station/convenience store (6030 Dashwood Street). A small community style gasoline service station was formerly present at the location. The facility has had an LPST event. The convenience store remains and is operated by others (Tony's Market/Tony's Checks Cashers No. 2). The underground storage tanks have been removed and the current facility does not market fuels.
2. Jessamine SOC (6050 Jessamine Street). Southwestern Bell formerly occupied this property, but the SWB facilities' footprint may have been larger than the current land-use. A church is currently present on all or a portion of the location. The facility has had an LPST event.
3. Rampart Office Park (7207 Rampart Street). A print shop was reported to have been present in one of the tenant space at the location. The building consists of a small multi-tenant office/warehouse complex. The facility is a TxVCP facility/site.
4. Nine Stop/a.k.a. 9 Stop Food Store (6102-A Bissonnet Street). The facility is situated within a strip-style retail center and the facility is the eastern most tenant space.

Sampling and analyses is conducted to determine whether contamination is present at the REC locations and the concentration of the contaminant(s) in the soil and/or groundwater, if any. The Phase II ESA consisted of the following:

- The Phase II ESA was conducted to determine whether RECs have affected the project alignment.
- Completed a Texas Excavation Safety (Texas 811) notification.
- Placing soil borings for soil sampling to provide adequate coverage of the investigated facilities or area. Submitted soil samples for laboratory analytical testing based upon field observations (visual and olfactory) and field screening.

- Conducted continuous field screening of soil cores at 2.0-foot intervals utilizing a photo-ionization detector (PID) calibrated to 100 ppm isobutylene standard.
- Completed up to 9 soil borings at the project alignment. Converted two soil borings to temporary well point for the collection of shallow groundwater.
- Collected and submitted soil samples for laboratory analyses of volatile organic compounds (VOCs) or methyl tert-butyl ether/benzene, toluene, ethyl-benzene and total xylenes (MTBE/BTEX) and total petroleum hydrocarbons (TPH).
- Collected and submitted a groundwater samples for laboratory analyses of volatile organic compounds (VOCs) or MTBE/BTEX and total petroleum hydrocarbons (TPH).
- Detailed site assessment activities, reviewed laboratory analytical results and presented the results and conclusions in a Limited Phase II ESA report.

3.0 PHASE II ESA ACTIVITIES

On October 7th and 10th, 2014, BOA completed nine soil borings, SB-1 through SB-9 at four locations along the project alignment. The soil borings were completed to depths ranging from 20 to 24 feet below ground surface (bgs). Two of the nine soil borings, SB-6 and SB-9 were converted to temporary well points, TWP-6 & TWP-9 for the collection of groundwater.

Soil borings were advanced utilizing direct push technologies inclusive of a truck-mounted hydraulically-driven sampling device consisting of a 2-inch diameter, 4-foot stainless steel sampling spoon. Soil samples were continuously collected at 2-foot intervals and field screened utilizing a photo-ionization detector (PID). PID field screenings ranged from non-detect (0.0 ppm) to 1,700 ppm (SB-9). Geologic stratigraphy (lithology) and subsurface characteristics were recorded by the field geologist. FIGURES 2 through 4 provide investigated site details and soil boring locations. Soil boring logs are presented in APPENDIX A.

Prior to the initial soil boring and between each 4-foot advancement, all sampling devices were thoroughly cleaned and decontaminated using a hospital grade detergent, water and distilled water. Soil samples were obtained by personnel utilizing appropriate sampling tools and wearing clean, disposable gloves. Disposable nitrile gloves were changed between each sample collection. Two discrete (grab) samples were collected from each 2-foot interval of the soil borings. One sample was placed in a disposable bag for headspace screening. The second soil sample was placed in a separate 8- or 4-ounce sterile glass containers equipped with Teflon-lined lids furnished by the testing laboratory. Each container was filled to capacity with soil to limit the amount of headspace present. All samples were labeled in the field and stored at approximately 4^{o}C prior to submission to ESC Lab Sciences for laboratory analyses. Chain-of-custody documentation accompanied the samples in accordance with standard quality assurance and quality control measures.

3.1 SOIL SAMPLING (6030 Dashwood Street)

Three soil borings, SB-1 through SB-3 were completed along the east side of Rampart Street, north of Dashwood Street. The soil borings were completed to 20 feet bgs. PID readings were non-detect (0.0 ppm). Default soil samples were collected and submitted for laboratory analyses. One soil sample was collected and submitted from each soil boring. FIGURE 2 provides site details and soil boring locations. Groundwater was not encountered to the completion depth of the soil boring at 20 feet bgs.

This REC is the location of a LPST facility, Former National Convenience Store/Stop-N-Go (6030 Dashwood Drive). The facility was not reported to have groundwater impact (LPST ID No. 112479), but is situated in close proximity to and adjoins the project alignment. The facility has been issued a case closure concurrence by the TCEQ, stating, "no further action is necessary" based on the information they received. Diamond Shamrock Refining & Marketing and Valero are the successors to the NCS. Three 10,000 gallon gasoline steel underground storage tanks (USTs) have been permanently removed the ground at the facility (Facility ID No. 35335). The facility was located on the northeast corner of Rampart and Dashwood Streets. A store remains at the location, but is operated by others and they do not market fuels. Tony's Market & Checks Cashed occupies the site. Due to the close proximity of the facility to the project alignment, additional evaluation was considered appropriate.

3.2 SOIL SAMPLING (6050 Jessamine Street & 7207 Rampart Street)

Three soil borings, SB-4, SB-5 and SB-6 were advanced at this REC location. The soil borings were completed to 24 feet bgs. Three soil borings were completed on the east side of Rampart Street. Two soil borings were completed on the north side of Jessamine Street and one soil boring was completed to the south side Jessamine Street. The soil borings PID readings were non-detect (0.0 ppm). Default soil samples were collected and submitted for laboratory analyses. FIGURE 3 provides site details and soil boring locations. Groundwater was encountered at 16 feet (SB-4 & SB-5) and 21 feet (SB-6) bgs at this REC location. A groundwater sample was collected from soil boring SB-6.

This REC is the location of an LPST facility and TxVCP facility/site. As to the LPST facility, Jessamine SOC (6050 Jessamine Street) was not reported to have groundwater impact (LPST ID No. 109190). The facility has since been issued a case closure concurrence by the TCEQ. One 10,000 gallon gasoline steel underground storage tank (UST) has been permanently removed the ground at the facility (Fac. ID No. 19186). The facility was located on the northeast corner of Rampart and Jessamine Streets and adjoins the project alignment. The property is currently utilized by a church and was formerly occupied by a Southwestern Bell facility. Due to the close proximity of the facility to the project alignment, additional evaluation was considered appropriate.

As to the TxVCP facility/site, Rampart Office Park (7207 Rampart Street) adjoins the project alignment and is situated at the southeast corner of Rampart Street and Jessamine Street (TxVCP ID No. 2123). The facility was reported to be in the investigation phase. One December 12, 2007, the facility applied to the TxVCP. The listing references 1.4 acres for deed recordation. A print shop appears to have been present in one of the tenant spaces at the location. The location is a small multi-tenant office/warehouse facility. Groundwater was reported to have been affected on a portion of the property by chlorinated solvents. In previous years, solvents were utilized to dilute the consistency of inks. Most inks now are water-based. Due to the close proximity of the facility, additional evaluation is considered to be appropriate. The print shop is no longer present at the location. Due to the close proximity of the facility to the project alignment, additional evaluation was considered appropriate.

3.3 SOIL SAMPLING (6102-A Bissonnet Street at Rampart Street)

Three soil borings, SB-7, SB-8 and SB-9 were completed at this REC location. The soil borings were completed to 24 feet bgs. The soil borings were advanced on the west side of Rampart Street, north of Bissonnet Street. PID readings ranged from non-detect (0.0 ppm) to 1,700 ppm. PID reading commenced at 12 feet bgs. The greatest PID reading was collected and submitted for laboratory analyses. FIGURE 4 provides site details and soil boring locations. Groundwater was encountered at 20 to 23 feet bgs at this REC location.

The REC is the location of an LPST facility. The LPST facility, Nine Stop / 9 Stop Food Store (6102 Bissonnnet Street) was reported to have groundwater impact (LPST ID No. 110263). The facility has since been issued a case closure concurrence by the TCEQ. Two 10,000 gallon steel gasoline USTs have been permanently removed the ground at the facility (Fac. ID No. 64937). The facility was formerly a tenant of a strip-style retail center. The convenience store is associated with Moneygram. Due to the close proximity of the facility to the project alignment, additional evaluation was considered appropriate.

3.4 GROUNDWATER SAMPLING

Two of the nine soil borings was converted to temporary well points, SB-6/TWP-6 and SB-9/TWP-9. After the completion of soil borings, a ¾-inch PVC temporary well point was placed in the borings. The temporary well points were developed by slowly purging the well with a peristaltic pump and purge water was co-mingled with drummed soil cuttings. After purging and recharge, groundwater samples were collected utilizing a dedicated plastic bailer. Groundwater was transferred from the bailer into glass 40 ml VOA viles equipped with Teflon-lined lids furnished by the testing laboratory. Each container was filled to capacity with groundwater to an inverted meniscus. All samples were labeled in the field and stored at approximately 4^{o}C prior to submission to ESC

Lab Sciences. Chain-of-custody documentation accompanied the samples in accordance with standard quality assurance and quality control measures. FIGURES 3 and 4 provide site details and temporary well point location. Soil boring logs for the temporary well point and other soil borings are presented in APPENDIX A.

4.0 REGULATORY FRAMEWORK

The Texas Commission on Environmental Quality (TCEQ) administers the Environmental Protection Agency (EPA) regulations and enforcement in Texas. It has additionally established its own standards for environmental compliance. The Texas Risk Reduction Program (TRRP) administered by TCEQ, as provided for in 30 TAC Chapter 350, addresses levels of regulated compounds and allowable levels of such contaminants to protect human health, safety, and the environment. The TCEQ TRRP applies to closures, corrective actions, and remediation efforts subject to the jurisdiction of the TCEQ. The TRRP, whether residential or commercial, contains provisions for Remedy Standard A (no physical controls required) or Remedy Standard B (physical controls required). Implementation of Remedy Standard A or Remedy Standard B is a tiered process, as described in general terms below:

- Tier 1 is a risk-based analysis to derive non site-specific protective concentration limits (PCLs) for complete or reasonably anticipated to be complete exposure pathways. Tier 1 is based on default exposure factors and affected property parameters, and assumes exposure occurs at, above, or below the source area (i.e., no lateral transport) (TCEQ Subchapter D Section 350.75 (b)).
- Tier 2 is a risk-based analysis to derive site-specific PCLs for complete or reasonably anticipated to be completed exposure pathways utilizing site-specific exposure factors, as allowable, and/or affected property parameters and Tier 1 equations. Tier 2 PCLs may also include lateral transport considerations (TCEQ, Subchapter D Section 350.75 (c)).
- Tier 3 is a risk-based analysis to derive site-specific PCLs for complete or reasonably anticipated to be completed exposure pathways. Tier 3 PCLs are based on measured natural attenuation factors and/or natural attenuation factor models/equations other than those provided for Tier 1 or 2; and may also include site-specific exposure factors, as allowable, and/or affected property parameters (TCEQ, Subchapter D Section 350.75 (d)).

The below provided soil PCLs are concentrations which are protective of human health and the environment:

* $^{GW}Soil_{Ing}$ * Groundwater Soil Ingestion ($^{GW}Soil_{Ing}$) is the groundwater protection standard for either residential or commercial use. Concentration in soil is assumed protective of groundwater considering cross-medial contamination of groundwater from contaminated

soil. This is the critical PCL for special handling practices of the soil for the project.

* $^{Tot}Soil_{Comb}$ * The Total Soil Combined ($^{Tot}Soil_{Comb}$) PCLs are a combined exposure standard for residential use. The PCL considers cross-media contamination of human ingestion, inhalation and dermal pathways. This is the critical PCL for construction worker exposure concentrations.

The following details groundwater PCLs:

* $^{GW}GW_{Ing}$ * Groundwater Ingestion ($^{GW}GW_{Ing}$) is the groundwater protection standard for either residential or commercial use. The $^{GW}GW_{Ing}$ PCLs are the same as the Federal Drinking Water Standards Maximum Concentration Limits (MCLs). This will be utilized to determine whether the groundwater is acceptable for surface discharge.

MTBE/BTEX or VOCs concentrations will be the environmental and exposure consideration of this project. The $^{Tot}Soil_{Comb}$ and $^{GW}GW_{Ing}$ PCLs are the action levels for this project.

5.0 SOIL/GW LABORATORY ANALYTICAL RESULTS

A total of nine soil samples were collected from the nine soil borings and soil samples were submitted to a certified laboratory for analyses. The soil samples were analyzed for total petroleum hydrocarbons (TPH) by Texas Commission on Environmental Quality (TCEQ) Texas Method 1005, volatile organic compounds (VOCs) or methyl tert-butyl ether/benzene, toluene, ethyl-benzene and total xylenes (MTBE/BTEX) by EPA Method SW846-8260B. Two groundwater samples were collected from two temporary well points, TWP-6 and TWP-9. Groundwater from TWP-6 was submitted for VOC and TPH analyses and ground water from TWP-9 was submitted for MTBE/BTEX and TPH analyses.

5.1 LABORATORY ANALYTICAL METHODS

Volatile Organic Compounds (VOCs) or Methyl tert-butyl ether/benzene, toluene, ethylbenzene, and xylene (MTBE/BTEX) and/or by SW-846 EPA Method 8260: This laboratory analysis employs a gas chromatograph (GC) equipped with a Mass Spectrometer (MS) detector to detect and quantify certain regulated, volatile organic compounds in a soil or water sample. Compounds on this list include certain chlorinated solvents used in dry cleaning and printing processes, refined petroleum products such as gasoline and diesel, and others. This method can also be used to test for BTEX compounds, which are a portion of the entire VOA list. These compounds are common components of

most formulated gasolines, and their presence is a reliable indicator that a gasoline release has occurred.

Total Petroleum Hydrocarbons (TPH) by TCEQ Method 1005: This laboratory analysis utilizes a GC equipped with a flame ionization detector (FID) to quantify levels of petroleum compounds or derivatives in the range from C6 to C28, in a soil or groundwater medium. Results are reported in two to three distinct ranges, from C6 to C12, >C12 to C28 and >C28 to C35. This allows some interpretation as to the possible source of the release, based upon the indicated carbon range. Petroleum hydrocarbons are not necessarily hazardous or toxic. The analysis is designed to determine if TPH is present, and to quantify the level of petroleum hydrocarbons. This analysis is especially useful as a broad category procedure, and may indicate additional testing for the specific hazardous or toxic constituents which may be present and contribute to the TPH levels assessed. Some constituents of petroleum hydrocarbons may be hazardous or toxic, high levels of TPH require additional testing of the sample area.

5.2 SOIL LABORATORY ANALYTICAL RESULTS

Soil samples, SB-1 at 6-8 feet, SB-2 at 4-6 feet, SB-3 at 8-10 feet; SB-4 at 2-4 feet, SB-5 at 6-8 feet, SB-6 at 18-20 feet, SB-7 at 6-8 feet, SB-8 at 4-6 feet and, SB-9 at 18-20 feet bgs were collected and submitted for TPH, VOCs or MTBE/BTEX analyses from the soil borings. The resulting laboratory analytical data was compared to the TCEQ TRRP Total Soil Combined ($^{Tot}Soil_{Comb}$) Protective Concentration Limits (PCLs) and Groundwater Soil Ingestion ($^{GW}Soil_{Ing}$) PCLs. Soil samples compared to the TCEQ Texas TCEQ TRRP $^{Tot}Soil_{Comb}$ and $^{GW}Soil_{Ing}$ PCLs.

5.2.1 LAB ANALYTICAL RESULTS (6030 Dashwood Street)

Three soil samples, SB-1 at 6-8 feet bgs, SB-2 at 4-6 feet bgs and SB-3 at 8-10 feet bgs, were collected, submitted and analyzed for this REC location. The following was reported for individual MTBE/BTEX constituents for the soil samples:

- MTBE concentrations were determined to be non-detect (<0.00021 mg/kg).
- Benzene concentrations were determined to be non-detect (<0.00027 mg/kg).
- Toluene concentrations were determined to be non-detect (<0.00043 mg/kg).
- Ethyl-benzene concentrations were determined to be non-detect (<0.00030 mg/kg).
- Total xylene concentrations were determined to be non-detect (<0.00070 mg/kg).

The following was reported in the designated carbon ranges for the soil

samples:

- TPH carbon ranges C_6-C_{12} were determined to be non-detect (<15 mg/kg).
- TPH carbon ranges >C_{12}-C_{28} were determined to be non-detect (<15 mg/kg).
- TPH carbon ranges >C_{28}-C_{35} were determined to be non-detect (<15 mg/kg).

No BTEX are TPH detections were reported at the REC location. TABLE I summarizes the laboratory analytical results. A copy of the laboratory analytical data is presented in APPENDIX B. Photographs of some of the field activities are presented in APPENDIX C. FIGURE 2 provides the soil boring locations and additional details.

5.2.2 LAB ANALYTICAL RESULTS (6050 Jessamine Street & 7207 Rampart Street)

Three soil samples, SB-4 at 2-4 feet bgs, SB-5 at 6-8 feet bgs and SB-6 at 18-20 feet bgs, were submitted and analyzed for this REC location. The following was reported for individual MTBE/BTEX constituents for the soil sample SB-4:

- The MTBE concentration was determined to be non-detect (<0.00021 mg/kg).
- The benzene concentration was determined to be non-detect (<0.00027 mg/kg).
- The toluene concentration was determined to be non-detect (<0.00043 mg/kg).
- The ethyl-benzene concentration was determined to be non-detect (<0.00030 mg/kg).
- The total xylene concentration was determined to be non-detect (<0.00070 mg/kg).

The following was reported for VOCs constituents for soil samples SB-5 and SB-6:

- VOC analytes were reported to be non-detect.

The following was reported in the designated carbon ranges for the soil samples:

- TPH carbon ranges C_6-C_{12} were determined to be non-detect (<15 mg/kg).
- TPH carbon ranges >C_{12}-C_{28} were determined to be non-detect (<15 mg/kg).
- TPH carbon ranges >C_{28}-C_{35} were determined to be non-detect (<15 mg/kg).

No BTEX are TPH detections were reported at the REC location. TABLE I summarizes the laboratory analytical results. A copy of the laboratory analytical data is presented in APPENDIX B. Photographs of some of the field activities are presented in APPENDIX C. FIGURE 3 provides the soil boring locations and additional details.

5.2.3 LAB ANALYTICAL RESULTS (6102-A Bissonnet Street)

Three soil samples, SB-7 at 6-8 feet bgs, SB-8 at 4-6 feet bgs and SB-9 at 18-20 feet bgs, were submitted and analyzed for this REC location. The following was reported for individual MTBE/BTEX constituents for the soil samples:

- MTBE concentrations were determined to be non-detect <(0.00021 mg/kg).
- Benzene concentrations were determined to range from non-detect (<0.00027 mg/kg) to 0.52 mg/kg.
- Toluene concentrations were determined to range from non-detect (<0.00043 mg/kg) to 23.0 mg/kg.
- Ethyl-benzene concentrations were determined range from non-detect (<0.00030 mg/kg) to 13.0 mg/kg.
- Total xylene concentrations were determined to range from non-detect (<0.00070 mg/kg) to 72.0 mg/kg.

The following was reported in the designated carbon ranges for the soil samples:

- TPH carbon ranges C_6-C_{12} were determined to range from non-detect (<15 mg/kg) to a J value of 20 mg/kg J.
- TPH carbon ranges >C_{12}-C_{28} were determined be non-detect (<15 mg/kg).
- TPH carbon ranges >C_{28}-C_{35} were determined to be non-detect (<15 mg/kg).

As to soil samples SB-7 and SB-8, MTBE/BTEX and TPH concentrations were determined to be non-detect at this REC location.

As to soil sample SB-9 at 18-20 feet, benzene, toluene, ethyl-benzene and total xylenes were detected. None of the soil laboratory analytical concentrations exceed the TCEQ TCEQ $^{Tot}Soil_{Comb}$ PCLs. The soil samples laboratory analytical results do exceed the $^{GW}Soil_{Ing}$ PCLs. Additionally, a J value was reported for TPH carbon range C_6-C_{12}. A "J" value is an estimated concentration between the method detection limit (MDL) and practical quantitation limit (PQL). Due to the detections, a portion of the REC area is identified as a PPCA. FIGURE 4 provides the PPCA, soil boring locations and additional details. Due to the above-noted detections, special handling practices will be required at the REC location. However, as far as soil disposal, waste characterization/profiling and waste composite soil sampling will determine whether the soil requires special

disposal. The PPCA is as follows:

- The Station No. range is from 18+00 to 19+50 (Rampart Street) and 00+75 to 1+75 (Bissonnet Street).

5.3 GROUNDWATER LABORATORY ANALYTICAL RESULTS

Groundwater samples were collected at two REC locations. A groundwater sample was collected from soil boring, SB-6 that was converted to temporary well point, TWP-6 and analyzed for VOCs by EPA Method SW846-8260 and TPH by Texas Method 1005. A groundwater sample was collected from soil boring, SB-9 that was converted to temporary well point, TWP-9 and analyzed for MTBE/BTEX by EPA Method SW846-8260 and TPH by Texas Method 1005.

5.3.1 LAB ANALYTICAL RESULTS (7207 Rampart Street)

One groundwater sample, TWP-6 was collected from the above-noted location. The following was reported for individual VOC constituents for the groundwater sample:

- No VOCs were reported to be non-detect in the laboratory analytical results.

The following was reported in the designated carbon ranges for the groundwater samples:

- The TPH carbon range C_6-C_{12} was determined to be non-detect (<0.60 mg/L).
- The TPH carbon range >C_{12}-C_{28} was determined to be 1.2 mg/L.
- The TPH carbon range >C_{28}-C_{35} was determined to be non-detect (<0.60 mg/L).

No VOCs concentrations were detected. TPH concentrations were predominantly determined to be non-detect at this location. With the exception of TPH >C_{12}-C_{28} detection, the groundwater laboratory analytical results were below TCEQ $^{GW}GW_{Ing}$ PCL and Federal Drinking Water Standard Maximum Concentration Limits (MCLs). Groundwater cannot be discharged to the surface without special handling practices of the generated water. However, if the groundwater lab results collected for discharge of the groundwater are below the discharge guidelines, groundwater may be discharged without further handling. Groundwater must be contained/stored until this occurs. The PPCA for a portion of this REC location is presented on FIGURE 3. A copy of the laboratory analytical results is presented in APPENDIX B. The PPCA is as follows:

- The Station No. range is from 33+75 to 34+25 (Rampart Street).

5.3.2 LAB ANALYTICAL RESULTS (6102-A Bissonnet Street)

One groundwater sample, TWP-9 was collected from the above-noted location. The following was reported for individual MTBE/BTEX constituents for the water sample:

- The MTBE concentration was determined to be non-detect (<0.00037 mg/L).
- The benzene concentration was determined to be 1.5 mg/L.
- The toluene concentration was determined to be 6.8 mg/L.
- The ethyl-benzene concentration was determined to be 1.6 mg/L.
- The total xylene concentration was determined to be 7.1 mg/L.

The following was reported in the designated carbon ranges for the groundwater samples:

- The TPH carbon range C_6-C_{12} was determined to be 19 mg/L.
- The TPH carbon range >C_{12}-C_{28} was determined to be non-detect (<0.60 mg/L).
- The TPH carbon range >C_{28}-C_{35} was determined to be non-detect (<0.60 mg/L).

MTBE/BTEX constituents were detected at this REC location. With the exception of MTBE, the other constituents (benzene, toluene, ethyl-benzene and xylenes) concentrations were detected above TCEQ $^{GW}GW_{Ing}$ PCL and/or Federal Drinking Water Standard Maximum Concentration Limits (MCLs). The individual TPH carbon range was several magnitudes above the 0.98 mg/L PCL for TPH carbon range C_6-C_{12}. Based on the detections, dewatering should be avoided or special management practices shall be required. Groundwater cannot be discharged to the surface without special handling practices of the generated water. Due to the elevated concentrations, groundwater is anticipated to require disposal. The PPCA station numbers have been previously indicated.

6.0 AIR MONITORING/WASTE OR MANAGEMENT PRACTICES

Based on the results of the Phase II ESA, air monitoring is warranted at the SB-9, if excavation activity is at 12 feet or below ground surface.

Air monitoring is not warranted at the remaining investigated areas of the project. Confined space protocol still applies.

"S*pecial handling practices*" of the soil should be employed for the vicinity of soil boring SB-9 (6102-A Bissonnet at Rampart Streets) and as specified in Section 5.2.3.

8.0 CONCLUSIONS

The purpose of the assessment was to determine the absence or presence and concentration levels of petroleum hydrocarbons in soil and/or groundwater. Phase II

ESA activities were conducted in accordance with Berg♦Oliver Associates, Inc. proposal/workplan dated August 12, 2014. Phase II ESA activities also were conducted in accordance with the ASTM 1903 Standard Practice and the City of Houston criteria. The following was indicated by the laboratory analytical results:

Soil Laboratory Analytical Results

The following was reported for the soil laboratory analytical results for the four REC locations:

- Based on the soil laboratory analytical results, the following is noted:

  6102-A Bissonnet at Rampart Streets

  - A portion of this REC location was determined to have been affected by hydrocarbons (gasoline). Benzene (0.52 mg/kg), toluene (23.0 mg/kg), ethyl-benzene (13.0 mg/kg) and total xylenes (72.0 mg/kg) concentrations were reported in the soil sample collected from soil boring SB-9, please refer to the following recommendations. The concentrations exceed the Texas Commission on Environmental Quality (TCEQ) Texas Risk Reduction Program (TRRP) Groundwater Protective Concentration Levels (PCLs). In soil boring, SB-9 PID readings were not encountered until 12 feet bgs. Due to the detections, a portion of the REC area is defined as a Potentially Petroleum Contaminated Area. The soil samples collected from soil borings SB-7 and SB-8 at the location were determined to be acceptable and no additional work is required at that portion of the alignment.

- The two remaining investigated REC locations were determined not to require additional work related to soil.

Groundwater and Groundwater Laboratory Analytical Results

During the Phase II ESA, adequate groundwater to collect groundwater samples was not present at one REC location (6030 Dashwood Street at Rampart Street). Groundwater was encountered at 16 feet in soil borings SB-4 & SB-5 and 23 feet bgs in soil boring SB-6 (6050 Jessamine at Rampart Streets and 7207 Rampart Street). Groundwater was encountered at 20 feet in soil borings SB-7 & SB-8 and 23 feet bgs in soil boring SB-9 (6012-A Bissonnet at Rampart Streets).

Groundwater was sampled at soil borings SB-6 and SB-9. The following is noted:

- *SB-6 Groundwater Sample*: No VOC analytes were detected at this temporary well point (TWP) location. With the exception a detection in TPH carbon range >C_{12}-C_{28} (1.2 mg/L), TPH carbon ranges were non-detect (<0.60 mg/L) for the groundwater laboratory analytical results. Due to the minor detection, part of the REC location is a PPCA. It should be noted that groundwater samples collected and analyzed may be acceptable for discharge to the surface. The groundwater will be required to be contained/store until this is ascertained (if applicable related to dewatering needs for the project).

- *SB-9 Groundwater Sample*: Benzene (1.5 mg/L), toluene (6.8 mg/L), ethyl-benzene (1.6 mg/L), total xylenes (7.1 mg/L) and TPH carbon range C_6-C_{12} (19 mg/L) concentrations were reported that exceed PCLs or MCLs at this TWP location. MTBE and TPH carbon ranges >C_{12}-C_{28} and >C_{28}-C_{35} were reported to be non-detect. Due to the detection, part of the REC location is a PPCA. If dewatering is required at the location, based on the lab results, groundwater is anticipated to require disposal.

9.0 RECOMMENDATIONS

Based on the laboratory analytical results and field observations of the Limited Phase II Environmental Site Assessment for the Rampart Area Drainage & Paving Sub-Project No. 2 in Houston, Harris County, Texas, the following is noted:

Soil/Groundwater Laboratory Analytical Results

- Based on the soil laboratory analytical results, the soil was determined not to be a concern to construction workers. Based on the laboratory analytical results, air monitoring is not warranted with the exception of the location of soil boring SB-9. Confined space protocols still apply. No additional environmental assessment is warranted. However, the following is noted:

  Nine Stop Food Store/Moneygram (6102-A Bissonnet Street)

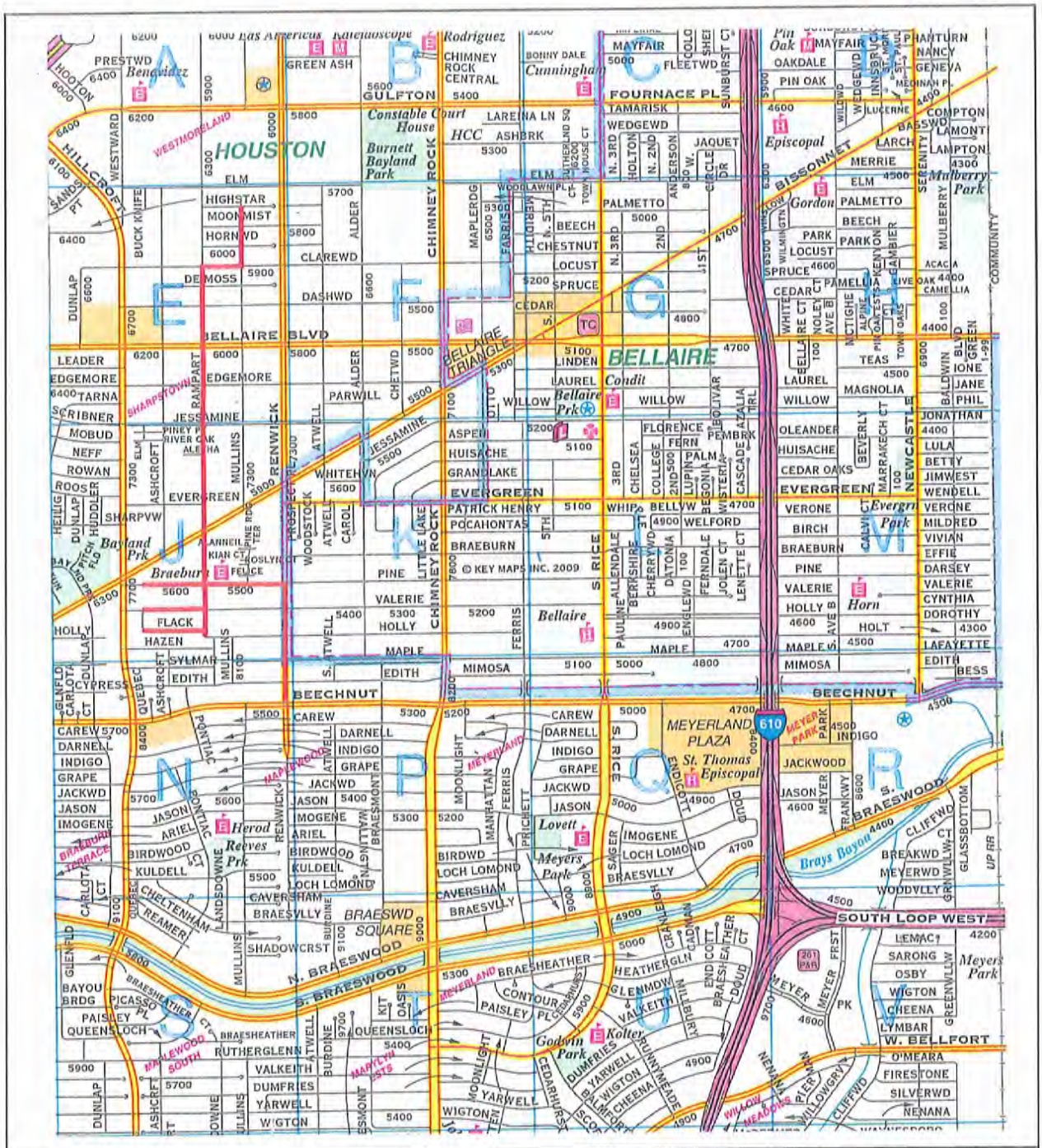
  - BTEX detections and one TPH carbon range detection that exceed the TCEQ TRRP $^{GW}Soil_{Ing}$ PCLs were reported in the soil sample collected from soil boring SB-9 at a portion of this REC location. Due to the detections, the area is identified as a Potentially Petroleum Contaminated Area. The constraints of the area are presented on *Figure 4*. Special handling practices of the soil are required. Groundwater was also determined to be hydrocarbon-affected at this REC (Tables I and II).
    - The Station No. range is from 18+00 to 19+50 (Rampart Street) and 00+75 to 1+75 (Bissonnet Street).

*Groundwater Laboratory Analytical Results

Rampart Office Park/Former Print Shop (7207 Rampart Street)

- *This location was only identified as having very minor groundwater impact (SB-6 vicinity only). A minor TPH carbon range >C_{12}-C_{28}.was reported at a portion of this REC location. Table II presented in the Tables Appendix provide additional details on the groundwater laboratory analytical results. The area is identified as a Potentially Contaminated Area. Special handling practices of the groundwater are required, unless determined to be acceptable for discharge by pre-discharge sampling and analyses (construction-related activity). The constraints of the area are presented on *Figure 3*.
  - The Station No. range is from 33+75 to 34+25 (Rampart Street).

FIGURES



HARRIS COUNTY KEY MAP

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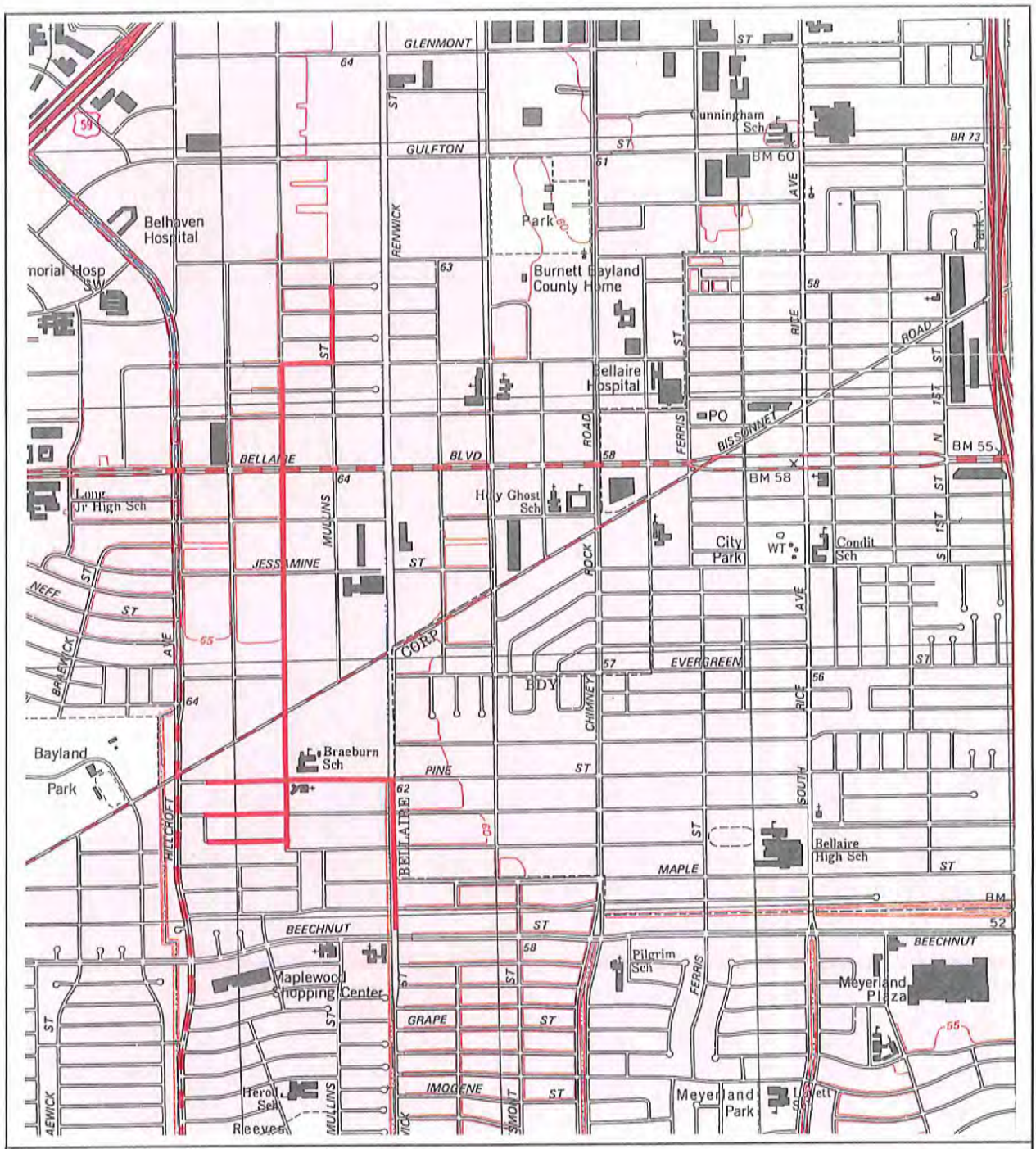
APPROXIMATE SCALE 1" = 1/2 MILE = 2,640'

BERG-OLIVER ASSOCIATES, INC.



U.S. DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY

BELLAIRE QUADRANGLE
HARRIS COUNTY, TEXAS

7.5 MINUTE SERIES (TOPOGRAPHIC)

BERG-OLIVER ASSOCIATES, INC.

FIGURE 2
Soil Boring Location Map
Rampart Area Drainage & Paving Sub-Project No. 2
Former NCS/Stop-N-Go LPST-PST Facility
(6030 Dashwood Street)
Houston, Harris County, Texas
BOA Job No. 9529H-P2

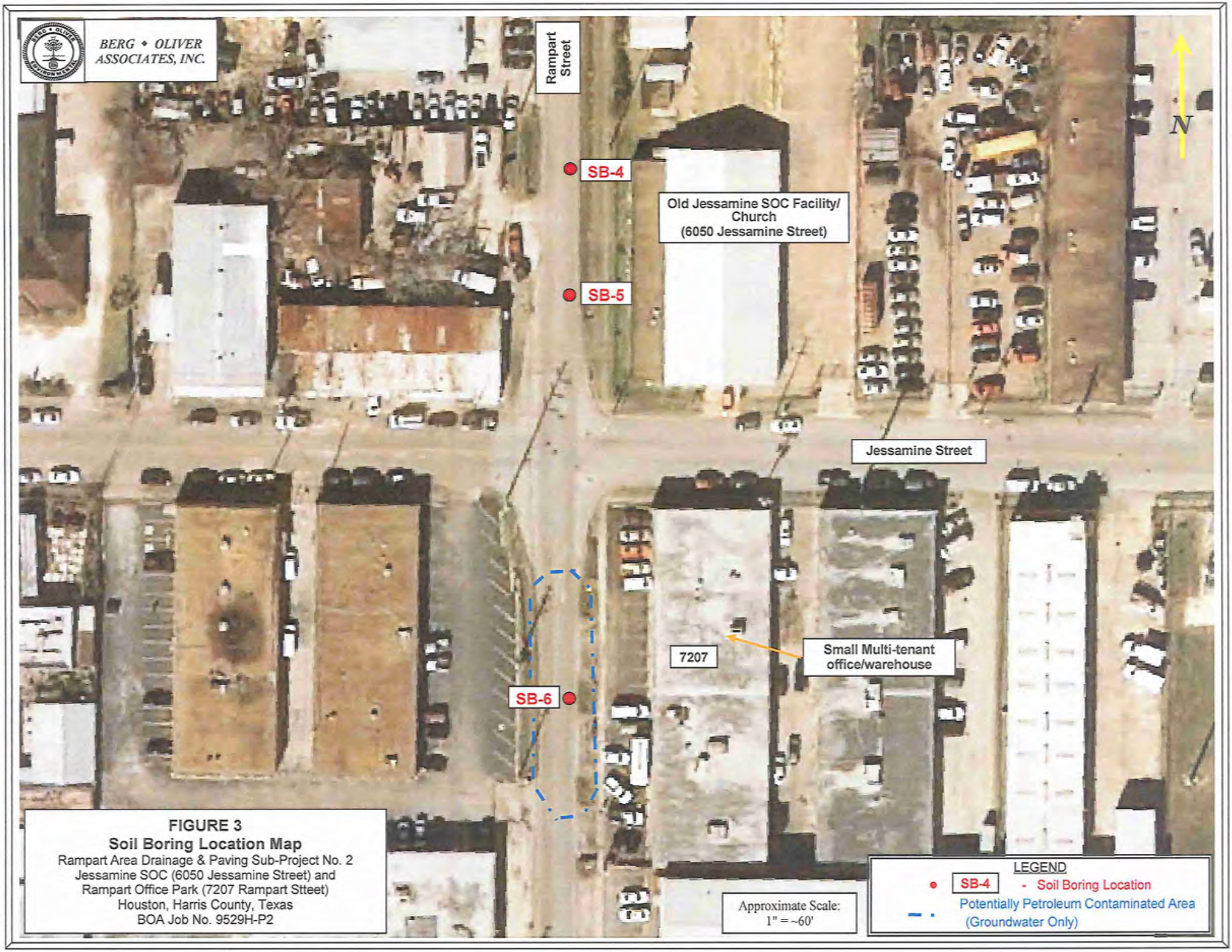


FIGURE 3
Soil Boring Location Map
Rampart Area Drainage & Paving Sub-Project No. 2
Jessamine SOC (6050 Jessamine Street) and
Rampart Office Park (7207 Rampart Stteet)
Houston, Harris County, Texas
BOA Job No. 9529H-P2

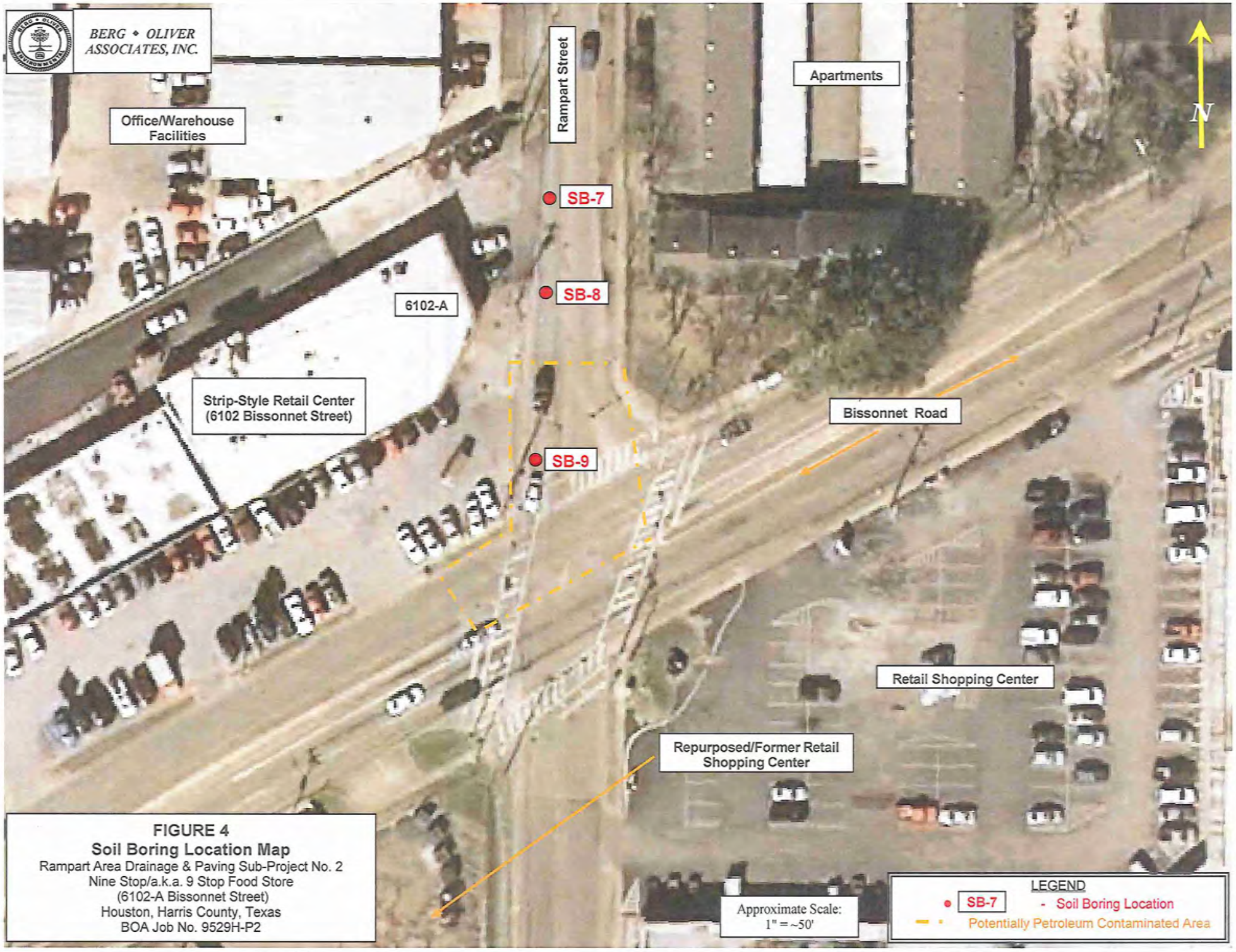


FIGURE 4
Soil Boring Location Map
Rampart Area Drainage & Paving Sub-Project No. 2
Nine Stop/a.k.a. 9 Stop Food Store
(6102-A Bissonnet Street)
Houston, Harris County, Texas
BOA Job No. 9529H-P2

TABLES

TABLE I

SUMMARY OF SOIL LABORATORY ANALYTICAL RESULTS - BTEX/TPH
RAMPART AREA DRAINAGE AND PAVING SUB-PROJECT NO. 2
HOUSTON, HARRIS COUNTY, TEXAS

Sample ID	Date	Depth (feet)	MTBE (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Xylenes (mg/kg)	BTEX (mg/kg)	TPH C6-C12 (mg/kg)	TPH >C12-C28 (mg/kg)	TPH >C28-C35 (mg/kg)	Total TPH (mg/kg)
TRRP Tier 1 PCLs ($^{Tot}Soil_{Comb}$)			804	116	5,934	6,394	5,957	NA	1,600	2,300	NA	NA
TRRP Tier 1 PCLs ($^{GW}Soil_{Ing}$)			0.621	0.026	8.21	7.53	122	NA	65	200	NA	NA
SOIL BORING SOIL SAMPLES												
Former National Convenience Store/Stop-N-Go LPST-PST facility (6030 Dashwood at Rampart Streets)												
SB-1	10/07/14	6-8	<0.00021	<0.00027	<0.00043	<0.00030	<0.00070	ND	<15	<15	<15	ND
SB-2	10/07/14	4-6	<0.00021	<0.00027	<0.00043	<0.00030	<0.00070	ND	<15	<15	<15	ND
SB-3	10/07/14	8-10	<0.00021	<0.00027	<0.00043	<0.00030	<0.00070	ND	<15	<15	<15	ND
Jessamine SOC (6050 Jessamine at Rampart Street)												
SB-4	10/07/14	2-4	<0.00021	<0.00027	<0.00043	<0.00030	<0.00070	ND	<15	<15	<15	ND
Nine Stop/a.k.a. 9 Stop Food Store (6102-A Bissonnet at Rampart Streets)												
SB-7	10/09/14	6-8	<0.00021	<0.00027	<0.00043	<0.00030	<0.00070	ND	<15	<15	<15	ND
SB-8	10/09/14	4-6	<0.00021	<0.00027	<0.00043	<0.00030	<0.00070	ND	<15	<15	<15	ND
SB-9	10/09/14	18-20	<0.00021	**6.52**	**23.0**	**13.0**	**72.0**	108.52	**20 J**	<15	<15	20

Notes:

1. PCLs indicates TRRP Tier 1 Tables protective concentration limits (May 2011).
2. TRRP Tier 1 PCLs ($^{Tot}Soil_{Comb}$) indicates the PCLs for the combined soil exposure pathways (Residential, 0.5-acre site).
3. TRRP Tier 1 PCLs ($^{GW}Soil_{Ing}$) indicates the PCLs for the leaching of soil concentrations into groundwater (Residential, 0.5-acre site).
4. Analyses by the following methods: BTEX - EPA Method SW846-8260; TPH - Texas Method 1005.
5. Detections are provided in bold font.
6. NA indicates Not Applicable, or Not Available.
7. ND indicates Non-Detect.

TABLE II

SUMMARY OF GROUNDWATER ANALYTICAL DATA - BTEX/TPH
RAMPART AREA DRAINAGE AND PAVING SUB-PROJECT NO. 2
HOUSTON, HARRIS COUNTY, TEXAS

Sample ID	Date	Benzene (mg/L)	Toluene (mg/L)	Ethyl-Benzene (mg/L)	Xylenes (mg/L)	BTEX (mg/L)	MTBE (mg/L)	TPH C6-C12 (mg/L)	TPH >C12-C28 (mg/L)	TPH >C28-C35 (mg/L)	Total TPH (mg/L)
TRRP Tier 1 PCLs ($^{GW}GW_{Ing}$)		0.005	1.0	0.7	10.0	NA	0.244	0.98	0.98	0.98	NA
TRRP Tier 1 PCLs ($^{GW}GW_{Class\ 3}$)		0.5	100	70	1,000	NA	24.4	97	97	97	NA
TRRP Tier 1 PCLs ($^{Air}GW_{Inh-V}$)		50	6,283	15,648	1,676	NA	4,038	4,250	7,497	NA	NA
SOIL BORING/TEMPORARY WELL POINT											
Nine Stop/a.k.a. 9 Stop Food Store (6102-A Bissonnet at Rampart Streets)											
SB-6/TWP-6	10/07/14	<0.00035	<0.00078	<0.00026	<0.0011	ND	<0.00037	<0.60	1.2	<0.60	1.2
SB-9/TWP-9	10/10/14	**1.5**	**6.8**	**1.6**	**7.1**	17	**0.072**	**19**	<0.60	<0.60	19

Notes:
1. PCLs indicates TRRP Tier 1 Tables protective concentration limits.
2. TRRP Tier 1 PCLs ($^{GW}GW_{Ing}$) indicates the PCLs for groundwater ingestion and is the same as MCLs under Federal Drinking Water Standards.
3. TRRP Tier 1 PCLs ($^{GW}GW_{Class\ 3}$) indicates the PCLs for Class 3 groundwater conditions.
4. TRRP Tier 1 PCLs ($^{Air}GW_{Inh-V}$) indicates the PCLs for the inhalation of water vapor.
5. Analyses by the following methods: BTEX/MTBE - EPA Method SW846-8260B; TPH - Texas Method 1005
6. Detections are provided in bold font.
7. NA indicates Not Applicable, or Not Available
8. ND indicates Non-Detect
9. Shaded cell indicates PCL exceedence, if applicable
10. J indicates and estimated concentration between the method detection limit and practical quantitation limit.

APPENDIX A

Soil Boring Logs

PROJECT NO: 9529H-P2

SITE NAME: Rampart Area Drainage & Paving Sub-Project No. 2

☒ BOREHOLE ☐ MONITOR WELL

BORING NUMBER: SB-1 TEMP. WELL NUMBER:

FACILITY ADDRESS: 6030 Dashwood Street at Rampart Street

DRILLING COMPANY / METHOD / RIG: Alpine/Truck-Mounted Hydraulically-Driven Push Probe

DRILLER: Clay DATE: (START/FINISH) 10/07/2014 @ 11:41 to 12:01

LOGGED BY: T. Murphy TOP OF CASING ELEVATION: N/Appl.

DEPTH (FEET)	PID	SAMPLE INTERVAL	STRATIGRAPHY	USCS	SOIL DESCRIPTION AND COMMENT (CLASSIFICATION, GRAIN SIZE, COLOR, MOISTURE, ODOR, OTHER)	NOTES
			Ground Surface			
0	0.0			Fill	Asphalt (6") Fill, Gravel with some dark gray clay (surface to 2 feet)	
	0.0			CH	Clay; Dark gray clay, fines, moist (2-6 feet)	
5	0.0					SB-1 @ 6-8'; 11:45, 1-4 oz
	0.0			CH	Clay; Light gray with some orangish-brown clay, fines, moist with calcareous nodules (6-10 feet)	
10	0.0					
	0.0			SP	Sandy silt; Dark gray sandy silt, fines, moist (10-16 feet)	
15	0.0					
	0.0			CH	Clay; Orangish-brown clay with some dark brown clay, fines, moist with calcareous concretions (9-12 feet)	
20	0.0					
25					Total Depth = 20 ft Note: Probe subsurface at 11:39.	
30						
35						
40						
45						

FILTER SAND | BENTONITE SEAL | GROUT / CONCRETE SURFACE | ▼ WATER ENCOUNTERED

Berg ♦ Oliver Associates, Inc.

TOTAL DEPTH: 20'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

SURFACE COMPLETION: ☐ FLUSH W/CONCRETE ☐ RISER W/CONCRETE

SHEET 1 OF 1

PROJECT NO: 9529H-P2

SITE NAME: Rampart Area Drainage & Paving Sub-Project No. 2

☒ BOREHOLE ☐ MONITOR WELL

BORING NUMBER : SB-2 TEMP. WELL NUMBER :

FACILITY ADDRESS: 6030 Dashwood Street at Rampart Street

DRILLING COMPANY / METHOD / RIG: Alpine/Truck-Mounted Hydraulically-Driven Push Probe

DRILLER: Clay DATE: (START/FINISH) 10/07/2014 @ 10:40 to 11:06

LOGGED BY: T. Murphy TOP OF CASING ELEVATION: N/Appl.

DEPTH (FEET)	PID	SAMPLE INTERVAL	STRATIGRAPHY	USCS	SOIL DESCRIPTION AND COMMENT (CLASSIFICATION, GRAIN SIZE, COLOR, MOISTURE, ODOR, OTHER)	NOTES
			Ground Surface			
0	0.0			Fill	Fill, Grass and topsoil (surface to 2 feet)	
	0.0					SB-2 @ 4-6'; 10:45, 1-4 oz
5	0.0			CH	Clay; Dark gray clay, fines, moist (2-10 feet)	
	0.0					
10	0.0					
	0.0					
	0.0					
15	0.0			CH	Clay; Orangish-brown clay with some dark brown clay, fines, moist with calcareous concretions (10-20 feet)	
	0.0					
20	0.0					
					Total Depth = 20 ft	
					Note: Probe subsurface at 10:38.	
25						
30						
35						
40						
45						

FILTER SAND | BENTONITE SEAL | GROUT / CONCRETE SURFACE | ▼ WATER ENCOUNTERED

Berg • Oliver Associates, Inc.

TOTAL DEPTH: 20'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

SURFACE COMPLETION: ☐ FLUSH W/CONCRETE ☐ RISER W/CONCRETE

SHEET 1 OF 1

PROJECT NO: 9529H-P2

SITE NAME: Rampart Area Drainage & Paving Sub-Project No. 2

☒ BOREHOLE ☐ MONITOR WELL

BORING NUMBER : SB-3 TEMP. WELL NUMBER :

FACILITY ADDRESS: 6030 Dashwood Street at Rampart Street

DRILLING COMPANY / METHOD / RIG: Alpine/Truck-Mounted Hydraulically-Driven Push Probe

DRILLER: Clay DATE: (START/FINISH) 10/07/2014 @ 12:40 to 12:59

LOGGED BY: T. Murphy TOP OF CASING ELEVATION: N/Appl.

DEPTH (FEET)	PID	SAMPLE INTERVAL	STRATIGRAPHY	USCS	SOIL DESCRIPTION AND COMMENT (CLASSIFICATION, GRAIN SIZE, COLOR, MOISTURE, ODOR, OTHER)	NOTES
			Ground Surface			
0	0.0			Fill	Fill, Grass and topsoil (surface to 2 feet)	
	0.0			CL	Sandy clay; Dark gray sandy clay, fines, moist with some concrete debris (2-6 feet)	
5	0.0					
	0.0					SB-2 @ 8-10'; 12:47, 1-4 oz
10	0.0					
	0.0			CL	Clay; Orangish-gray sandy clay with some dark brown clay, fines, moist with a few thin sand lenses (6-20 feet)	
15	0.0					
	0.0					
20	0.0				Total Depth = 20 ft	
					Note: Probe subsurface at 12:37.	
25						
30						
35						
40						
45						

FILTER SAND | BENTONITE SEAL | GROUT / CONCRETE SURFACE | ▼ WATER ENCOUNTERED

Berg ♦ Oliver Associates, Inc.

TOTAL DEPTH: 20'

SEAL MATERIAL: (TYPE/INTERVAL) Bentomite to surface

SURFACE COMPLETION: ☐ FLUSH W/CONCRETE ☐ RISER W/CONCRETE

SHEET 1 OF 1

PROJECT NO: 9529H-P2

SITE NAME: Rampart Area Drainage & Paving Sub-Project No. 2

☒ BOREHOLE ☐ MONITOR WELL

BORING NUMBER : SB-4 TEMP. WELL NUMBER :

FACILITY ADDRESS: 6050 Jessamine Street at Rampart Street

DRILLING COMPANY / METHOD / RIG: Alpine/Truck-Mounted Hydraulically-Driven Push Probe

DRILLER: Clay DATE: (START/FINISH) 10/07/2014 @ 13:11 to 13:43

LOGGED BY: T. Murphy TOP OF CASING ELEVATION: N/Appl.

DEPTH (FEET)	PID	SAMPLE INTERVAL	STRATIGRAPHY	USCS	SOIL DESCRIPTION AND COMMENT (CLASSIFICATION, GRAIN SIZE, COLOR, MOISTURE, ODOR, OTHER)	NOTES
0	0.0		Ground Surface	Fill	Asphalt (6") Fill, Gravel with some dark brown clay (surface to 2 feet)	SB-4 @ 2-4'; 13:13, 1-4 oz
5	0.0			CH	Clay; Dark gray clay, fines, moist (2-7 feet)	
10	0.0			CH	Clay; Light gray with some orangish-brown clay, fines, moist with calcareous nodules (7-13 feet)	
15	0.0			SM	Sand; Yellowish-brown (beige-tan) sand, medium-grained, moist to wet (13-24 feet)	
20	0.0					
25					Total Depth = 24 ft Note: Probe subsurface at 13:10. Groundwater was encounted at 16 feet bgs.	
30						
35						
40						
45						

FILTER SAND | BENTONITE SEAL | GROUT / CONCRETE SURFACE | ▼ WATER ENCOUNTERED

Berg ♦ Oliver Associates, Inc.

TOTAL DEPTH: 24'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

SURFACE COMPLETION: ☐ FLUSH W/CONCRETE ☐ RISER W/CONCRETE

SHEET 1 OF 1

PROJECT NO: 9529H-P2

SITE NAME: Rampart Area Drainage & Paving Sub-Project No. 2

☒ BOREHOLE ☐ MONITOR WELL

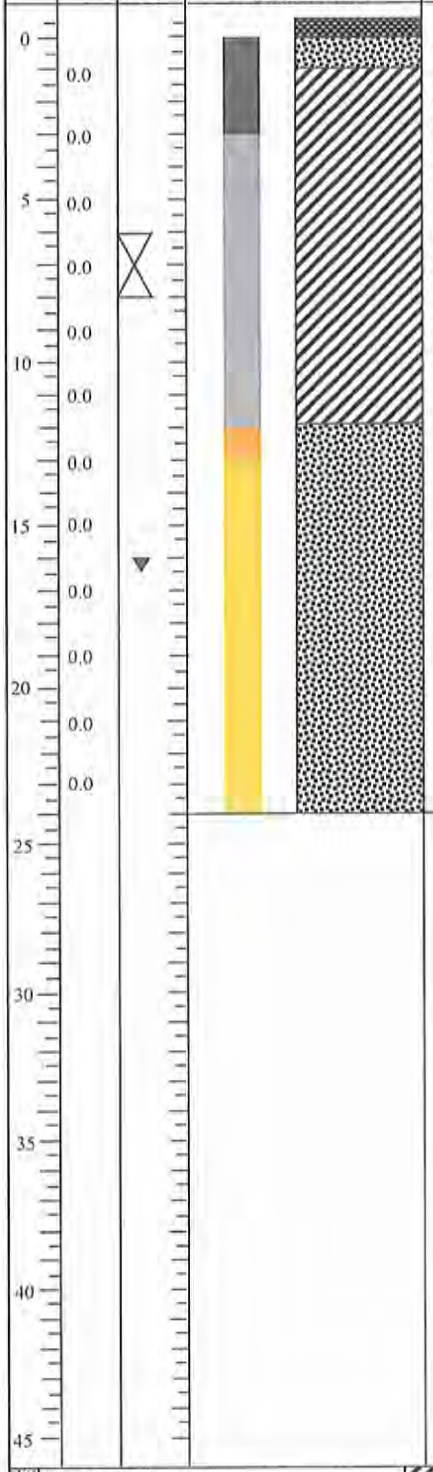
BORING NUMBER : SB-5 TEMP. WELL NUMBER :

FACILITY ADDRESS: 6050 Jessamine Street at Rampart Street

DRILLING COMPANY / METHOD / RIG: Alpine/Truck-Mounted Hydraulically-Driven Push Probe

DRILLER: Clay DATE: (START/FINISH) 10/07/2014 @ 13:54 to 14:20

LOGGED BY: T. Murphy TOP OF CASING ELEVATION: N/Appl.



USCS	SOIL DESCRIPTION AND COMMENT (CLASSIFICATION, GRAIN SIZE, COLOR, MOISTURE, ODOR, OTHER)	NOTES
	Asphalt (6")	
Fill	Fill, Gravel with some dark brown clay (surface to 1-foot)	
CL	Sandy clay; Dark gray clay, fines, moist (1-foot to 3 feet)	
CL	Sandy clay; Light grayish-brown clay, fines, moist with sand lense at 5-6 feet bgs (3-12 feet)	SB-5 @ 6-8'; 14:00, 1-4 oz
SM	Sand; Reddish-orange sandy silt; Yellowish-brown (beige-tan) sand, medium-grained, moist to wet (12-24 feet)	

Total Depth = 24 ft

Note: Probe subsurface at 13:53.

Groundwater was encounted at 16 feet bgs.

FILTER SAND | BENTONITE SEAL | GROUT / CONCRETE SURFACE | ▼ WATER ENCOUNTERED

Berg • Oliver Associates, Inc.

TOTAL DEPTH: 24'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

SURFACE COMPLETION: ☐ FLUSH W/CONCRETE ☐ RISER W/CONCRETE

PROJECT NO: 9529H-P2

SITE NAME: Rampart Area Drainage & Paving Sub-Project No. 2

☒ BOREHOLE ☐ MONITOR WELL

BORING NUMBER : SB-6 TEMP. WELL NUMBER :

FACILITY ADDRESS: 7207 Rampart Street at Jessamine Street

DRILLING COMPANY / METHOD / RIG: Alpine/Truck-Mounted Hydraulically-Driven Push Probe

DRILLER: Clay DATE: (START/FINISH) 10/07/2014 @ 14:37 to 15:08

LOGGED BY: T. Murphy TOP OF CASING ELEVATION: N/Appl.

DEPTH (FEET)	PID	SAMPLE INTERVAL	STRATIGRAPHY	USCS	SOIL DESCRIPTION AND COMMENT (CLASSIFICATION, GRAIN SIZE, COLOR, MOISTURE, ODOR, OTHER)	NOTES
			Ground Surface		Asphalt (6")	
0	0.0			Fill	Fill, Gravel with some dark brown clay (surface to 1-foot)	
	0.0			CH	Clay; Dark gray clay, fines, moist (1-foot to 4 feet)	
5	0.0			CH	Clay; Light grayish-brown clay, fines, moist with calcareous nodules (4-9 feet)	
	0.0					
	0.0					
10	0.0			CH	Clay; Reddish-orange and gray clay, fines, moist with calcareous nodules and MG staining (9-16 feet)	
	0.0					
15	0.0					
	0.0					
20	0.0			SP	Sandy silt; Yellowish-brown (beige-tan) & reddish-orange sandy silt, moist to wet (16-24 feet)	SB-6 @ 18-20'; 15:01, 1-4 oz
	0.0					
25					Total Depth = 24 ft	
					Note: Probe subsurface at 14:35.	
30					Groundwater was encounted at 23 feet bgs.	
					Groundwater sample colllected at 15:30.	
35						
40						
45						

FILTER SAND | BENTONITE SEAL | GROUT / CONCRETE SURFACE | ▼ WATER ENCOUNTERED

Berg ♦ Oliver Associates, Inc.

TOTAL DEPTH 24'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

SURFACE COMPLETION: ☐ FLUSH W/CONCRETE ☐ RISER W/CONCRETE

SHEET 1 OF 1

PROJECT NO: 9529H-P2

SITE NAME: Rampart Area Drainage & Paving Sub-Project No. 2

☒ BOREHOLE ☐ MONITOR WELL

BORING NUMBER : SB-7 TEMP. WELL NUMBER :

FACILITY ADDRESS: 6102-A Bissonnet at Rampart Streets

DRILLING COMPANY / METHOD / RIG: Alpine/Truck-Mounted Hydraulically-Driven Push Probe

DRILLER: Clay DATE: (START/FINISH) 10/09/2014 @ 9:33 to 10:00

LOGGED BY: T. Murphy TOP OF CASING ELEVATION: N/Appl.

DEPTH (FEET)	PID	SAMPLE INTERVAL	STRATIGRAPHY	USCS	SOIL DESCRIPTION AND COMMENT (CLASSIFICATION, GRAIN SIZE, COLOR, MOISTURE, ODOR, OTHER)	NOTES
0			Ground Surface			
	0.0			Fill	Asphalt (5") Concrete base (9")	
	0.0			CL	Sandy clay and clay; Gray sandy clay, fines, moist (surface to 9 feet)	
5	0.0					
	0.0					SB-7 @ 6-8'; 9:40 1-4 oz
	0.0					
10	0.0			CH	Clay; Light gray clay, fines, moist with FE staining (9-14 feet)	
	0.0					
	0.0					
15	0.0			SP	Sandy silt; Reddish-orange and yellowish-brown sandy silt with sand lenses moist (14-20 feet)	
	0.0					
20	0.0	▼		SM	Sand; Reddish-orange sand & silty sand, medium-grained, wet (20-24 feet)	
	0.0					
25					Total Depth = 24 ft Note: Probe subsurface at 9:32. Groundwater was encounted at 20 feet bgs.	
30						
35						
40						
45						

FILTER SAND | BENTONITE SEAL | GROUT / CONCRETE SURFACE | ▼ WATER ENCOUNTERED

Berg ♦ Oliver Associates, Inc.

TOTAL DEPTH: 24'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

SURFACE COMPLETION: ☐ FLUSH W/CONCRETE ☐ RISER W/CONCRETE

SHEET 1 OF 1

PROJECT NO: 9529H-P2

SITE NAME: Rampart Area Drainage & Paving Sub-Project No. 2

☒ BOREHOLE ☐ MONITOR WELL

BORING NUMBER: SB-8 TEMP. WELL NUMBER: _____

FACILITY ADDRESS: 6102-A Bissonnet at Rampart Streets

DRILLING COMPANY / METHOD / RIG: Alpine/Truck-Mounted Hydraulically-Driven Push Probe

DRILLER: Clay DATE: (START/FINISH) 10/09/2014 @ 10:07 to 10:38

LOGGED BY: T. Murphy TOP OF CASING ELEVATION: N/Appl.

DEPTH (FEET)	PID	SAMPLE INTERVAL	STRATIGRAPHY	USCS	SOIL DESCRIPTION AND COMMENT (CLASSIFICATION, GRAIN SIZE, COLOR, MOISTURE, ODOR, OTHER)	NOTES
0			Ground Surface		Asphalt (4")	
0	0.0					
5	0.0			CLH	Sandy clay; Light gray clay, fines, moist with FE staining (surface to 10 feet)	SB-8 @ 4-6'; 10:15, 1-4 oz
10	0.0			CH	Clay; Light gray clay, fines, moist with FE staining (10-14 feet)	
15	0.0			SP	Sandy silt; Reddish-orange and gray sandy silt with sand lenses moist (14-20 feet)	
20	0.0	▼		SM	Sand; Reddish-orange sand, medium-grained, wet (20-24 feet)	
25	0.0					
30					Total Depth = 24 ft Note: Probe subsurface at 10:05. Groundwater was encounted at 20 feet bgs.	
35						
40						
45						

FILTER SAND | BENTONITE SEAL | GROUT / CONCRETE SURFACE | ▼ WATER ENCOUNTERED

Berg • Oliver Associates, Inc.

TOTAL DEPTH: 24'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

SURFACE COMPLETION: ☐ FLUSH W/CONCRETE ☐ RISER W/CONCRETE

SHEET 1 OF 1

PROJECT NO: 9529H-P2

SITE NAME: Rampart Area Drainage & Paving Sub-Project No. 2

☒ BOREHOLE ☐ MONITOR WELL

BORING NUMBER : SB-9 **TEMP. WELL NUMBER :**

FACILITY ADDRESS: 6102-A Bissonnet at Rampart Streets

DRILLING COMPANY / METHOD / RIG: Alpine/Truck-Mounted Hydraulically-Driven Push Probe

DRILLER: Clay **DATE: (START/FINISH)** 10/09/2014 @ 10:48 to 11:25

LOGGED BY: T. Murphy **TOP OF CASING ELEVATION:** N/Appl.

DEPTH (FEET)	PID	SAMPLE INTERVAL	STRATIGRAPHY	USCS	SOIL DESCRIPTION AND COMMENT (CLASSIFICATION, GRAIN SIZE, COLOR, MOISTURE, ODOR, OTHER)	NOTES
			Ground Surface			
0	0.0				Concrete (13.5")	
5	0.0			CLH	Sandy clay; Light gray sandy clay, fines, moist (surface to 10 feet)	
10	0.0			CH	Clay; Light gray clay with reddish-orange, fines, moist with FE staining (10-18 feet)	
15	53.7					
	392					
	481					
20	1,700			SP	Sandy silt; Light gray with reddish-orange sandy silt, moist to wet (18-20 feet)	SB-9 @ 18-20'; 11:09, 1-4 oz
	405					
	399	▼				
25					Total Depth = 24 ft	
					Note: Probe subsurface at 10:47.	
30					Groundwater was encounted at 23 feet bgs.	
					Groundwater sample collected at 11:40.	
35						
40						
45						

FILTER SAND | BENTONITE SEAL | GROUT / CONCRETE SURFACE | ▼ WATER ENCOUNTERED

Berg ♦ Oliver Associates, Inc.

TOTAL DEPTH: 24'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

SURFACE COMPLETION: ☐ FLUSH W/CONCRETE ☐ RISER W/CONCRETE

APPENDIX B

Laboratory Analytical Results

ESC
L·A·B S·C·I·E·N·C·E·S
YOUR LAB OF CHOICE

12065 Lebanon Rd
Mt. Juliet, TN 37122
(615) 758-5858
(800) 767-5859
Fax (615) 758-5859
Tax I.D 62-0814289
Est. 1970

Quality Control Summary
SDG: L727111

For: Berg Oliver
Rampart Area

L727111

Lab SampleID.	Client ID
L727111-01	SB-1
L727111-02	SB-2
L727111-03	SB-3
L727111-04	SB-4
L727111-05	SB-5
L727111-06	SB-6
L727111-07	SB-7
L727111-08	SB-8
L727111-09	SB-9
L727111-10	SB-6/TWP-6
L727111-11	SB-9/TWP-9

Appendix A Laboratory Data Package Cover Page

This data package consists of:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 Sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c) The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;

R10 Other problems or anomalies.

The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release Statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: [ ] This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

William Mock
Operations Manager
Environmental Science Corp.

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: ESC Lab Sciences	LRC Date: 10/21/14
Project Name: Rampart Area	Laboratory Job Number: L727111-11
Reviewer Name: ESC Representative	Prep Batch Number(s): WG748057 V8260BTEXM

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-custody (C-O-C)					
R1	OI	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?			✓		
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample quantitation limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?	✓				
		Were % moisture (or solids) reported for all soil and sediment samples?	✓				
		If required for the project, TICs reported?			✓		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	✓				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	✓				
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?	✓				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
		Was the LCSD RPD within QC limits?	✓				
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	✓				
		Were MS/MSD analyzed at the appropriate frequency?	✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Were MS/MSD RPDs within laboratory QC limits?	✓				
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			✓		
		Were analytical duplicates analyzed at the appropriate frequency?			✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs included in the laboratory data package?	✓				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Were all necessary corrective actions performed for the reported data?	✓				
		Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: ESC Lab Sciences	LRC Date: 10/21/2014
Project Name: Rampart Area	Laboratory Job Number: L727111-11
Reviewer Name: ESC Representative	Prep Batch Number(s): WG748057 V8260BTEXM

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration**					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			✓		
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	✓				
		Were ion abundance data within the method-required QC limits?	✓				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	✓				
S5	OI	**Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?			✓		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	✓				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
3 NA = Not applicable.
4 NR = Not Reviewed.
5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: ESC Lab Sciences	LRC Date: 10/21/14
Project Name: Rampart Area	Laboratory Job Number: L727111-10
Reviewer Name: ESC Representative	Prep Batch Number(s): WG748133 V8260

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-custody (C-O-C)					
R1	OI	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?	✓				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample quantitation limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?	✓				
		Were % moisture (or solids) reported for all soil and sediment samples?	✓				
		If required for the project, TICs reported?			✓		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	✓				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	✓				
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?	✓				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
		Was the LCSD RPD within QC limits?		✓			3
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	✓				
		Were MS/MSD analyzed at the appropriate frequency?	✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		✓			1
		Were MS/MSD RPDs within laboratory QC limits?		✓			2
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			✓		
		Were analytical duplicates analyzed at the appropriate frequency?			✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs included in the laboratory data package?	✓				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Were all necessary corrective actions performed for the reported data?	✓				
		Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: ESC Lab Sciences	LRC Date: 10/21/2014
Project Name: Rampart Area	Laboratory Job Number: L727111-10
Reviewer Name: ESC Representative	Prep Batch Number(s): WG748133 V8260

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration**					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			✓		
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	✓				
		Were ion abundance data within the method-required QC limits?	✓				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	✓				
S5	OI	**Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?			✓		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	✓				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
3 NA = Not applicable.
4 NR = Not Reviewed.
5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports

Laboratory Name: ESC Lab Sciences.	LRC Date: 10/21/2014
Project Name: Rampart Area	Laboratory Job Number: L727111
Reviewer Name: ESC Representative	Prep Batch Numbers: WG748133 V8260

Sample(s): SB-6/TWP-6

Samples(s) were analyzed for Volatile Organic Compounds by Method 8260B

ER#:	Description
1	The matrix spike or matrix spike duplicate recoveries were over the laboratory control limits for 1,2-Dibromoethane, Bromoform, and Chlorodibromomethane. The matrix spike or matrix spike duplicate recoveries were below the laboratory control limits for 2-Chloroethyl vinyl ether.
2	The relative percent differences exceeded laboratory limits for 1,1-Dichloroethane, 1,1-Dichloroethene, 2-Chloroethyl vinyl ether, Di-isopropyl ether, Methyl tert-butyl ether, Methylene Chloride, and trans-1,2-Dichloroethene
3	The relative percent differences exceeded laboratory limits for 1,1-Dichloroethene, Chloroethane, and Methylene Chloride

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: ESC Lab Sciences	LRC Date: 10/21/14
Project Name: Rampart Area	Laboratory Job Number: L727111-05 and 06
Reviewer Name: ESC Representative	Prep Batch Number(s): WG748152 V8260

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-custody (C-O-C)					
R1	OI	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?	✓				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample quantitation limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?	✓				
		Were % moisture (or solids) reported for all soil and sediment samples?	✓				
		If required for the project, TICs reported?			✓		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	✓				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	✓				
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?	✓				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
		Was the LCSD RPD within QC limits?		✓			3
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	✓				
		Were MS/MSD analyzed at the appropriate frequency?	✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		✓			1
		Were MS/MSD RPDs within laboratory QC limits?		✓			2
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			✓		
		Were analytical duplicates analyzed at the appropriate frequency?			✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs included in the laboratory data package?	✓				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Were all necessary corrective actions performed for the reported data?	✓				
		Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: ESC Lab Sciences	LRC Date: 10/21/2014
Project Name: Rampart Area	Laboratory Job Number: L727111-05 and 06
Reviewer Name: ESC Representative	Prep Batch Number(s): WG748152 V8260

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration**					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			✓		
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	✓				
		Were ion abundance data within the method-required QC limits?	✓				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	✓				
S5	OI	**Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?			✓		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	✓				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
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4 NR = Not Reviewed.
5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports

Laboratory Name: ESC Lab Sciences.	LRC Date: 10/21/2014
Project Name: Rampart Area	Laboratory Job Number: L727111
Reviewer Name: ESC Representative	Prep Batch Numbers: WG748152 V8260

Sample(s): SB-5, SB-6
Samples(s) were analyzed for Volatile Organic Compounds by Method 8260B

ER#:	Description
1	The matrix spike or matrix spike duplicate recoveries were below the laboratory control limits for 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, and 4-Chlorotoluene.
2	The relative percent differences exceeded laboratory limits for 2,2-Dichloropropane
3	The relative percent differences exceeded laboratory limits for 2-Butanone (MEK) and Acrylonitrile

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: ESC Lab Sciences	LRC Date: 10/21/14
Project Name: Rampart Area	Laboratory Job Number: L727111-01, -02, -03, -04, and -07
Reviewer Name: ESC Representative	Prep Batch Number(s): WG748161 V8260BTEXM

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-custody (C-O-C)					
R1	OI	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?			✓		
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample quantitation limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?	✓				
		Were % moisture (or solids) reported for all soil and sediment samples?	✓				
		If required for the project, TICs reported?			✓		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	✓				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	✓				
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?	✓				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
		Was the LCSD RPD within QC limits?	✓				
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	✓				
		Were MS/MSD analyzed at the appropriate frequency?	✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Were MS/MSD RPDs within laboratory QC limits?	✓				
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			✓		
		Were analytical duplicates analyzed at the appropriate frequency?			✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs included in the laboratory data package?	✓				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Were all necessary corrective actions performed for the reported data?	✓				
		Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
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3. NA = Not applicable;
4. NR = Not reviewed;
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Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: ESC Lab Sciences	LRC Date: 10/21/2014
Project Name: Rampart Area	Laboratory Job Number: L727111-01, -02, -03, -04, and -07
Reviewer Name: ESC Representative	Prep Batch Number(s): WG748161 V8260BTEXM

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration**					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			✓		
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	✓				
		Were ion abundance data within the method-required QC limits?	✓				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	✓				
S5	OI	**Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?			✓		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	✓				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
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5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: ESC Lab Sciences	LRC Date: 10/21/14
Project Name: Rampart Area	Laboratory Job Number: L727111-10 and 11
Reviewer Name: ESC Representative	Prep Batch Number(s): WG748331 TPHTX

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-custody (C-O-C)					
R1	OI	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?			✓		
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample quantitation limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?	✓				
		Were % moisture (or solids) reported for all soil and sediment samples?	✓				
		If required for the project, TICs reported?			✓		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	✓				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	✓				
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?	✓				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
		Was the LCSD RPD within QC limits?	✓				
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?			✓		
		Were MS/MSD analyzed at the appropriate frequency?			✓		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓		
		Were MS/MSD RPDs within laboratory QC limits?			✓		
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			✓		
		Were analytical duplicates analyzed at the appropriate frequency?			✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs included in the laboratory data package?	✓				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Were all necessary corrective actions performed for the reported data?	✓				
		Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
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Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: ESC Lab Sciences	LRC Date: 10/21/2014
Project Name: Rampart Area	Laboratory Job Number: L727111-10 and 11
Reviewer Name: ESC Representative	Prep Batch Number(s): WG748331 TPHTX

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration**					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			✓		
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?			✓		
		Were ion abundance data within the method-required QC limits?			✓		
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	✓				
S5	OI	**Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?			✓		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	✓				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
3 NA = Not applicable.
4 NR = Not Reviewed.
5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: ESC Lab Sciences	LRC Date: 10/21/14
Project Name: Rampart Area	Laboratory Job Number: L727111-01, -02, -03, -04, -05, -06, -07, and -08
Reviewer Name: ESC Representative	Prep Batch Number(s): WG748561 TPHTX

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-custody (C-O-C)					
R1	OI	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?			✓		
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample quantitation limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?	✓				
		Were % moisture (or solids) reported for all soil and sediment samples?	✓				
		If required for the project, TICs reported?			✓		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	✓				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	✓				
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?	✓				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
		Was the LCSD RPD within QC limits?	✓				
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	✓				
		Were MS/MSD analyzed at the appropriate frequency?	✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Were MS/MSD RPDs within laboratory QC limits?	✓				
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			✓		
		Were analytical duplicates analyzed at the appropriate frequency?			✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs included in the laboratory data package?	✓				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Were all necessary corrective actions performed for the reported data?	✓				
		Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: ESC Lab Sciences	LRC Date: 10/21/2014
Project Name: Rampart Area	Laboratory Job Number: L727111-01, -02, -03, -04, -05, -06, -07, and -08
Reviewer Name: ESC Representative	Prep Batch Number(s): WG748561 TPHTX

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration**					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			✓		
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?			✓		
		Were ion abundance data within the method-required QC limits?			✓		
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	✓				
S5	OI	**Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?			✓		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	✓				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
3 NA = Not applicable.
4 NR = Not Reviewed.
5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: ESC Lab Sciences	LRC Date: 10/21/14
Project Name: Rampart Area	Laboratory Job Number: L727111-09
Reviewer Name: ESC Representative	Prep Batch Number(s): WG748562 TPHTX

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-custody (C-O-C)					
R1	OI	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?			✓		
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample quantitation limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?	✓				
		Were % moisture (or solids) reported for all soil and sediment samples?	✓				
		If required for the project, TICs reported?			✓		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	✓				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	✓				
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?	✓				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
		Was the LCSD RPD within QC limits?	✓				
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	✓				
		Were MS/MSD analyzed at the appropriate frequency?	✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Were MS/MSD RPDs within laboratory QC limits?	✓				
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			✓		
		Were analytical duplicates analyzed at the appropriate frequency?			✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs included in the laboratory data package?	✓				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Were all necessary corrective actions performed for the reported data?	✓				
		Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: ESC Lab Sciences	LRC Date: 10/21/2014
Project Name: Rampart Area	Laboratory Job Number: L727111-09
Reviewer Name: ESC Representative	Prep Batch Number(s): WG748562 TPHTX

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration**					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			✓		
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?			✓		
		Were ion abundance data within the method-required QC limits?			✓		
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	✓				
S5	OI	**Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?			✓		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	✓				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
3 NA = Not applicable.
4 NR = Not Reviewed.
5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: ESC Lab Sciences	LRC Date: 10/21/14
Project Name: Rampart Area	Laboratory Job Number: L727111-01, -02, -03, and -04
Reviewer Name: ESC Representative	Prep Batch Number(s): WG748582 TS

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-custody (C-O-C)					
R1	OI	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?	✓				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample quantitation limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?	✓				
		Were % moisture (or solids) reported for all soil and sediment samples?	✓				
		If required for the project, TICs reported?			✓		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?			✓		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?	✓				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
		Was the LCSD RPD within QC limits?			✓		
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?			✓		
		Were MS/MSD analyzed at the appropriate frequency?			✓		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓		
		Were MS/MSD RPDs within laboratory QC limits?			✓		
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	✓				
		Were analytical duplicates analyzed at the appropriate frequency?	✓				
		Were RPDs or relative standard deviations within the laboratory QC limits?		✓			1
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs included in the laboratory data package?	✓				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Were all necessary corrective actions performed for the reported data?	✓				
		Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: ESC Lab Sciences	LRC Date: 10/21/2014
Project Name: Rampart Area	Laboratory Job Number: L727111-01, -02, -03, and -04
Reviewer Name: ESC Representative	Prep Batch Number(s): WG748582 TS

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?			✓		
		Were percent RSDs or correlation coefficient criteria met?			✓		
		Was the number of standards recommended in the method used for all analytes?			✓		
		Were all points generated between the lowest and highest standard used to calculate the curve?			✓		
		Are ICAL data available for all instruments used?			✓		
		Has the initial calibration curve been verified using an appropriate second source standard?			✓		
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration**					
		Was the CCV analyzed at the method-required frequency?			✓		
		Were percent differences for each analyte within the method-required QC limits?			✓		
		Was the ICAL curve verified for each analyte?			✓		
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			✓		
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?			✓		
		Were ion abundance data within the method-required QC limits?			✓		
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?			✓		
S5	OI	**Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?			✓		
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?			✓		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	✓				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
3 NA = Not applicable.
4 NR = Not Reviewed.
5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports

Laboratory Name: ESC Lab Sciences.	LRC Date: 10/21/2014
Project Name: Rampart Area	Laboratory Job Number: L727111
Reviewer Name: ESC Representative	Prep Batch Numbers: WG748582 TS

Sample(s): SB-1, SB-2, SB-3, SB-4
Samples(s) were analyzed for Total Solids by Method 2540 G-2011

ER#:	Description
1	The relative percent differences exceeded laboratory limits for Total Solids

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: ESC Lab Sciences	LRC Date: 10/21/14
Project Name: Rampart Area	Laboratory Job Number: L727111-05, -06, -07, -08, and -09
Reviewer Name: ESC Representative	Prep Batch Number(s): WG748583 TS

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-custody (C-O-C)					
R1	OI	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?			✓		
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample quantitation limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?	✓				
		Were % moisture (or solids) reported for all soil and sediment samples?	✓				
		If required for the project, TICs reported?			✓		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?			✓		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?	✓				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
		Was the LCSD RPD within QC limits?			✓		
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?			✓		
		Were MS/MSD analyzed at the appropriate frequency?			✓		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓		
		Were MS/MSD RPDs within laboratory QC limits?			✓		
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	✓				
		Were analytical duplicates analyzed at the appropriate frequency?	✓				
		Were RPDs or relative standard deviations within the laboratory QC limits?	✓				
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs included in the laboratory data package?	✓				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Were all necessary corrective actions performed for the reported data?	✓				
		Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: ESC Lab Sciences	LRC Date: 10/21/2014
Project Name: Rampart Area	Laboratory Job Number: L727111-05, -06, -07, -08, and -09
Reviewer Name: ESC Representative	Prep Batch Number(s): WG748583 TS

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?			✓		
		Were percent RSDs or correlation coefficient criteria met?			✓		
		Was the number of standards recommended in the method used for all analytes?			✓		
		Were all points generated between the lowest and highest standard used to calculate the curve?			✓		
		Are ICAL data available for all instruments used?			✓		
		Has the initial calibration curve been verified using an appropriate second source standard?			✓		
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration**					
		Was the CCV analyzed at the method-required frequency?			✓		
		Were percent differences for each analyte within the method-required QC limits?			✓		
		Was the ICAL curve verified for each analyte?			✓		
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			✓		
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?			✓		
		Were ion abundance data within the method-required QC limits?			✓		
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?			✓		
S5	OI	**Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?			✓		
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?			✓		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	✓				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
3 NA = Not applicable.
4 NR = Not Reviewed.
5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: ESC Lab Sciences	LRC Date: 10/21/14
Project Name: Rampart Area	Laboratory Job Number: L727111-08 and 09
Reviewer Name: ESC Representative	Prep Batch Number(s): WG748862 V8260BTEXM

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-custody (C-O-C)					
R1	OI	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?			✓		
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample quantitation limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?	✓				
		Were % moisture (or solids) reported for all soil and sediment samples?	✓				
		If required for the project, TICs reported?			✓		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	✓				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	✓				
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?	✓				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
		Was the LCSD RPD within QC limits?	✓				
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	✓				
		Were MS/MSD analyzed at the appropriate frequency?	✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Were MS/MSD RPDs within laboratory QC limits?	✓				
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			✓		
		Were analytical duplicates analyzed at the appropriate frequency?			✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs included in the laboratory data package?	✓				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Were all necessary corrective actions performed for the reported data?	✓				
		Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
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3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: ESC Lab Sciences	LRC Date: 10/21/2014
Project Name: Rampart Area	Laboratory Job Number: L727111-08 and 09
Reviewer Name: ESC Representative	Prep Batch Number(s): WG748862 V8260BTEXM

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration**					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			✓		
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	✓				
		Were ion abundance data within the method-required QC limits?	✓				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	✓				
S5	OI	**Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?			✓		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	✓				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
3 NA = Not applicable.
4 NR = Not Reviewed.
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Tax I.D. 62-0814289

Est. 1970

Tom Murphy
Berg Oliver
14701 Saint Mary's Lane, Suite 400
Houston, TX 77079

Report Summary

Monday October 20, 2014

Report Number: L727111
Samples Received: 10/11/14
Client Project: 9529H-P2

Description: Rampart Area

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

Entire Report Reviewed By:

Mark W. Beasley , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

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

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REPORT OF ANALYSIS

October 20,2014

Tom Murphy
Berg Oliver
14701 Saint Mary's Lane, Suite 400
Houston, TX 77079

ESC Sample # : L727111-01

Date Received : October 11, 2014
Description : Rampart Area

Site ID :

Sample ID : SB-1

Project # : 9529H-P2

Collected By : Tom Murphy
Collection Date : 10/07/14 11:45

Parameter	Result	MDL	SDL	MQL	Units	Qual	Method	Date	Dil.
Total Solids	84.2	0.0333	0.033		%		2540 G-2	10/16/14	1
Benzene	U	0.00027	0.0017	0.0059	mg/kg		8260B	10/14/14	5
Toluene	U	0.00043	0.0026	0.030	mg/kg		8260B	10/14/14	5
Ethylbenzene	U	0.00030	0.0018	0.0059	mg/kg		8260B	10/14/14	5
Total Xylenes	U	0.00070	0.0042	0.018	mg/kg		8260B	10/14/14	5
Methyl tert-butyl ether	U	0.00021	0.0013	0.0059	mg/kg		8260B	10/14/14	5
Surrogate Recovery									
Toluene-d8	106.				% Rec.		8260B	10/14/14	5
Dibromofluoromethane	105.				% Rec.		8260B	10/14/14	5
4-Bromofluorobenzene	93.2				% Rec.		8260B	10/14/14	5
TCEQ Method 1005 - TPH									
TPH C6 - C12	U	15.	18.	59.	mg/kg		TX 1005	10/17/14	1
TPH C12 - C28	U	15.	18.	59.	mg/kg		TX 1005	10/17/14	1
TPH C28 - C35	U	15.	18.	59.	mg/kg		TX 1005	10/17/14	1
TPH C6 - C35	U	15.	18.	59.	mg/kg		TX 1005	10/17/14	1
Surrogate Recovery									
o-Terphenyl	105.				% Rec.		TX 1005	10/17/14	1

Results listed are dry weight basis.
U = ND (Not Detected) = Less than SDL
Note:

The reported analytical results relate only to the sample submitted
Reported: 10/20/14 15:25 Printed: 10/20/14 15:26

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REPORT OF ANALYSIS

Tom Murphy
Berg Oliver
14701 Saint Mary's Lane, Suite 400
Houston, TX 77079

October 20,2014

ESC Sample # : L727111-02

Date Received : October 11, 2014
Description : Rampart Area

Site ID :

Sample ID : SB-2

Project # : 9529H-P2

Collected By : Tom Murphy
Collection Date : 10/07/14 10:45

Parameter	Result	MDL	SDL	MQL	Units	Qual	Method	Date	Dil.
Total Solids	80.9	0.0333	0.033		%		2540 G-2	10/16/14	1
Benzene	U	0.00027	0.0017	0.0062	mg/kg		8260B	10/14/14	5
Toluene	U	0.00043	0.0027	0.031	mg/kg		8260B	10/14/14	5
Ethylbenzene	U	0.00030	0.0018	0.0062	mg/kg		8260B	10/14/14	5
Total Xylenes	U	0.00070	0.0043	0.018	mg/kg		8260B	10/14/14	5
Methyl tert-butyl ether	U	0.00021	0.0014	0.0062	mg/kg		8260B	10/14/14	5
Surrogate Recovery									
Toluene-d8	104.				% Rec.		8260B	10/14/14	5
Dibromofluoromethane	105.				% Rec.		8260B	10/14/14	5
4-Bromofluorobenzene	91.0				% Rec.		8260B	10/14/14	5
TCEQ Method 1005 - TPH									
TPH C6 - C12	U	15.	18.	62.	mg/kg		TX 1005	10/17/14	1
TPH C12 - C28	U	15.	18.	62.	mg/kg		TX 1005	10/17/14	1
TPH C28 - C35	U	15.	18.	62.	mg/kg		TX 1005	10/17/14	1
TPH C6 - C35	U	15.	18.	62.	mg/kg		TX 1005	10/17/14	1
Surrogate Recovery									
o-Terphenyl	102.				% Rec.		TX 1005	10/17/14	1

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Tom Murphy
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October 20,2014

ESC Sample # : L727111-03

Date Received : October 11, 2014
Description : Rampart Area

Site ID :

Sample ID : SB-3

Project # : 9529H-P2

Collected By : Tom Murphy
Collection Date : 10/07/14 12:47

Parameter	Result	MDL	SDL	MQL	Units	Qual	Method	Date	Dil.
Total Solids	83.6	0.0333	0.033		%		2540 G-2	10/16/14	1
Benzene	U	0.00027	0.0017	0.0060	mg/kg		8260B	10/14/14	5
Toluene	U	0.00043	0.0026	0.030	mg/kg		8260B	10/14/14	5
Ethylbenzene	U	0.00030	0.0018	0.0060	mg/kg		8260B	10/14/14	5
Total Xylenes	U	0.00070	0.0042	0.018	mg/kg		8260B	10/14/14	5
Methyl tert-butyl ether	U	0.00021	0.0013	0.0060	mg/kg		8260B	10/14/14	5
Surrogate Recovery									
Toluene-d8	104.				% Rec.		8260B	10/14/14	5
Dibromofluoromethane	105.				% Rec.		8260B	10/14/14	5
4-Bromofluorobenzene	93.2				% Rec.		8260B	10/14/14	5
TCEQ Method 1005 - TPH									
TPH C6 - C12	U	15.	18.	60.	mg/kg		TX 1005	10/17/14	1
TPH C12 - C28	U	15.	18.	60.	mg/kg		TX 1005	10/17/14	1
TPH C28 - C35	U	15.	18.	60.	mg/kg		TX 1005	10/17/14	1
TPH C6 - C35	U	15.	18.	60.	mg/kg		TX 1005	10/17/14	1
Surrogate Recovery									
o-Terphenyl	105.				% Rec.		TX 1005	10/17/14	1

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Tom Murphy
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October 20,2014

ESC Sample # : L727111-04

Date Received : October 11, 2014
Description : Rampart Area

Site ID :

Sample ID : SB-4

Project # : 9529H-P2

Collected By : Tom Murphy
Collection Date : 10/07/14 13:13

Parameter	Result	MDL	SDL	MQL	Units	Qual	Method	Date	Dil.
Total Solids	84.3	0.0333	0.033		%		2540 G-2	10/16/14	1
Benzene	U	0.00027	0.0017	0.0059	mg/kg		8260B	10/14/14	5
Toluene	U	0.00043	0.0026	0.030	mg/kg		8260B	10/14/14	5
Ethylbenzene	U	0.00030	0.0018	0.0059	mg/kg		8260B	10/14/14	5
Total Xylenes	U	0.00070	0.0042	0.018	mg/kg		8260B	10/14/14	5
Methyl tert-butyl ether	U	0.00021	0.0013	0.0059	mg/kg		8260B	10/14/14	5
Surrogate Recovery									
Toluene-d8	105.				% Rec.		8260B	10/14/14	5
Dibromofluoromethane	105.				% Rec.		8260B	10/14/14	5
4-Bromofluorobenzene	90.9				% Rec.		8260B	10/14/14	5
TCEQ Method 1005 - TPH									
TPH C6 - C12	U	15.	18.	59.	mg/kg		TX 1005	10/17/14	1
TPH C12 - C28	U	15.	18.	59.	mg/kg		TX 1005	10/17/14	1
TPH C28 - C35	U	15.	18.	59.	mg/kg		TX 1005	10/17/14	1
TPH C6 - C35	U	15.	18.	59.	mg/kg		TX 1005	10/17/14	1
Surrogate Recovery									
o-Terphenyl	107.				% Rec.		TX 1005	10/17/14	1

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REPORT OF ANALYSIS

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Berg Oliver
14701 Saint Mary's Lane, Suite 400
Houston, TX 77079

October 20,2014

ESC Sample # : L727111-05

Date Received : October 11, 2014
Description : Rampart Area

Site ID :

Sample ID : SB-5

Project # : 9529H-P2

Collected By : Tom Murphy
Collection Date : 10/07/14 14:00

Parameter	Result	MDL	SDL	MQL	Units	Qual	Method	Date	Dil.
Total Solids	83.3	0.0333	0.033		%		2540 G-2	10/16/14	1
Volatile Organics									
Acetone	U	0.010	0.060	0.30	mg/kg		8260B	10/16/14	5
Acrylonitrile	U	0.0018	0.011	0.060	mg/kg	J3	8260B	10/16/14	5
Benzene	U	0.00027	0.0017	0.0060	mg/kg		8260B	10/16/14	5
Bromobenzene	U	0.00028	0.0017	0.0060	mg/kg		8260B	10/16/14	5
Bromodichloromethane	U	0.00025	0.0016	0.0060	mg/kg		8260B	10/16/14	5
Bromoform	U	0.00042	0.0025	0.0060	mg/kg		8260B	10/16/14	5
Bromomethane	U	0.0013	0.0080	0.030	mg/kg		8260B	10/16/14	5
n-Butylbenzene	U	0.00026	0.0016	0.0060	mg/kg		8260B	10/16/14	5
sec-Butylbenzene	U	0.00020	0.0012	0.0060	mg/kg		8260B	10/16/14	5
tert-Butylbenzene	U	0.00021	0.0012	0.0060	mg/kg		8260B	10/16/14	5
Carbon tetrachloride	U	0.00033	0.0019	0.0060	mg/kg		8260B	10/16/14	5
Chlorobenzene	U	0.00021	0.0013	0.0060	mg/kg		8260B	10/16/14	5
Chlorodibromomethane	U	0.00037	0.0023	0.0060	mg/kg		8260B	10/16/14	5
Chloroethane	U	0.00095	0.0056	0.030	mg/kg		8260B	10/16/14	5
2-Chloroethyl vinyl ether	U	0.0023	0.014	0.30	mg/kg		8260B	10/16/14	5
Chloroform	U	0.00023	0.0013	0.030	mg/kg		8260B	10/16/14	5
Chloromethane	U	0.00038	0.0023	0.015	mg/kg		8260B	10/16/14	5
2-Chlorotoluene	U	0.00030	0.0018	0.0060	mg/kg		8260B	10/16/14	5
4-Chlorotoluene	U	0.00024	0.0014	0.0060	mg/kg		8260B	10/16/14	5
1,2-Dibromo-3-Chloropropane	U	0.0011	0.0062	0.030	mg/kg		8260B	10/16/14	5
1,2-Dibromoethane	U	0.00034	0.0020	0.0060	mg/kg		8260B	10/16/14	5
Dibromomethane	U	0.00038	0.0023	0.0060	mg/kg		8260B	10/16/14	5
1,2-Dichlorobenzene	U	0.00031	0.0018	0.0060	mg/kg		8260B	10/16/14	5
1,3-Dichlorobenzene	U	0.00024	0.0014	0.0060	mg/kg		8260B	10/16/14	5
1,4-Dichlorobenzene	U	0.00023	0.0013	0.0060	mg/kg		8260B	10/16/14	5
Dichlorodifluoromethane	U	0.00071	0.0043	0.030	mg/kg		8260B	10/16/14	5
1,1-Dichloroethane	U	0.00020	0.0012	0.0060	mg/kg		8260B	10/16/14	5
1,2-Dichloroethane	U	0.00027	0.0016	0.0060	mg/kg		8260B	10/16/14	5
1,1-Dichloroethene	U	0.00030	0.0018	0.0060	mg/kg		8260B	10/16/14	5
cis-1,2-Dichloroethene	U	0.00024	0.0014	0.0060	mg/kg		8260B	10/16/14	5
trans-1,2-Dichloroethene	U	0.00026	0.0016	0.0060	mg/kg		8260B	10/16/14	5
1,2-Dichloropropane	U	0.00036	0.0022	0.0060	mg/kg		8260B	10/16/14	5
1,1-Dichloropropene	U	0.00032	0.0019	0.0060	mg/kg		8260B	10/16/14	5
1,3-Dichloropropane	U	0.00021	0.0012	0.0060	mg/kg		8260B	10/16/14	5
cis-1,3-Dichloropropene	U	0.00026	0.0016	0.0060	mg/kg		8260B	10/16/14	5
trans-1,3-Dichloropropene	U	0.00027	0.0016	0.0060	mg/kg		8260B	10/16/14	5
2,2-Dichloropropane	U	0.00028	0.0017	0.0060	mg/kg		8260B	10/16/14	5
Di-isopropyl ether	U	0.00025	0.0014	0.0060	mg/kg		8260B	10/16/14	5
Ethylbenzene	U	0.00030	0.0018	0.0060	mg/kg		8260B	10/16/14	5
Hexachloro-1,3-butadiene	U	0.00034	0.0020	0.0060	mg/kg		8260B	10/16/14	5
Isopropylbenzene	U	0.00024	0.0014	0.0060	mg/kg		8260B	10/16/14	5
p-Isopropyltoluene	U	0.00020	0.0012	0.0060	mg/kg		8260B	10/16/14	5

Results listed are dry weight basis.
U = ND (Not Detected) = Less than SDL
Note:

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REPORT OF ANALYSIS

October 20,2014

Tom Murphy
Berg Oliver
14701 Saint Mary's Lane, Suite 400
Houston, TX 77079

ESC Sample # : L727111-05

Date Received : October 11, 2014
Description : Rampart Area

Site ID :

Sample ID : SB-5

Project # : 9529H-P2

Collected By : Tom Murphy
Collection Date : 10/07/14 14:00

Parameter	Result	MDL	SDL	MQL	Units	Qual	Method	Date	Dil.
2-Butanone (MEK)	U	0.0047	0.028	0.060	mg/kg	J3	8260B	10/16/14	5
Methylene Chloride	U	0.0010	0.0060	0.030	mg/kg		8260B	10/16/14	5
4-Methyl-2-pentanone (MIBK)	U	0.0019	0.011	0.060	mg/kg		8260B	10/16/14	5
Methyl tert-butyl ether	U	0.00021	0.0013	0.0060	mg/kg		8260B	10/16/14	5
Naphthalene	U	0.0010	0.0060	0.030	mg/kg		8260B	10/16/14	5
n-Propylbenzene	U	0.00021	0.0012	0.0060	mg/kg		8260B	10/16/14	5
Styrene	U	0.00023	0.0014	0.0060	mg/kg		8260B	10/16/14	5
1,1,1,2-Tetrachloroethane	U	0.00026	0.0016	0.0060	mg/kg		8260B	10/16/14	5
1,1,2,2-Tetrachloroethane	U	0.00037	0.0022	0.0060	mg/kg		8260B	10/16/14	5
1,1,2-Trichlorotrifluoroethane	U	0.00037	0.0022	0.0060	mg/kg		8260B	10/16/14	5
Tetrachloroethene	U	0.00028	0.0017	0.0060	mg/kg		8260B	10/16/14	5
Toluene	U	0.00043	0.0026	0.030	mg/kg		8260B	10/16/14	5
1,2,3-Trichlorobenzene	U	0.00031	0.0018	0.0060	mg/kg		8260B	10/16/14	5
1,2,4-Trichlorobenzene	U	0.00039	0.0023	0.0060	mg/kg		8260B	10/16/14	5
1,1,1-Trichloroethane	U	0.00029	0.0017	0.0060	mg/kg		8260B	10/16/14	5
1,1,2-Trichloroethane	U	0.00028	0.0017	0.0060	mg/kg		8260B	10/16/14	5
Trichloroethene	U	0.00028	0.0017	0.0060	mg/kg		8260B	10/16/14	5
Trichlorofluoromethane	U	0.00038	0.0023	0.030	mg/kg		8260B	10/16/14	5
1,2,3-Trichloropropane	U	0.00074	0.0044	0.015	mg/kg		8260B	10/16/14	5
1,2,4-Trimethylbenzene	U	0.00021	0.0012	0.0060	mg/kg		8260B	10/16/14	5
1,2,3-Trimethylbenzene	U	0.00029	0.0017	0.0060	mg/kg		8260B	10/16/14	5
1,3,5-Trimethylbenzene	U	0.00027	0.0016	0.0060	mg/kg		8260B	10/16/14	5
Vinyl chloride	U	0.00029	0.0017	0.0060	mg/kg		8260B	10/16/14	5
Xylenes, Total	U	0.00070	0.0042	0.018	mg/kg		8260B	10/16/14	5
Surrogate Recovery									
Toluene-d8	103.				% Rec.		8260B	10/16/14	5
Dibromofluoromethane	96.1				% Rec.		8260B	10/16/14	5
4-Bromofluorobenzene	103.				% Rec.		8260B	10/16/14	5
TCEQ Method 1005 - TPH									
TPH C6 - C12	U	15.	18.	60.	mg/kg		TX 1005	10/17/14	1
TPH C12 - C28	U	15.	18.	60.	mg/kg		TX 1005	10/17/14	1
TPH C28 - C35	U	15.	18.	60.	mg/kg		TX 1005	10/17/14	1
TPH C6 - C35	U	15.	18.	60.	mg/kg		TX 1005	10/17/14	1
Surrogate Recovery									
o-Terphenyl	105.				% Rec.		TX 1005	10/17/14	1

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Note:

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REPORT OF ANALYSIS

Tom Murphy
Berg Oliver
14701 Saint Mary's Lane, Suite 400
Houston, TX 77079

October 20,2014

ESC Sample # : L727111-06

Date Received : October 11, 2014
Description : Rampart Area

Site ID :

Sample ID : SB-6

Project # : 9529H-P2

Collected By : Tom Murphy
Collection Date : 10/07/14 15:01

Parameter	Result	MDL	SDL	MQL	Units	Qual	Method	Date	Dil.
Total Solids	85.5	0.0333	0.033		%		2540 G-2	10/16/14	1
Volatile Organics									
Acetone	U	0.010	0.058	0.29	mg/kg		8260B	10/16/14	5
Acrylonitrile	U	0.0018	0.010	0.058	mg/kg	J3	8260B	10/16/14	5
Benzene	U	0.00027	0.0016	0.0058	mg/kg		8260B	10/16/14	5
Bromobenzene	U	0.00028	0.0016	0.0058	mg/kg		8260B	10/16/14	5
Bromodichloromethane	U	0.00025	0.0015	0.0058	mg/kg		8260B	10/16/14	5
Bromoform	U	0.00042	0.0024	0.0058	mg/kg		8260B	10/16/14	5
Bromomethane	U	0.0013	0.0078	0.029	mg/kg		8260B	10/16/14	5
n-Butylbenzene	U	0.00026	0.0015	0.0058	mg/kg		8260B	10/16/14	5
sec-Butylbenzene	U	0.00020	0.0012	0.0058	mg/kg		8260B	10/16/14	5
tert-Butylbenzene	U	0.00021	0.0012	0.0058	mg/kg		8260B	10/16/14	5
Carbon tetrachloride	U	0.00033	0.0019	0.0058	mg/kg		8260B	10/16/14	5
Chlorobenzene	U	0.00021	0.0013	0.0058	mg/kg		8260B	10/16/14	5
Chlorodibromomethane	U	0.00037	0.0022	0.0058	mg/kg		8260B	10/16/14	5
Chloroethane	U	0.00095	0.0055	0.029	mg/kg		8260B	10/16/14	5
2-Chloroethyl vinyl ether	U	0.0023	0.014	0.29	mg/kg		8260B	10/16/14	5
Chloroform	U	0.00023	0.0013	0.029	mg/kg		8260B	10/16/14	5
Chloromethane	U	0.00038	0.0022	0.015	mg/kg		8260B	10/16/14	5
2-Chlorotoluene	U	0.00030	0.0018	0.0058	mg/kg		8260B	10/16/14	5
4-Chlorotoluene	U	0.00024	0.0014	0.0058	mg/kg		8260B	10/16/14	5
1,2-Dibromo-3-Chloropropane	U	0.0011	0.0061	0.029	mg/kg		8260B	10/16/14	5
1,2-Dibromoethane	U	0.00034	0.0020	0.0058	mg/kg		8260B	10/16/14	5
Dibromomethane	U	0.00038	0.0022	0.0058	mg/kg		8260B	10/16/14	5
1,2-Dichlorobenzene	U	0.00031	0.0018	0.0058	mg/kg		8260B	10/16/14	5
1,3-Dichlorobenzene	U	0.00024	0.0014	0.0058	mg/kg		8260B	10/16/14	5
1,4-Dichlorobenzene	U	0.00023	0.0013	0.0058	mg/kg		8260B	10/16/14	5
Dichlorodifluoromethane	U	0.00071	0.0042	0.029	mg/kg		8260B	10/16/14	5
1,1-Dichloroethane	U	0.00020	0.0012	0.0058	mg/kg		8260B	10/16/14	5
1,2-Dichloroethane	U	0.00027	0.0015	0.0058	mg/kg		8260B	10/16/14	5
1,1-Dichloroethene	U	0.00030	0.0018	0.0058	mg/kg		8260B	10/16/14	5
cis-1,2-Dichloroethene	U	0.00024	0.0014	0.0058	mg/kg		8260B	10/16/14	5
trans-1,2-Dichloroethene	U	0.00026	0.0015	0.0058	mg/kg		8260B	10/16/14	5
1,2-Dichloropropane	U	0.00036	0.0021	0.0058	mg/kg		8260B	10/16/14	5
1,1-Dichloropropene	U	0.00032	0.0019	0.0058	mg/kg		8260B	10/16/14	5
1,3-Dichloropropane	U	0.00021	0.0012	0.0058	mg/kg		8260B	10/16/14	5
cis-1,3-Dichloropropene	U	0.00026	0.0015	0.0058	mg/kg		8260B	10/16/14	5
trans-1,3-Dichloropropene	U	0.00027	0.0015	0.0058	mg/kg		8260B	10/16/14	5
2,2-Dichloropropane	U	0.00028	0.0016	0.0058	mg/kg		8260B	10/16/14	5
Di-isopropyl ether	U	0.00025	0.0014	0.0058	mg/kg		8260B	10/16/14	5
Ethylbenzene	U	0.00030	0.0018	0.0058	mg/kg		8260B	10/16/14	5
Hexachloro-1,3-butadiene	U	0.00034	0.0020	0.0058	mg/kg		8260B	10/16/14	5
Isopropylbenzene	U	0.00024	0.0014	0.0058	mg/kg		8260B	10/16/14	5
p-Isopropyltoluene	U	0.00020	0.0012	0.0058	mg/kg		8260B	10/16/14	5

Results listed are dry weight basis.
U = ND (Not Detected) = Less than SDL
Note:

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REPORT OF ANALYSIS

October 20,2014

Tom Murphy
Berg Oliver
14701 Saint Mary's Lane, Suite 400
Houston, TX 77079

ESC Sample # : L727111-06

Date Received : October 11, 2014
Description : Rampart Area

Site ID :

Sample ID : SB-6

Project # : 9529H-P2

Collected By : Tom Murphy
Collection Date : 10/07/14 15:01

Parameter	Result	MDL	SDL	MQL	Units	Qual	Method	Date	Dil.
2-Butanone (MEK)	U	0.0047	0.027	0.058	mg/kg	J3	8260B	10/16/14	5
Methylene Chloride	U	0.0010	0.0058	0.029	mg/kg		8260B	10/16/14	5
4-Methyl-2-pentanone (MIBK)	U	0.0019	0.011	0.058	mg/kg		8260B	10/16/14	5
Methyl tert-butyl ether	U	0.00021	0.0013	0.0058	mg/kg		8260B	10/16/14	5
Naphthalene	U	0.0010	0.0058	0.029	mg/kg		8260B	10/16/14	5
n-Propylbenzene	U	0.00021	0.0012	0.0058	mg/kg		8260B	10/16/14	5
Styrene	U	0.00023	0.0014	0.0058	mg/kg		8260B	10/16/14	5
1,1,1,2-Tetrachloroethane	U	0.00026	0.0015	0.0058	mg/kg		8260B	10/16/14	5
1,1,2,2-Tetrachloroethane	U	0.00037	0.0021	0.0058	mg/kg		8260B	10/16/14	5
1,1,2-Trichlorotrifluoroethane	U	0.00037	0.0021	0.0058	mg/kg		8260B	10/16/14	5
Tetrachloroethene	U	0.00028	0.0016	0.0058	mg/kg		8260B	10/16/14	5
Toluene	U	0.00043	0.0026	0.029	mg/kg		8260B	10/16/14	5
1,2,3-Trichlorobenzene	U	0.00031	0.0018	0.0058	mg/kg		8260B	10/16/14	5
1,2,4-Trichlorobenzene	U	0.00039	0.0022	0.0058	mg/kg		8260B	10/16/14	5
1,1,1-Trichloroethane	U	0.00029	0.0017	0.0058	mg/kg		8260B	10/16/14	5
1,1,2-Trichloroethane	U	0.00028	0.0016	0.0058	mg/kg		8260B	10/16/14	5
Trichloroethene	U	0.00028	0.0016	0.0058	mg/kg		8260B	10/16/14	5
Trichlorofluoromethane	U	0.00038	0.0022	0.029	mg/kg		8260B	10/16/14	5
1,2,3-Trichloropropane	U	0.00074	0.0043	0.015	mg/kg		8260B	10/16/14	5
1,2,4-Trimethylbenzene	U	0.00021	0.0012	0.0058	mg/kg		8260B	10/16/14	5
1,2,3-Trimethylbenzene	U	0.00029	0.0016	0.0058	mg/kg		8260B	10/16/14	5
1,3,5-Trimethylbenzene	U	0.00027	0.0015	0.0058	mg/kg		8260B	10/16/14	5
Vinyl chloride	U	0.00029	0.0016	0.0058	mg/kg		8260B	10/16/14	5
Xylenes, Total	U	0.00070	0.0041	0.018	mg/kg		8260B	10/16/14	5
Surrogate Recovery									
Toluene-d8	104.				% Rec.		8260B	10/16/14	5
Dibromofluoromethane	95.6				% Rec.		8260B	10/16/14	5
4-Bromofluorobenzene	104.				% Rec.		8260B	10/16/14	5
TCEQ Method 1005 - TPH									
TPH C6 - C12	U	15.	18.	58.	mg/kg		TX 1005	10/17/14	1
TPH C12 - C28	U	15.	18.	58.	mg/kg		TX 1005	10/17/14	1
TPH C28 - C35	U	15.	18.	58.	mg/kg		TX 1005	10/17/14	1
TPH C6 - C35	U	15.	18.	58.	mg/kg		TX 1005	10/17/14	1
Surrogate Recovery									
o-Terphenyl	104.				% Rec.		TX 1005	10/17/14	1

Results listed are dry weight basis.
U = ND (Not Detected) = Less than SDL
Note:

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REPORT OF ANALYSIS

Tom Murphy
Berg Oliver
14701 Saint Mary's Lane, Suite 400
Houston, TX 77079

October 20,2014

ESC Sample # : L727111-07

Date Received : October 11, 2014
Description : Rampart Area

Site ID :

Sample ID : SB-7

Project # : 9529H-P2

Collected By : Tom Murphy
Collection Date : 10/09/14 09:40

Parameter	Result	MDL	SDL	MQL	Units	Qual	Method	Date	Dil.
Total Solids	81.6	0.0333	0.033		%		2540 G-2	10/16/14	1
Benzene	U	0.00027	0.0017	0.0061	mg/kg		8260B	10/14/14	5
Toluene	U	0.00043	0.0027	0.031	mg/kg		8260B	10/14/14	5
Ethylbenzene	U	0.00030	0.0018	0.0061	mg/kg		8260B	10/14/14	5
Total Xylenes	U	0.00070	0.0043	0.018	mg/kg		8260B	10/14/14	5
Methyl tert-butyl ether	U	0.00021	0.0013	0.0061	mg/kg		8260B	10/14/14	5
Surrogate Recovery									
Toluene-d8	105.				% Rec.		8260B	10/14/14	5
Dibromofluoromethane	104.				% Rec.		8260B	10/14/14	5
4-Bromofluorobenzene	91.8				% Rec.		8260B	10/14/14	5
TCEQ Method 1005 - TPH									
TPH C6 - C12	U	15.	18.	61.	mg/kg		TX 1005	10/17/14	1
TPH C12 - C28	U	15.	18.	61.	mg/kg		TX 1005	10/17/14	1
TPH C28 - C35	U	15.	18.	61.	mg/kg		TX 1005	10/17/14	1
TPH C6 - C35	U	15.	18.	61.	mg/kg		TX 1005	10/17/14	1
Surrogate Recovery									
o-Terphenyl	106.				% Rec.		TX 1005	10/17/14	1

Results listed are dry weight basis.
U = ND (Not Detected) = Less than SDL
Note:

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Reported: 10/20/14 15:25 Printed: 10/20/14 15:26

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REPORT OF ANALYSIS

October 20,2014

Tom Murphy
Berg Oliver
14701 Saint Mary's Lane, Suite 400
Houston, TX 77079

ESC Sample # : L727111-08

Date Received : October 11, 2014
Description : Rampart Area

Site ID :

Sample ID : SB-8

Project # : 9529H-P2

Collected By : Tom Murphy
Collection Date : 10/09/14 10:15

Parameter	Result	MDL	SDL	MQL	Units	Qual	Method	Date	Dil.
Total Solids	80.9	0.0333	0.033		%		2540 G-2	10/16/14	1
Benzene	U	0.00027	0.0017	0.0062	mg/kg		8260B	10/16/14	5
Toluene	U	0.00043	0.0027	0.031	mg/kg		8260B	10/16/14	5
Ethylbenzene	U	0.00030	0.0018	0.0062	mg/kg		8260B	10/16/14	5
Total Xylenes	U	0.00070	0.0043	0.018	mg/kg		8260B	10/16/14	5
Methyl tert-butyl ether	U	0.00021	0.0014	0.0062	mg/kg		8260B	10/16/14	5
Surrogate Recovery									
Toluene-d8	102.				% Rec.		8260B	10/16/14	5
Dibromofluoromethane	96.6				% Rec.		8260B	10/16/14	5
4-Bromofluorobenzene	101.				% Rec.		8260B	10/16/14	5
TCEQ Method 1005 - TPH									
TPH C6 - C12	U	15.	18.	62.	mg/kg		TX 1005	10/17/14	1
TPH C12 - C28	U	15.	18.	62.	mg/kg		TX 1005	10/17/14	1
TPH C28 - C35	U	15.	18.	62.	mg/kg		TX 1005	10/17/14	1
TPH C6 - C35	U	15.	18.	62.	mg/kg		TX 1005	10/17/14	1
Surrogate Recovery									
o-Terphenyl	110.				% Rec.		TX 1005	10/17/14	1

Results listed are dry weight basis.
U = ND (Not Detected) = Less than SDL
Note:

The reported analytical results relate only to the sample submitted
Reported: 10/20/14 15:25 Printed: 10/20/14 15:26

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Est. 1970

REPORT OF ANALYSIS

October 20, 2014

Tom Murphy
Berg Oliver
14701 Saint Mary's Lane, Suite 400
Houston, TX 77079

ESC Sample # : L727111-09

Date Received : October 11, 2014
Description : Rampart Area

Site ID :

Sample ID : SB-9

Project # : 9529H-P2

Collected By : Tom Murphy
Collection Date : 10/09/14 11:09

Parameter	Result	MDL	SDL	MQL	Units	Qual	Method	Date	Dil.
Total Solids	83.2	0.0333	0.033		%		2540 G-2	10/16/14	1
Benzene	0.52	0.00027	0.17	0.60	mg/kg	J	8260B	10/16/14	500
Toluene	23.	0.00043	0.26	3.0	mg/kg		8260B	10/16/14	500
Ethylbenzene	13.	0.00030	0.18	0.60	mg/kg		8260B	10/16/14	500
Total Xylenes	72.	0.00070	0.42	1.8	mg/kg		8260B	10/16/14	500
Methyl tert-butyl ether	U	0.00021	0.13	0.60	mg/kg		8260B	10/16/14	500
Surrogate Recovery									
Toluene-d8	101.				% Rec.		8260B	10/16/14	500
Dibromofluoromethane	95.8				% Rec.		8260B	10/16/14	500
4-Bromofluorobenzene	96.5				% Rec.		8260B	10/16/14	500
TCEQ Method 1005 - TPH									
TPH C6 - C12	20.	15.	18.	60.	mg/kg	J	TX 1005	10/17/14	1
TPH C12 - C28	U	15.	18.	60.	mg/kg		TX 1005	10/17/14	1
TPH C28 - C35	U	15.	18.	60.	mg/kg		TX 1005	10/17/14	1
TPH C6 - C35	20.	15.	18.	60.	mg/kg	J	TX 1005	10/17/14	1
Surrogate Recovery									
o-Terphenyl	92.5				% Rec.		TX 1005	10/17/14	1

Results listed are dry weight basis.
U = ND (Not Detected) = Less than SDL
Note:

The reported analytical results relate only to the sample submitted
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REPORT OF ANALYSIS

Tom Murphy
Berg Oliver
14701 Saint Mary's Lane, Suite 400
Houston, TX 77079

October 20, 2014

Date Received : October 11, 2014
Description : Rampart Area

ESC Sample # : L727111-10

Site ID :

Sample ID : SB-6/TWP-6

Project # : 9529H-P2

Collected By : Tom Murphy
Collection Date : 10/07/14 15:30

Parameter	Result	MDL	SDL	MQL	Units	Qual	Method	Date	Dil.
Volatile Organics									
Acetone	U	0.010	0.010	1.0	mg/l		8260B	10/13/14	1
Acrolein	U	0.0089	0.0089	0.050	mg/l		8260B	10/13/14	1
Acrylonitrile	U	0.0019	0.0019	0.010	mg/l		8260B	10/13/14	1
Benzene	U	0.00033	0.00033	0.0010	mg/l		8260B	10/13/14	1
Bromobenzene	U	0.00035	0.00035	0.0010	mg/l		8260B	10/13/14	1
Bromodichloromethane	U	0.00038	0.00038	0.0013	mg/l		8260B	10/13/14	1
Bromoform	U	0.00047	0.00047	0.0010	mg/l		8260B	10/13/14	1
Bromomethane	U	0.00087	0.00087	0.0050	mg/l		8260B	10/13/14	1
n-Butylbenzene	U	0.00036	0.00036	0.0010	mg/l		8260B	10/13/14	1
sec-Butylbenzene	U	0.00037	0.00036	0.0010	mg/l		8260B	10/13/14	1
tert-Butylbenzene	U	0.00040	0.00040	0.0010	mg/l		8260B	10/13/14	1
Carbon tetrachloride	U	0.00038	0.00038	0.0010	mg/l		8260B	10/13/14	1
Chlorobenzene	U	0.00035	0.00035	0.0010	mg/l		8260B	10/13/14	1
Chlorodibromomethane	U	0.00033	0.00033	0.0010	mg/l		8260B	10/13/14	1
Chloroethane	U	0.00045	0.00045	0.0050	mg/l	J3	8260B	10/13/14	1
2-Chloroethyl vinyl ether	U	0.0030	0.0030	0.050	mg/l		8260B	10/13/14	1
Chloroform	U	0.00032	0.00032	0.0050	mg/l		8260B	10/13/14	1
Chloromethane	U	0.00028	0.00028	0.0025	mg/l		8260B	10/13/14	1
2-Chlorotoluene	U	0.00038	0.00038	0.0010	mg/l		8260B	10/13/14	1
4-Chlorotoluene	U	0.00035	0.00035	0.0010	mg/l		8260B	10/13/14	1
1,2-Dibromo-3-Chloropropane	U	0.0013	0.0013	0.0050	mg/l		8260B	10/13/14	1
1,2-Dibromoethane	U	0.00038	0.00038	0.0010	mg/l		8260B	10/13/14	1
Dibromomethane	U	0.00035	0.00035	0.0010	mg/l		8260B	10/13/14	1
1,2-Dichlorobenzene	U	0.00035	0.00035	0.0010	mg/l		8260B	10/13/14	1
1,3-Dichlorobenzene	U	0.00022	0.00022	0.0010	mg/l		8260B	10/13/14	1
1,4-Dichlorobenzene	U	0.00027	0.00027	0.0010	mg/l		8260B	10/13/14	1
Dichlorodifluoromethane	U	0.00055	0.00055	0.0050	mg/l		8260B	10/13/14	1
1,1-Dichloroethane	U	0.00026	0.00026	0.0010	mg/l		8260B	10/13/14	1
1,2-Dichloroethane	U	0.00036	0.00036	0.0010	mg/l		8260B	10/13/14	1
1,1-Dichloroethene	U	0.00040	0.00040	0.0010	mg/l	J3	8260B	10/13/14	1
cis-1,2-Dichloroethene	U	0.00026	0.00026	0.0010	mg/l		8260B	10/13/14	1
trans-1,2-Dichloroethene	U	0.00040	0.00040	0.0010	mg/l		8260B	10/13/14	1
1,2-Dichloropropane	U	0.00031	0.00031	0.0010	mg/l		8260B	10/13/14	1
1,1-Dichloropropene	U	0.00035	0.00035	0.0010	mg/l		8260B	10/13/14	1
1,3-Dichloropropane	U	0.00037	0.00037	0.0010	mg/l		8260B	10/13/14	1
cis-1,3-Dichloropropene	U	0.00042	0.00042	0.0010	mg/l		8260B	10/13/14	1
trans-1,3-Dichloropropene	U	0.00042	0.00042	0.0010	mg/l		8260B	10/13/14	1
2,2-Dichloropropane	U	0.00032	0.00032	0.0010	mg/l		8260B	10/13/14	1
Di-isopropyl ether	U	0.00032	0.00032	0.0010	mg/l		8260B	10/13/14	1
Ethylbenzene	U	0.00038	0.00038	0.0010	mg/l		8260B	10/13/14	1
Hexachloro-1,3-butadiene	U	0.00026	0.00026	0.0010	mg/l		8260B	10/13/14	1
Isopropylbenzene	U	0.00033	0.00033	0.0010	mg/l		8260B	10/13/14	1
p-Isopropyltoluene	U	0.00035	0.00035	0.0010	mg/l		8260B	10/13/14	1
2-Butanone (MEK)	U	0.0039	0.0039	0.010	mg/l		8260B	10/13/14	1

U = ND (Not Detected) = Less than SDL
Note:
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REPORT OF ANALYSIS

Tom Murphy
Berg Oliver
14701 Saint Mary's Lane, Suite 400
Houston, TX 77079

October 20, 2014

ESC Sample # : L727111-10

Date Received : October 11, 2014
Description : Rampart Area

Site ID :

Sample ID : SB-6/TWP-6

Project # : 9529H-P2

Collected By : Tom Murphy
Collection Date : 10/07/14 15:30

Parameter	Result	MDL	SDL	MQL	Units	Qual	Method	Date	Dil.
Methylene Chloride	U	0.0010	0.0010	0.0050	mg/l	J3	8260B	10/13/14	1
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.0021	0.010	mg/l		8260B	10/13/14	1
Methyl tert-butyl ether	U	0.00037	0.00037	0.0010	mg/l		8260B	10/13/14	1
Naphthalene	U	0.0010	0.0010	0.0050	mg/l		8260B	10/13/14	1
n-Propylbenzene	U	0.00035	0.00035	0.0010	mg/l		8260B	10/13/14	1
Styrene	U	0.00031	0.00031	0.0010	mg/l		8260B	10/13/14	1
1,1,1,2-Tetrachloroethane	U	0.00039	0.00038	0.0010	mg/l		8260B	10/13/14	1
1,1,2,2-Tetrachloroethane	U	0.00059	0.00058	0.0010	mg/l		8260B	10/13/14	1
1,1,2-Trichlorotrifluoroethane	U	0.00030	0.00030	0.0010	mg/l		8260B	10/13/14	1
Tetrachloroethene	U	0.00037	0.00037	0.0010	mg/l		8260B	10/13/14	1
Toluene	U	0.00078	0.00078	0.0050	mg/l		8260B	10/13/14	1
1,2,3-Trichlorobenzene	U	0.00023	0.00023	0.0010	mg/l		8260B	10/13/14	1
1,2,4-Trichlorobenzene	U	0.00021	0.00021	0.0010	mg/l		8260B	10/13/14	1
1,1,1-Trichloroethane	U	0.00032	0.00032	0.0010	mg/l		8260B	10/13/14	1
1,1,2-Trichloroethane	U	0.00038	0.00038	0.0010	mg/l		8260B	10/13/14	1
Trichloroethene	U	0.00040	0.00040	0.0010	mg/l		8260B	10/13/14	1
Trichlorofluoromethane	U	0.0012	0.0012	0.0050	mg/l		8260B	10/13/14	1
1,2,3-Trichloropropane	U	0.00081	0.00081	0.0025	mg/l		8260B	10/13/14	1
1,2,4-Trimethylbenzene	U	0.00037	0.00037	0.0010	mg/l		8260B	10/13/14	1
1,2,3-Trimethylbenzene	U	0.00032	0.00032	0.0010	mg/l		8260B	10/13/14	1
1,3,5-Trimethylbenzene	U	0.00039	0.00039	0.0010	mg/l		8260B	10/13/14	1
Vinyl chloride	U	0.00026	0.00026	0.0010	mg/l		8260B	10/13/14	1
Xylenes, Total	U	0.0011	0.0011	0.0030	mg/l		8260B	10/13/14	1
Surrogate Recovery									
Toluene-d8	97.9				% Rec.		8260B	10/13/14	1
Dibromofluoromethane	94.1				% Rec.		8260B	10/13/14	1
4-Bromofluorobenzene	104.				% Rec.		8260B	10/13/14	1
TCEQ Method 1005 - TPH									
TPH C6 - C12	U	0.60	0.60	0.90	mg/l		TX 1005	10/15/14	1
TPH C12 - C28	1.2	0.60	0.60	0.90	mg/l		TX 1005	10/15/14	1
TPH C28 - C35	U	0.60	0.60	0.90	mg/l		TX 1005	10/15/14	1
TPH C6 - C35	1.2	0.60	0.60	0.90	mg/l		TX 1005	10/15/14	1
Surrogate Recovery									
o-Terphenyl	93.4				% Rec.		TX 1005	10/15/14	1

U = ND (Not Detected) = Less than SDL
Note:
The reported analytical results relate only to the sample submitted.

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REPORT OF ANALYSIS

Tom Murphy
Berg Oliver
14701 Saint Mary's Lane, Suite 400
Houston, TX 77079

October 20, 2014

ESC Sample # : L727111-11

Date Received : October 11, 2014
Description : Rampart Area

Site ID :

Sample ID : SB-9/TWP-9

Project # : 9529H-P2

Collected By : Tom Murphy
Collection Date : 10/09/14 11:40

Parameter	Result	MDL	SDL	MQL	Units	Qual	Method	Date	Dil.
Benzene	1.5	0.00033	0.033	0.10	mg/l		8260B	10/14/14	100
Toluene	6.8	0.00078	0.078	0.50	mg/l		8260B	10/14/14	100
Ethylbenzene	1.6	0.00038	0.038	0.10	mg/l		8260B	10/14/14	100
Total Xylenes	7.1	0.0011	0.11	0.30	mg/l		8260B	10/14/14	100
Methyl tert-butyl ether	0.072	0.00037	0.037	0.10	mg/l	J	8260B	10/14/14	100
Surrogate Recovery									
Toluene-d8	103.				% Rec.		8260B	10/14/14	100
Dibromofluoromethane	103.				% Rec.		8260B	10/14/14	100
4-Bromofluorobenzene	103.				% Rec.		8260B	10/14/14	100
TCEQ Method 1005 - TPH									
TPH C6 - C12	29.	0.60	0.60	0.90	mg/l		TX 1005	10/15/14	1
TPH C12 - C28	U	0.60	0.60	0.90	mg/l		TX 1005	10/15/14	1
TPH C28 - C35	U	0.60	0.60	0.90	mg/l		TX 1005	10/15/14	1
TPH C6 - C35	29.	0.60	0.60	0.90	mg/l		TX 1005	10/15/14	1
Surrogate Recovery									
o-Terphenyl	91.0				% Rec.		TX 1005	10/15/14	1

U = ND (Not Detected) = Less than SDL
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 10/20/14 15:25 Printed: 10/20/14 15:26

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L727111-05	WG748152	SAMP	Acrylonitrile	R2998167	J3
	WG748152	SAMP	2-Butanone (MEK)	R2998167	J3
L727111-06	WG748152	SAMP	Acrylonitrile	R2998167	J3
	WG748152	SAMP	2-Butanone (MEK)	R2998167	J3
L727111-09	WG748562	SAMP	TPH C6 - C12	R2998636	J
	WG748562	SAMP	TPH C6 - C35	R2998636	J
	WG748862	SAMP	Benzene	R2998033	J
L727111-10	WG748133	SAMP	Chloroethane	R2997203	J3
	WG748133	SAMP	1,1-Dichloroethene	R2997203	J3
	WG748133	SAMP	Methylene Chloride	R2997203	J3
L727111-11	WG748057	SAMP	Methyl tert-butyl ether	R2997759	J

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.
J3	The associated batch QC was outside the established quality control range for precision.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods,it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
10/20/14 at 15:26:34

TSR Signing Reports: 134
R5 - Desired TAT

Sample: L727111-01 Account: BEROLIHTX Received: 10/11/14 09:00 Due Date: 10/17/14 00:00 RPT Date: 10/20/14 15:25

Sample: L727111-02 Account: BEROLIHTX Received: 10/11/14 09:00 Due Date: 10/17/14 00:00 RPT Date: 10/20/14 15:25

Sample: L727111-03 Account: BEROLIHTX Received: 10/11/14 09:00 Due Date: 10/17/14 00:00 RPT Date: 10/20/14 15:25

Sample: L727111-04 Account: BEROLIHTX Received: 10/11/14 09:00 Due Date: 10/17/14 00:00 RPT Date: 10/20/14 15:25

Sample: L727111-05 Account: BEROLIHTX Received: 10/11/14 09:00 Due Date: 10/17/14 00:00 RPT Date: 10/20/14 15:25

Sample: L727111-06 Account: BEROLIHTX Received: 10/11/14 09:00 Due Date: 10/17/14 00:00 RPT Date: 10/20/14 15:25

Sample: L727111-07 Account: BEROLIHTX Received: 10/11/14 09:00 Due Date: 10/17/14 00:00 RPT Date: 10/20/14 15:25

Sample: L727111-08 Account: BEROLIHTX Received: 10/11/14 09:00 Due Date: 10/17/14 00:00 RPT Date: 10/20/14 15:25

Sample: L727111-09 Account: BEROLIHTX Received: 10/11/14 09:00 Due Date: 10/17/14 00:00 RPT Date: 10/20/14 15:25
Run this sample last (Gasoline-Affected) per COC - JWW 10/11

Sample: L727111-10 Account: BEROLIHTX Received: 10/11/14 09:00 Due Date: 10/17/14 00:00 RPT Date: 10/20/14 15:25

Sample: L727111-11 Account: BEROLIHTX Received: 10/11/14 09:00 Due Date: 10/17/14 00:00 RPT Date: 10/20/14 15:25

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Total Solids by Method 2540 G-2011		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748582**
Analysis Date:	10/16/2014 6:45:00 AM	Analyst:	607
Instrument ID:	LOGBAL3		
Sample Numbers:	L727111-01, -02, -03, -04		

Method Blank

Analyte	CAS	PQL	MDL	Qualifier
Total Solids	TSOLIDS	< 0.100	< 0.0333	

Laboratory Control Sample (LCS)

Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
Total Solids	1	50	50.031	100	85 - 115	

Parameters in bold text are reported in this SDG

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Total Solids by Method 2540 G-2011		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748583**
Analysis Date:	10/16/2014 6:30:00 AM	Analyst:	607
Instrument ID:	LOGBAL3		
Sample Numbers:	L727111-05, -06, -07, -08, -09		

Method Blank

Analyte	CAS	PQL	MDL	Qualifier
Total Solids	TSOLIDS	< 0.100	< 0.0333	

Laboratory Control Sample (LCS)

Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
Total Solids	1	50	50.003	100	85 - 115	

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Est. 1970

Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Total Solids by Method 2540 G-2011		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748582**
Analysis Date:	10/16/2014 6:45:00 AM	Analyst:	607
Instrument ID:	LOGBAL3		
Sample Numbers:	L727111-01, -02, -03, -04		

Sample Duplicate

L727110-07

Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier
Total Solids	1	80.830	87.053	7.41	5	J3

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Tax I.D 62-0814289
Est. 1970

Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Total Solids by Method 2540 G-2011		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748583**
Analysis Date:	10/16/2014 6:30:00 AM	Analyst:	607
Instrument ID:	LOGBAL3		
Sample Numbers:	L727111-05, -06, -07, -08, -09		

Sample Duplicate

L727111-05

Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier
Total Solids	1	83.300	82.771	0.64	5	

Parameters in bold text are reported in this SDG

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Water - mg/L
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748057**
Analysis Date:	10/14/2014 7:59:00 PM	Analyst:	644
Instrument ID:	VOCMS13		
Sample Numbers:	L727111-11		

Method Blank

Analyte	CAS	PQL	MDL	Qualifier
Benzene	71-43-2	< 0.00100	< 0.000331	
Di-isopropyl ether	108-20-3	< 0.00100	< 0.000320	
Ethylbenzene	100-41-4	< 0.00100	< 0.000384	
Methyl tert-butyl ether	1634-04-4	< 0.00100	< 0.000367	
Naphthalene	91-20-3	< 0.00500	< 0.00100	
Toluene	108-88-3	< 0.00500	< 0.000780	
Xylenes, Total	1330-20-7	< 0.00300	< 0.00106	

Parameters in bold text are reported in this SDG

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Water - mg/L
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748133**
Analysis Date:	10/13/2014 4:59:00 PM	Analyst:	644
Instrument ID:	VOCMS21		
Sample Numbers:	L727111-10		

Method Blank

Analyte	CAS	PQL	MDL	Qualifier
1,1,1,2-Tetrachloroethane	630-20-6	< 0.00100	< 0.000385	
1,1,1-Trichloroethane	71-55-6	< 0.00100	< 0.000319	
1,1,2,2-Tetrachloroethane	79-34-5	< 0.00100	< 0.000585	
1,1,2-Trichloroethane	79-00-5	< 0.00100	< 0.000383	
1,1,2-Trichlorotrifluoroethane	76-13-1	< 0.00100	< 0.000303	
1,1-Dichloroethane	75-34-3	< 0.00100	< 0.000259	
1,1-Dichloroethene	75-35-4	< 0.00100	< 0.000398	
1,1-Dichloropropene	563-58-6	< 0.00100	< 0.000352	
1,2,3-Trichlorobenzene	87-61-6	< 0.00100	< 0.000230	
1,2,3-Trichloropropane	96-18-4	< 0.00250	< 0.000807	
1,2,3-Trimethylbenzene	526-73-8	< 0.00100	< 0.000321	
1,2,4-Trichlorobenzene	120-82-1	< 0.00100	< 0.000214	
1,2,4-Trimethylbenzene	95-63-6	< 0.00100	< 0.000373	
1,2-Dibromo-3-Chloropropane	96-12-8	< 0.00500	< 0.00133	
1,2-Dibromoethane	106-93-4	< 0.00100	< 0.000381	
1,2-Dichlorobenzene	95-50-1	< 0.00100	< 0.000349	
1,2-Dichloroethane	107-06-2	< 0.00100	< 0.000361	
1,2-Dichloropropane	78-87-5	< 0.00100	< 0.000306	
1,3,5-Trimethylbenzene	108-67-8	< 0.00100	< 0.000387	
1,3-Dichlorobenzene	541-73-1	< 0.00100	< 0.000220	
1,3-Dichloropropane	142-28-9	< 0.00100	< 0.000366	
1,4-Dichlorobenzene	106-46-7	< 0.00100	< 0.000274	
2,2-Dichloropropane	594-20-7	< 0.00100	< 0.000321	
2-Butanone (MEK)	78-93-3	< 0.0100	< 0.00393	
2-Chloroethyl vinyl ether	110-75-8	< 0.0500	< 0.00301	
2-Chlorotoluene	95-49-8	< 0.00100	< 0.000375	
4-Chlorotoluene	106-43-4	< 0.00100	< 0.000351	
4-Methyl-2-pentanone (MIBK)	108-10-1	< 0.0100	< 0.00214	
Acetone	67-64-1	< 1.00	< 0.0100	
Acrolein	107-02-8	< 0.0500	< 0.00887	
Acrylonitrile	107-13-1	< 0.0100	< 0.00187	
Benzene	71-43-2	< 0.00100	< 0.000331	
Bromobenzene	108-86-1	< 0.00100	< 0.000352	
Bromodichloromethane	75-27-4	< 0.00125	< 0.000380	
Bromoform	75-25-2	< 0.00100	< 0.000469	
Bromomethane	74-83-9	< 0.00500	< 0.000866	
Carbon tetrachloride	56-23-5	< 0.00100	< 0.000379	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Water - mg/L
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748133**
Analysis Date:	10/13/2014 4:59:00 PM	Analyst:	644
Instrument ID:	VOCMS21		
Sample Numbers:	L727111-10		

Method Blank

Analyte	CAS	PQL	MDL	Qualifier
Chlorobenzene	108-90-7	< 0.00100	< 0.000348	
Chlorodibromomethane	124-48-1	< 0.00100	< 0.000327	
Chloroethane	75-00-3	< 0.00500	< 0.000453	
Chloroform	67-66-3	< 0.00500	< 0.000324	
Chloromethane	74-87-3	< 0.00250	< 0.000276	
cis-1,2-Dichloroethene	156-59-2	< 0.00100	< 0.000260	
cis-1,3-Dichloropropene	10061-01-5	< 0.00100	< 0.000418	
Dibromomethane	74-95-3	< 0.00100	< 0.000346	
Dichlorodifluoromethane	75-71-8	< 0.00500	< 0.000551	
Di-isopropyl ether	108-20-3	< 0.00100	< 0.000320	
Ethylbenzene	100-41-4	< 0.00100	< 0.000384	
Hexachloro-1,3-butadiene	87-68-3	< 0.00100	< 0.000256	
Isopropylbenzene	98-82-8	< 0.00100	< 0.000326	
Methyl tert-butyl ether	1634-04-4	< 0.00100	< 0.000367	
Methylene Chloride	75-09-2	< 0.00500	< 0.00100	
Naphthalene	91-20-3	< 0.00500	< 0.00100	
n-Butylbenzene	104-51-8	< 0.00100	< 0.000361	
n-Propylbenzene	103-65-1	< 0.00100	< 0.000349	
p-Isopropyltoluene	99-87-6	< 0.00100	< 0.000350	
sec-Butylbenzene	135-98-8	< 0.00100	< 0.000365	
Styrene	100-42-5	< 0.00100	< 0.000307	
tert-Butylbenzene	98-06-6	< 0.00100	< 0.000399	
Tetrachloroethene	127-18-4	< 0.00100	< 0.000372	
Toluene	108-88-3	< 0.00500	< 0.000780	
trans-1,2-Dichloroethene	156-60-5	< 0.00100	< 0.000396	
trans-1,3-Dichloropropene	10061-02-6	< 0.00100	< 0.000419	
Trichloroethene	79-01-6	< 0.00100	< 0.000398	
Trichlorofluoromethane	75-69-4	< 0.00500	< 0.00120	
Vinyl chloride	75-01-4	< 0.00100	< 0.000259	
Xylenes, Total	1330-20-7	< 0.00300	< 0.00106	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748152**
Analysis Date:	10/16/2014 12:22:00 AM	Analyst:	644
Instrument ID:	VOCMS24		
Sample Numbers:	L727111-05, -06		

Method Blank

Analyte	CAS	PQL	MDL	Qualifier
1,1,1,2-Tetrachloroethane	630-20-6	< 0.00100	< 0.000264	
1,1,1-Trichloroethane	71-55-6	< 0.00100	< 0.000286	
1,1,2,2-Tetrachloroethane	79-34-5	< 0.00100	< 0.000365	
1,1,2-Trichloroethane	79-00-5	< 0.00100	< 0.000277	
1,1,2-Trichlorotrifluoroethane	76-13-1	< 0.00100	< 0.000365	
1,1-Dichloroethane	75-34-3	< 0.00100	< 0.000199	
1,1-Dichloroethene	75-35-4	< 0.00100	< 0.000303	
1,1-Dichloropropene	563-58-6	< 0.00100	< 0.000317	
1,2,3-Trichlorobenzene	87-61-6	< 0.00100	< 0.000306	
1,2,3-Trichloropropane	96-18-4	< 0.00250	< 0.000741	
1,2,3-Trimethylbenzene	526-73-8	< 0.00100	< 0.000287	
1,2,4-Trichlorobenzene	120-82-1	< 0.00100	< 0.000388	
1,2,4-Trimethylbenzene	95-63-6	< 0.00100	< 0.000211	
1,2-Dibromo-3-Chloropropane	96-12-8	< 0.00500	< 0.00105	
1,2-Dibromoethane	106-93-4	< 0.00100	< 0.000343	
1,2-Dichlorobenzene	95-50-1	< 0.00100	< 0.000305	
1,2-Dichloroethane	107-06-2	< 0.00100	< 0.000265	
1,2-Dichloropropane	78-87-5	< 0.00100	< 0.000358	
1,3,5-Trimethylbenzene	108-67-8	< 0.00100	< 0.000266	
1,3-Dichlorobenzene	541-73-1	< 0.00100	< 0.000239	
1,3-Dichloropropane	142-28-9	< 0.00100	< 0.000207	
1,4-Dichlorobenzene	106-46-7	< 0.00100	< 0.000226	
2,2-Dichloropropane	594-20-7	< 0.00100	< 0.000279	
2-Butanone (MEK)	78-93-3	< 0.0100	< 0.00468	
2-Chloroethyl vinyl ether	110-75-8	< 0.0500	< 0.00234	
2-Chlorotoluene	95-49-8	< 0.00100	< 0.000301	
4-Chlorotoluene	106-43-4	< 0.00100	< 0.000240	
4-Methyl-2-pentanone (MIBK)	108-10-1	< 0.0100	< 0.00188	
Acetone	67-64-1	< 0.0500	< 0.0100	
Acrylonitrile	107-13-1	< 0.0100	< 0.00179	
Benzene	71-43-2	< 0.00100	< 0.000270	
Bromobenzene	108-86-1	< 0.00100	< 0.000284	
Bromodichloromethane	75-27-4	< 0.00100	< 0.000254	
Bromoform	75-25-2	< 0.00100	< 0.000424	
Bromomethane	74-83-9	< 0.00500	< 0.00134	
Carbon tetrachloride	56-23-5	< 0.00100	< 0.000328	
Chlorobenzene	108-90-7	< 0.00100	< 0.000212	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748152**
Analysis Date:	10/16/2014 12:22:00 AM	Analyst:	644
Instrument ID:	VOCMS24		
Sample Numbers:	L727111-05, -06		

Method Blank

Analyte	CAS	PQL	MDL	Qualifier
Chlorodibromomethane	124-48-1	< 0.00100	< 0.000373	
Chloroethane	75-00-3	< 0.00500	< 0.000946	
Chloroform	67-66-3	< 0.00500	< 0.000229	
Chloromethane	74-87-3	< 0.00250	< 0.000375	
cis-1,2-Dichloroethene	156-59-2	< 0.00100	< 0.000235	
cis-1,3-Dichloropropene	10061-01-5	< 0.00100	< 0.000262	
Dibromomethane	74-95-3	< 0.00100	< 0.000382	
Dichlorodifluoromethane	75-71-8	< 0.00500	< 0.000713	
Di-isopropyl ether	108-20-3	< 0.00100	< 0.000248	
Ethylbenzene	100-41-4	< 0.00100	< 0.000297	
Hexachloro-1,3-butadiene	87-68-3	< 0.00100	< 0.000342	
Isopropylbenzene	98-82-8	< 0.00100	< 0.000243	
Methyl tert-butyl ether	1634-04-4	< 0.00100	< 0.000212	
Methylene Chloride	75-09-2	< 0.00500	< 0.00100	
Naphthalene	91-20-3	< 0.00500	< 0.00100	
n-Butylbenzene	104-51-8	< 0.00100	< 0.000258	
n-Propylbenzene	103-65-1	< 0.00100	< 0.000206	
p-Isopropyltoluene	99-87-6	< 0.00100	< 0.000204	
sec-Butylbenzene	135-98-8	< 0.00100	< 0.000201	
Styrene	100-42-5	< 0.00100	< 0.000234	
tert-Butylbenzene	98-06-6	< 0.00100	< 0.000206	
Tetrachloroethene	127-18-4	< 0.00100	< 0.000276	
Toluene	108-88-3	< 0.00500	< 0.000434	
trans-1,2-Dichloroethene	156-60-5	< 0.00100	< 0.000264	
trans-1,3-Dichloropropene	10061-02-6	< 0.00100	< 0.000267	
Trichloroethene	79-01-6	< 0.00100	< 0.000279	
Trichlorofluoromethane	75-69-4	< 0.00500	< 0.000382	
Vinyl chloride	75-01-4	< 0.00100	< 0.000291	
Xylenes, Total	1330-20-7	< 0.00300	< 0.000698	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748161**
Analysis Date:	10/14/2014 7:47:00 PM	Analyst:	644
Instrument ID:	VOCMS7		
Sample Numbers:	L727111-01, -02, -03, -04, -07		

Method Blank

Analyte	CAS	PQL	MDL	Qualifier
Benzene	71-43-2	< 0.00100	< 0.000270	
Ethylbenzene	100-41-4	< 0.00100	< 0.000297	
Methyl tert-butyl ether	1634-04-4	< 0.00100	< 0.000212	
Naphthalene	91-20-3	< 0.00500	< 0.00100	
Toluene	108-88-3	< 0.00500	< 0.000434	
Xylenes, Total	1330-20-7	< 0.00300	< 0.000698	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748862**
Analysis Date:	10/16/2014 2:13:00 AM	Analyst:	644
Instrument ID:	VOCMS30		
Sample Numbers:	L727111-08, -09		

Method Blank

Analyte	CAS	PQL	MDL	Qualifier
1,1,1,2-Tetrachloroethane	630-20-6	< 0.00100	< 0.000385	
1,1,1-Trichloroethane	71-55-6	< 0.00100	< 0.000319	
1,1,2,2-Tetrachloroethane	79-34-5	< 0.00100	< 0.000585	
1,1,2-Trichloroethane	79-00-5	< 0.00100	< 0.000383	
1,1,2-Trichlorotrifluoroethane	76-13-1	< 0.00100	< 0.000303	
1,1-Dichloroethane	75-34-3	< 0.00100	< 0.000259	
1,1-Dichloroethene	75-35-4	< 0.00100	< 0.000398	
1,1-Dichloropropene	563-58-6	< 0.00100	< 0.000352	
1,2,3-Trichlorobenzene	87-61-6	< 0.00100	< 0.000230	
1,2,3-Trichloropropane	96-18-4	< 0.00250	< 0.000807	
1,2,3-Trimethylbenzene	526-73-8	< 0.00100	< 0.000321	
1,2,4-Trichlorobenzene	120-82-1	< 0.00100	< 0.000214	
1,2,4-Trimethylbenzene	95-63-6	< 0.00100	< 0.000373	
1,2-Dibromo-3-Chloropropane	96-12-8	< 0.00500	< 0.00133	
1,2-Dibromoethane	106-93-4	< 0.00100	< 0.000381	
1,2-Dichlorobenzene	95-50-1	< 0.00100	< 0.000349	
1,2-Dichloroethane	107-06-2	< 0.00100	< 0.000361	
1,2-Dichloropropane	78-87-5	< 0.00100	< 0.000306	
1,3,5-Trimethylbenzene	108-67-8	< 0.00100	< 0.000387	
1,3-Dichlorobenzene	541-73-1	< 0.00100	< 0.000220	
1,3-Dichloropropane	142-28-9	< 0.00100	< 0.000366	
1,4-Dichlorobenzene	106-46-7	< 0.00100	< 0.000274	
2,2-Dichloropropane	594-20-7	< 0.00100	< 0.000321	
2-Butanone (MEK)	78-93-3	< 0.0100	< 0.00393	
2-Chloroethyl vinyl ether	110-75-8	< 0.0500	< 0.00301	
2-Chlorotoluene	95-49-8	< 0.00100	< 0.000375	
4-Chlorotoluene	106-43-4	< 0.00100	< 0.000351	
4-Methyl-2-pentanone (MIBK)	108-10-1	< 0.0100	< 0.00214	
Acetone	67-64-1	< 0.0500	< 0.0100	
Acrylonitrile	107-13-1	< 0.0100	< 0.00187	
Benzene	71-43-2	< 0.00100	< 0.000270	
Bromobenzene	108-86-1	< 0.00100	< 0.000352	
Bromodichloromethane	75-27-4	< 0.00100	< 0.000254	
Bromoform	75-25-2	< 0.00100	< 0.000469	
Bromomethane	74-83-9	< 0.00500	< 0.000866	
Carbon tetrachloride	56-23-5	< 0.00100	< 0.000379	
Chlorobenzene	108-90-7	< 0.00100	< 0.000348	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748862**
Analysis Date:	10/16/2014 2:13:00 AM	Analyst:	644
Instrument ID:	VOCMS30		
Sample Numbers:	L727111-08, -09		

Method Blank

Analyte	CAS	PQL	MDL	Qualifier
Chlorodibromomethane	124-48-1	< 0.00100	< 0.000327	
Chloroethane	75-00-3	< 0.00500	< 0.000453	
Chloroform	67-66-3	< 0.00500	< 0.000324	
Chloromethane	74-87-3	< 0.00250	< 0.000276	
cis-1,2-Dichloroethene	156-59-2	< 0.00100	< 0.000260	
cis-1,3-Dichloropropene	10061-01-5	< 0.00100	< 0.000418	
Dibromomethane	74-95-3	< 0.00100	< 0.000346	
Dichlorodifluoromethane	75-71-8	< 0.00500	< 0.000551	
Di-isopropyl ether	108-20-3	< 0.00100	< 0.000320	
Ethylbenzene	100-41-4	< 0.00100	< 0.000297	
Hexachloro-1,3-butadiene	87-68-3	< 0.00100	< 0.000256	
Isopropylbenzene	98-82-8	< 0.00100	< 0.000326	
Methyl tert-butyl ether	1634-04-4	< 0.00100	< 0.000212	
Methylene Chloride	75-09-2	< 0.00500	< 0.00100	
Naphthalene	91-20-3	< 0.00500	< 0.00100	
n-Butylbenzene	104-51-8	< 0.00100	< 0.000361	
n-Propylbenzene	103-65-1	< 0.00100	< 0.000349	
p-Isopropyltoluene	99-87-6	< 0.00100	< 0.000350	
sec-Butylbenzene	135-98-8	< 0.00100	< 0.000365	
Styrene	100-42-5	< 0.00100	< 0.000307	
tert-Butylbenzene	98-06-6	< 0.00100	< 0.000399	
Tetrachloroethene	127-18-4	< 0.00100	< 0.000372	
Toluene	108-88-3	< 0.00500	< 0.000434	
trans-1,2-Dichloroethene	156-60-5	< 0.00100	< 0.000396	
trans-1,3-Dichloropropene	10061-02-6	< 0.00100	< 0.000419	
Trichloroethene	79-01-6	< 0.00100	< 0.000398	
Trichlorofluoromethane	75-69-4	< 0.00500	< 0.00120	
Vinyl chloride	75-01-4	< 0.00100	< 0.000259	
Xylenes, Total	1330-20-7	< 0.00300	< 0.000698	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Water - mg/L
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748057**
Analysis Date:	10/14/2014 7:59:00 PM	Analyst:	644
Instrument ID:	VOCMS13		
Sample Numbers:	L727111-11		

Laboratory Control Sample (LCS)

Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
Benzene	1	0.025	0.0220	88.1	74.8 - 121	
Di-isopropyl ether	1	0.025	0.0209	83.4	65.6 - 132	
Ethylbenzene	1	0.025	0.0252	101	78.8 - 122	
Methyl tert-butyl ether	1	0.025	0.0195	77.9	71.2 - 126	
Naphthalene	1	0.025	0.0253	101	68.4 - 128	
Toluene	1	0.025	0.0235	93.9	79.7 - 116	
Xylenes, Total	1	0.075	0.0720	96.1	78.7 - 121	

Laboratory Control Sample Duplicate (LCSD)

Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
Benzene	1	0.025	0.0205	82.1	74.8 - 121	
Di-isopropyl ether	1	0.025	0.0200	80.1	65.6 - 132	
Ethylbenzene	1	0.025	0.0224	89.4	78.8 - 122	
Methyl tert-butyl ether	1	0.025	0.0190	76.1	71.2 - 126	
Naphthalene	1	0.025	0.0229	91.7	68.4 - 128	
Toluene	1	0.025	0.0212	84.7	79.7 - 116	
Xylenes, Total	1	0.075	0.0639	85.2	78.7 - 121	

Laboratory Control Sample / Laboratory Control Sample Duplicate

Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Control Limits	% Rec Qual	% RPD	Control RPD Limits	RPD Qual
Benzene	1	0.025	0.0220	88.1	0.0205	82.1	74.8 - 121		7.11	20	
Di-isopropyl ether	1	0.025	0.0209	83.4	0.0200	80.1	65.6 - 132		4.06	20	
Ethylbenzene	1	0.025	0.0252	101	0.0224	89.4	78.8 - 122		11.9	20	
Methyl tert-butyl ether	1	0.025	0.0195	77.9	0.0190	76.1	71.2 - 126		2.4	20	
Naphthalene	1	0.025	0.0253	101	0.0229	91.7	68.4 - 128		10	20	
Toluene	1	0.025	0.0235	93.9	0.0212	84.7	79.7 - 116		10.4	20	
Xylenes, Total	1	0.075	0.0720	96.1	0.0639	85.2	78.7 - 121		11.9	20	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Water - mg/L
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748133**
Analysis Date:	10/13/2014 4:59:00 PM	Analyst:	644
Instrument ID:	VOCMS21		
Sample Numbers:	L727111-10		

Laboratory Control Sample (LCS)

Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
1,1,1,2-Tetrachloroethane	1	0.025	0.0296	118	74.2 - 124	
1,1,1-Trichloroethane	1	0.025	0.0251	100	73.2 - 123	
1,1,2,2-Tetrachloroethane	1	0.025	0.0279	112	70.7 - 122	
1,1,2-Trichloroethane	1	0.025	0.0270	108	77.7 - 118	
1,1,2-Trichlorotrifluoroethane	1	0.025	0.0268	107	67.2 - 143	
1,1-Dichloroethane	1	0.025	0.0247	98.7	70.7 - 126	
1,1-Dichloroethene	1	0.025	0.0257	103	67.8 - 129	
1,1-Dichloropropene	1	0.025	0.0253	101	73.1 - 125	
1,2,3-Trichlorobenzene	1	0.025	0.0290	116	64.9 - 135	
1,2,3-Trichloropropane	1	0.025	0.0270	108	71.8 - 121	
1,2,3-Trimethylbenzene	1	0.025	0.0249	99.5	72.3 - 116	
1,2,4-Trichlorobenzene	1	0.025	0.0306	122	69.7 - 136	
1,2,4-Trimethylbenzene	1	0.025	0.0288	115	75 - 123	
1,2-Dibromo-3-Chloropropane	1	0.025	0.0274	110	65.4 - 128	
1,2-Dibromoethane	1	0.025	0.0289	116	76.6 - 121	
1,2-Dichlorobenzene	1	0.025	0.0263	105	78.4 - 117	
1,2-Dichloroethane	1	0.025	0.0235	94	68.8 - 124	
1,2-Dichloropropane	1	0.025	0.0258	103	76.5 - 119	
1,3,5-Trimethylbenzene	1	0.025	0.0279	112	75.6 - 124	
1,3-Dichlorobenzene	1	0.025	0.0303	121	70.8 - 128	
1,3-Dichloropropane	1	0.025	0.0258	103	77.4 - 117	
1,4-Dichlorobenzene	1	0.025	0.0262	105	78.8 - 115	
2,2-Dichloropropane	1	0.025	0.0256	102	62.4 - 133	
2-Butanone (MEK)	1	0.125	0.1296	104	55 - 149	
2-Chloroethyl vinyl ether	1	0.125	0.0690	55.2	43.8 - 150	
2-Chlorotoluene	1	0.025	0.0289	116	74.7 - 122	
4-Chlorotoluene	1	0.025	0.0283	113	77.5 - 120	
4-Methyl-2-pentanone (MIBK)	1	0.125	0.1319	106	70.5 - 133	
Acetone	1	0.125	0.1331	106	35.6 - 163	
Acrolein	1	0.125	0.1421	114	10 - 190	
Acrylonitrile	1	0.125	0.1353	108	55.2 - 130	
Benzene	1	0.025	0.0250	100	74.8 - 121	
Bromobenzene	1	0.025	0.0260	104	77.5 - 116	
Bromodichloromethane	1	0.025	0.0260	104	75.1 - 116	
Bromoform	1	0.025	0.0319	127	67.5 - 130	
Bromomethane	1	0.025	0.0300	120	49.9 - 162	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Water - mg/L
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748133**
Analysis Date:	10/13/2014 4:59:00 PM	Analyst:	644
Instrument ID:	VOCMS21		
Sample Numbers:	L727111-10		

Laboratory Control Sample (LCS)

Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
Carbon tetrachloride	1	0.025	0.0263	105	70.2 - 123	
Chlorobenzene	1	0.025	0.0270	108	78.1 - 119	
Chlorodibromomethane	1	0.025	0.0281	112	74 - 121	
Chloroethane	1	0.025	0.0298	119	61.7 - 135	
Chloroform	1	0.025	0.0248	99.2	76 - 121	
Chloromethane	1	0.025	0.0252	101	61.5 - 129	
cis-1,2-Dichloroethene	1	0.025	0.0258	103	76 - 119	
cis-1,3-Dichloropropene	1	0.025	0.0273	109	78.2 - 120	
Dibromomethane	1	0.025	0.0256	102	79.5 - 118	
Dichlorodifluoromethane	1	0.025	0.0226	90.5	54.8 - 135	
Di-isopropyl ether	1	0.025	0.0242	96.9	65.6 - 132	
Ethylbenzene	1	0.025	0.0285	114	78.8 - 122	
Hexachloro-1,3-butadiene	1	0.025	0.0283	113	64.7 - 129	
Isopropylbenzene	1	0.025	0.0286	114	78.6 - 132	
Methyl tert-butyl ether	1	0.025	0.0240	95.8	71.2 - 126	
Methylene Chloride	1	0.025	0.0236	94.5	70.3 - 120	
Naphthalene	1	0.025	0.0251	100	68.4 - 128	
n-Butylbenzene	1	0.025	0.0276	110	76.2 - 126	
n-Propylbenzene	1	0.025	0.0282	113	78.2 - 122	
p-Isopropyltoluene	1	0.025	0.0296	118	74 - 131	
sec-Butylbenzene	1	0.025	0.0282	113	74.4 - 127	
Styrene	1	0.025	0.0288	115	80.4 - 126	
tert-Butylbenzene	1	0.025	0.0290	116	75.3 - 126	
Tetrachloroethene	1	0.025	0.0296	118	72.6 - 126	
Toluene	1	0.025	0.0256	102	79.7 - 116	
trans-1,2-Dichloroethene	1	0.025	0.0265	106	72.6 - 121	
trans-1,3-Dichloropropene	1	0.025	0.0285	114	74.3 - 123	
Trichloroethene	1	0.025	0.0268	107	77.7 - 118	
Trichlorofluoromethane	1	0.025	0.0257	103	63.5 - 135	
Vinyl chloride	1	0.025	0.0235	94.1	65.9 - 128	
Xylenes, Total	1	0.075	0.0845	113	78.7 - 121	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Water - mg/L
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748133**
Analysis Date:	10/13/2014 4:59:00 PM	Analyst:	644
Instrument ID:	VOCMS21		
Sample Numbers:	L727111-10		

Laboratory Control Sample Duplicate (LCSD)

Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
1,1,1,2-Tetrachloroethane	1	0.025	0.0281	112	74.2 - 124	
1,1,1-Trichloroethane	1	0.025	0.0218	87.2	73.2 - 123	
1,1,2,2-Tetrachloroethane	1	0.025	0.0262	105	70.7 - 122	
1,1,2-Trichloroethane	1	0.025	0.0244	97.6	77.7 - 118	
1,1,2-Trichlorotrifluoroethane	1	0.025	0.0223	89.2	67.2 - 143	
1,1-Dichloroethane	1	0.025	0.0205	81.9	70.7 - 126	
1,1-Dichloroethene	1	0.025	0.0210	84	67.8 - 129	
1,1-Dichloropropene	1	0.025	0.0230	91.8	73.1 - 125	
1,2,3-Trichlorobenzene	1	0.025	0.0272	109	64.9 - 135	
1,2,3-Trichloropropane	1	0.025	0.0256	102	71.8 - 121	
1,2,3-Trimethylbenzene	1	0.025	0.0238	95.1	72.3 - 116	
1,2,4-Trichlorobenzene	1	0.025	0.0279	112	69.7 - 136	
1,2,4-Trimethylbenzene	1	0.025	0.0265	106	75 - 123	
1,2-Dibromo-3-Chloropropane	1	0.025	0.0276	110	65.4 - 128	
1,2-Dibromoethane	1	0.025	0.0262	105	76.6 - 121	
1,2-Dichlorobenzene	1	0.025	0.0249	99.6	78.4 - 117	
1,2-Dichloroethane	1	0.025	0.0215	85.8	68.8 - 124	
1,2-Dichloropropane	1	0.025	0.0244	97.5	76.5 - 119	
1,3,5-Trimethylbenzene	1	0.025	0.0258	103	75.6 - 124	
1,3-Dichlorobenzene	1	0.025	0.0280	112	70.8 - 128	
1,3-Dichloropropane	1	0.025	0.0240	96.1	77.4 - 117	
1,4-Dichlorobenzene	1	0.025	0.0246	98.3	78.8 - 115	
2,2-Dichloropropane	1	0.025	0.0220	88.2	62.4 - 133	
2-Butanone (MEK)	1	0.125	0.1170	93.6	55 - 149	
2-Chloroethyl vinyl ether	1	0.125	0.0660	52.8	43.8 - 150	
2-Chlorotoluene	1	0.025	0.0269	107	74.7 - 122	
4-Chlorotoluene	1	0.025	0.0262	105	77.5 - 120	
4-Methyl-2-pentanone (MIBK)	1	0.125	0.1249	99.9	70.5 - 133	
Acetone	1	0.125	0.1070	85.6	35.6 - 163	
Acrolein	1	0.125	0.1189	95.1	10 - 190	
Acrylonitrile	1	0.125	0.1148	91.8	55.2 - 130	
Benzene	1	0.025	0.0231	92.4	74.8 - 121	
Bromobenzene	1	0.025	0.0241	96.5	77.5 - 116	
Bromodichloromethane	1	0.025	0.0243	97.3	75.1 - 116	
Bromoform	1	0.025	0.0297	119	67.5 - 130	
Bromomethane	1	0.025	0.0248	99.1	49.9 - 162	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Water - mg/L
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748133**
Analysis Date:	10/13/2014 4:59:00 PM	Analyst:	644
Instrument ID:	VOCMS21		
Sample Numbers:	L727111-10		

Laboratory Control Sample Duplicate (LCSD)

Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
Carbon tetrachloride	1	0.025	0.0227	90.8	70.2 - 123	
Chlorobenzene	1	0.025	0.0252	101	78.1 - 119	
Chlorodibromomethane	1	0.025	0.0256	102	74 - 121	
Chloroethane	1	0.025	0.0241	96.6	61.7 - 135	
Chloroform	1	0.025	0.0212	84.8	76 - 121	
Chloromethane	1	0.025	0.0212	84.9	61.5 - 129	
cis-1,2-Dichloroethene	1	0.025	0.0218	87.4	76 - 119	
cis-1,3-Dichloropropene	1	0.025	0.0257	103	78.2 - 120	
Dibromomethane	1	0.025	0.0242	96.6	79.5 - 118	
Dichlorodifluoromethane	1	0.025	0.0192	76.8	54.8 - 135	
Di-isopropyl ether	1	0.025	0.0201	80.5	65.6 - 132	
Ethylbenzene	1	0.025	0.0264	105	78.8 - 122	
Hexachloro-1,3-butadiene	1	0.025	0.0256	102	64.7 - 129	
Isopropylbenzene	1	0.025	0.0262	105	78.6 - 132	
Methyl tert-butyl ether	1	0.025	0.0201	80.5	71.2 - 126	
Methylene Chloride	1	0.025	0.0193	77.3	70.3 - 120	
Naphthalene	1	0.025	0.0237	94.6	68.4 - 128	
n-Butylbenzene	1	0.025	0.0260	104	76.2 - 126	
n-Propylbenzene	1	0.025	0.0260	104	78.2 - 122	
p-Isopropyltoluene	1	0.025	0.0277	111	74 - 131	
sec-Butylbenzene	1	0.025	0.0264	106	74.4 - 127	
Styrene	1	0.025	0.0271	108	80.4 - 126	
tert-Butylbenzene	1	0.025	0.0267	107	75.3 - 126	
Tetrachloroethene	1	0.025	0.0276	110	72.6 - 126	
Toluene	1	0.025	0.0243	97	79.7 - 116	
trans-1,2-Dichloroethene	1	0.025	0.0218	87.3	72.6 - 121	
trans-1,3-Dichloropropene	1	0.025	0.0273	109	74.3 - 123	
Trichloroethene	1	0.025	0.0256	102	77.7 - 118	
Trichlorofluoromethane	1	0.025	0.0217	86.7	63.5 - 135	
Vinyl chloride	1	0.025	0.0201	80.6	65.9 - 128	
Xylenes, Total	1	0.075	0.0793	106	78.7 - 121	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Water - mg/L
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748133**
Analysis Date:	10/13/2014 4:59:00 PM	Analyst:	644
Instrument ID:	VOCMS21		
Sample Numbers:	L727111-10		

Laboratory Control Sample / Laboratory Control Sample Duplicate

Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Control Limits	% Rec Qual	% RPD	Control RPD Limits	RPD Qual
1,1,1,2-Tetrachloroethane	1	0.025	0.0296	118	0.0281	112	74.2 - 124		5.09	20	
1,1,1-Trichloroethane	1	0.025	0.0251	100	0.0218	87.2	73.2 - 123		14	20	
1,1,2,2-Tetrachloroethane	1	0.025	0.0279	112	0.0262	105	70.7 - 122		6.2	20	
1,1,2-Trichloroethane	1	0.025	0.0270	108	0.0244	97.6	77.7 - 118		10.2	20	
1,1,2-Trichlorotrifluoroethane	1	0.025	0.0268	107	0.0223	89.2	67.2 - 143		18.3	20	
1,1-Dichloroethane	1	0.025	0.0247	98.7	0.0205	81.9	70.7 - 126		18.7	20	
1,1-Dichloroethene	1	0.025	0.0257	103	0.0210	84	67.8 - 129		20.2	20	J3
1,1-Dichloropropene	1	0.025	0.0253	101	0.0230	91.8	73.1 - 125		9.75	20	
1,2,3-Trichlorobenzene	1	0.025	0.0290	116	0.0272	109	64.9 - 135		6.33	20	
1,2,3-Trichloropropane	1	0.025	0.0270	108	0.0256	102	71.8 - 121		5.19	20	
1,2,3-Trimethylbenzene	1	0.025	0.0249	99.5	0.0238	95.1	72.3 - 116		4.55	20	
1,2,4-Trichlorobenzene	1	0.025	0.0306	122	0.0279	112	69.7 - 136		9.09	20	
1,2,4-Trimethylbenzene	1	0.025	0.0288	115	0.0265	106	75 - 123		8.38	20	
1,2-Dibromo-3-Chloropropane	1	0.025	0.0274	110	0.0276	110	65.4 - 128		0.61	20	
1,2-Dibromoethane	1	0.025	0.0289	116	0.0262	105	76.6 - 121		9.75	20	
1,2-Dichlorobenzene	1	0.025	0.0263	105	0.0249	99.6	78.4 - 117		5.3	20	
1,2-Dichloroethane	1	0.025	0.0235	94	0.0215	85.8	68.8 - 124		9.13	20	
1,2-Dichloropropane	1	0.025	0.0258	103	0.0244	97.5	76.5 - 119		5.5	20	
1,3,5-Trimethylbenzene	1	0.025	0.0279	112	0.0258	103	75.6 - 124		8.05	20	
1,3-Dichlorobenzene	1	0.025	0.0303	121	0.0280	112	70.8 - 128		7.84	20	
1,3-Dichloropropane	1	0.025	0.0258	103	0.0240	96.1	77.4 - 117		7.18	20	
1,4-Dichlorobenzene	1	0.025	0.0262	105	0.0246	98.3	78.8 - 115		6.43	20	
2,2-Dichloropropane	1	0.025	0.0256	102	0.0220	88.2	62.4 - 133		14.9	20	
2-Butanone (MEK)	1	0.125	0.1296	104	0.1170	93.6	55 - 149		10.3	20	
2-Chloroethyl vinyl ether	1	0.125	0.0690	55.2	0.0660	52.8	43.8 - 150		4.37	20	
2-Chlorotoluene	1	0.025	0.0289	116	0.0269	107	74.7 - 122		7.27	20	
4-Chlorotoluene	1	0.025	0.0283	113	0.0262	105	77.5 - 120		7.82	20	
4-Methyl-2-pentanone (MIBK)	1	0.125	0.1319	106	0.1249	99.9	70.5 - 133		5.49	20	
Acetone	1	0.125	0.1331	106	0.1070	85.6	35.6 - 163		21.8	23.9	
Acrolein	1	0.125	0.1421	114	0.1189	95.1	10 - 190		17.8	28.1	
Acrylonitrile	1	0.125	0.1353	108	0.1148	91.8	55.2 - 130		16.5	20	
Benzene	1	0.025	0.0250	100	0.0231	92.4	74.8 - 121		7.95	20	
Bromobenzene	1	0.025	0.0260	104	0.0241	96.5	77.5 - 116		7.62	20	
Bromodichloromethane	1	0.025	0.0260	104	0.0243	97.3	75.1 - 116		6.6	20	
Bromoform	1	0.025	0.0319	127	0.0297	119	67.5 - 130		7.16	20	
Bromomethane	1	0.025	0.0300	120	0.0248	99.1	49.9 - 162		19.1	20	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Water - mg/L
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748133**
Analysis Date:	10/13/2014 4:59:00 PM	Analyst:	644
Instrument ID:	VOCMS21		
Sample Numbers:	L727111-10		

Laboratory Control Sample / Laboratory Control Sample Duplicate

Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Control Limits	% Rec Qual	% RPD	Control Limits	RPD Qual
Carbon tetrachloride	1	0.025	0.0263	105	0.0227	90.8	70.2 - 123		14.6	20	
Chlorobenzene	1	0.025	0.0270	108	0.0252	101	78.1 - 119		7.15	20	
Chlorodibromomethane	1	0.025	0.0281	112	0.0256	102	74 - 121		9.38	20	
Chloroethane	1	0.025	0.0298	119	0.0241	96.6	61.7 - 135		21.1	20	J3
Chloroform	1	0.025	0.0248	99.2	0.0212	84.8	76 - 121		15.6	20	
Chloromethane	1	0.025	0.0252	101	0.0212	84.9	61.5 - 129		17.2	20	
cis-1,2-Dichloroethene	1	0.025	0.0258	103	0.0218	87.4	76 - 119		16.7	20	
cis-1,3-Dichloropropene	1	0.025	0.0273	109	0.0257	103	78.2 - 120		6.35	20	
Dibromomethane	1	0.025	0.0256	102	0.0242	96.6	79.5 - 118		5.78	20	
Dichlorodifluoromethane	1	0.025	0.0226	90.5	0.0192	76.8	54.8 - 135		16.4	20	
Di-isopropyl ether	1	0.025	0.0242	96.9	0.0201	80.5	65.6 - 132		18.4	20	
Ethylbenzene	1	0.025	0.0285	114	0.0264	105	78.8 - 122		7.9	20	
Hexachloro-1,3-butadiene	1	0.025	0.0283	113	0.0256	102	64.7 - 129		10	20	
Isopropylbenzene	1	0.025	0.0286	114	0.0262	105	78.6 - 132		8.6	20	
Methyl tert-butyl ether	1	0.025	0.0240	95.8	0.0201	80.5	71.2 - 126		17.4	20	
Methylene Chloride	1	0.025	0.0236	94.5	0.0193	77.3	70.3 - 120		20	20	J3
Naphthalene	1	0.025	0.0251	100	0.0237	94.6	68.4 - 128		5.86	20	
n-Butylbenzene	1	0.025	0.0276	110	0.0260	104	76.2 - 126		5.83	20	
n-Propylbenzene	1	0.025	0.0282	113	0.0260	104	78.2 - 122		7.86	20	
p-Isopropyltoluene	1	0.025	0.0296	118	0.0277	111	74 - 131		6.65	20	
sec-Butylbenzene	1	0.025	0.0282	113	0.0264	106	74.4 - 127		6.52	20	
Styrene	1	0.025	0.0288	115	0.0271	108	80.4 - 126		6.1	20	
tert-Butylbenzene	1	0.025	0.0290	116	0.0267	107	75.3 - 126		8.16	20	
Tetrachloroethene	1	0.025	0.0296	118	0.0276	110	72.6 - 126		7.06	20	
Toluene	1	0.025	0.0256	102	0.0243	97	79.7 - 116		5.3	20	
trans-1,2-Dichloroethene	1	0.025	0.0265	106	0.0218	87.3	72.6 - 121		19.4	20	
trans-1,3-Dichloropropene	1	0.025	0.0285	114	0.0273	109	74.3 - 123		4.44	20	
Trichloroethene	1	0.025	0.0268	107	0.0256	102	77.7 - 118		4.7	20	
Trichlorofluoromethane	1	0.025	0.0257	103	0.0217	86.7	63.5 - 135		17.2	20	
Vinyl chloride	1	0.025	0.0235	94.1	0.0201	80.6	65.9 - 128		15.4	20	
Xylenes, Total	1	0.075	0.0845	113	0.0793	106	78.7 - 121		6.32	20	

Parameters in bold text are reported in this SDG

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748152**
Analysis Date:	10/16/2014 12:22:00 AM	Analyst:	644
Instrument ID:	VOCMS24		
Sample Numbers:	L727111-05, -06		

Laboratory Control Sample (LCS)

Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
1,1,1,2-Tetrachloroethane	1	0.025	0.0236	94.3	72.9 - 124	
1,1,1-Trichloroethane	1	0.025	0.0223	89.3	73.7 - 124	
1,1,2,2-Tetrachloroethane	1	0.025	0.0254	102	69.4 - 122	
1,1,2-Trichloroethane	1	0.025	0.0248	99.1	79.1 - 118	
1,1,2-Trichlorotrifluoroethane	1	0.025	0.0221	88.6	70 - 146	
1,1-Dichloroethane	1	0.025	0.0239	95.7	75 - 124	
1,1-Dichloroethene	1	0.025	0.0224	89.6	70.4 - 129	
1,1-Dichloropropene	1	0.025	0.0233	93.2	74.9 - 124	
1,2,3-Trichlorobenzene	1	0.025	0.0265	106	69.3 - 131	
1,2,3-Trichloropropane	1	0.025	0.0243	97.2	71.4 - 123	
1,2,3-Trimethylbenzene	1	0.025	0.0238	95.1	73.6 - 113	
1,2,4-Trichlorobenzene	1	0.025	0.0258	103	71.9 - 137	
1,2,4-Trimethylbenzene	1	0.025	0.0229	91.5	75.5 - 122	
1,2-Dibromo-3-Chloropropane	1	0.025	0.0267	107	62.8 - 133	
1,2-Dibromoethane	1	0.025	0.0250	99.8	78.6 - 120	
1,2-Dichlorobenzene	1	0.025	0.0244	97.6	78.3 - 118	
1,2-Dichloroethane	1	0.025	0.0224	89.7	70.1 - 124	
1,2-Dichloropropane	1	0.025	0.0251	100	77.9 - 119	
1,3,5-Trimethylbenzene	1	0.025	0.0227	90.8	75.9 - 124	
1,3-Dichlorobenzene	1	0.025	0.0226	90.3	72 - 126	
1,3-Dichloropropane	1	0.025	0.0235	94.2	79.1 - 117	
1,4-Dichlorobenzene	1	0.025	0.0235	94.2	78.3 - 117	
2,2-Dichloropropane	1	0.025	0.0207	82.9	61.3 - 136	
2-Butanone (MEK)	1	0.125	0.1680	134	53.7 - 153	
2-Chloroethyl vinyl ether	1	0.125	0.1523	122	37.7 - 157	
2-Chlorotoluene	1	0.025	0.0219	87.8	75.6 - 121	
4-Chlorotoluene	1	0.025	0.0224	89.7	77.3 - 120	
4-Methyl-2-pentanone (MIBK)	1	0.125	0.1379	110	70.4 - 137	
Acetone	1	0.125	0.1519	122	35.1 - 175	
Acrylonitrile	1	0.125	0.1469	118	56.4 - 128	
Benzene	1	0.025	0.0236	94.4	77.1 - 121	
Bromobenzene	1	0.025	0.0225	90	78.2 - 115	
Bromodichloromethane	1	0.025	0.0234	93.7	74.9 - 115	
Bromoform	1	0.025	0.0252	101	65.9 - 132	
Bromomethane	1	0.025	0.0191	76.6	48.7 - 165	
Carbon tetrachloride	1	0.025	0.0220	88.1	70 - 124	

Parameters in bold text are reported in this SDG

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748152**
Analysis Date:	10/16/2014 12:22:00 AM	Analyst:	644
Instrument ID:	VOCMS24		
Sample Numbers:	L727111-05, -06		

Laboratory Control Sample (LCS)

Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
Chlorobenzene	1	0.025	0.0222	88.9	79.1 - 119	
Chlorodibromomethane	1	0.025	0.0246	98.4	73.5 - 121	
Chloroethane	1	0.025	0.0180	72.1	66.2 - 132	
Chloroform	1	0.025	0.0230	92.2	76.7 - 122	
Chloromethane	1	0.025	0.0244	97.4	63.4 - 131	
cis-1,2-Dichloroethene	1	0.025	0.0242	96.7	78.2 - 119	
cis-1,3-Dichloropropene	1	0.025	0.0252	101	79.6 - 120	
Dibromomethane	1	0.025	0.0248	99.3	79.4 - 120	
Dichlorodifluoromethane	1	0.025	0.0214	85.4	57.1 - 137	
Di-isopropyl ether	1	0.025	0.0254	102	70.4 - 133	
Ethylbenzene	1	0.025	0.0227	90.6	79.7 - 122	
Hexachloro-1,3-butadiene	1	0.025	0.0254	101	68.2 - 123	
Isopropylbenzene	1	0.025	0.0232	92.7	80 - 135	
Methyl tert-butyl ether	1	0.025	0.0245	98.1	73 - 129	
Methylene Chloride	1	0.025	0.0230	92.1	72.6 - 120	
Naphthalene	1	0.025	0.0270	108	69.8 - 128	
n-Butylbenzene	1	0.025	0.0239	95.8	77.5 - 126	
n-Propylbenzene	1	0.025	0.0227	90.9	77.9 - 123	
p-Isopropyltoluene	1	0.025	0.0228	91.3	75.8 - 129	
sec-Butylbenzene	1	0.025	0.0232	92.8	75.8 - 126	
Styrene	1	0.025	0.0238	95.1	82.4 - 126	
tert-Butylbenzene	1	0.025	0.0233	93.4	76.4 - 126	
Tetrachloroethene	1	0.025	0.0226	90.4	73.9 - 125	
Toluene	1	0.025	0.0226	90.5	79.7 - 118	
trans-1,2-Dichloroethene	1	0.025	0.0235	94.1	73.8 - 122	
trans-1,3-Dichloropropene	1	0.025	0.0253	101	75.9 - 124	
Trichloroethene	1	0.025	0.0246	98.3	77.9 - 118	
Trichlorofluoromethane	1	0.025	0.0215	85.9	67.7 - 131	
Vinyl chloride	1	0.025	0.0208	83	66.7 - 130	
Xylenes, Total	1	0.075	0.0691	92.1	78.8 - 121	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748152**
Analysis Date:	10/16/2014 12:22:00 AM	Analyst:	644
Instrument ID:	VOCMS24		
Sample Numbers:	L727111-05, -06		

Laboratory Control Sample Duplicate (LCSD)

Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
1,1,1,2-Tetrachloroethane	1	0.025	0.0240	96.1	72.9 - 124	
1,1,1-Trichloroethane	1	0.025	0.0233	93.2	73.7 - 124	
1,1,2,2-Tetrachloroethane	1	0.025	0.0234	93.5	69.4 - 122	
1,1,2-Trichloroethane	1	0.025	0.0243	97.4	79.1 - 118	
1,1,2-Trichlorotrifluoroethane	1	0.025	0.0243	97.3	70 - 146	
1,1-Dichloroethane	1	0.025	0.0239	95.8	75 - 124	
1,1-Dichloroethene	1	0.025	0.0233	93.3	70.4 - 129	
1,1-Dichloropropene	1	0.025	0.0243	97.3	74.9 - 124	
1,2,3-Trichlorobenzene	1	0.025	0.0244	97.5	69.3 - 131	
1,2,3-Trichloropropane	1	0.025	0.0220	88.1	71.4 - 123	
1,2,3-Trimethylbenzene	1	0.025	0.0249	99.6	73.6 - 113	
1,2,4-Trichlorobenzene	1	0.025	0.0245	97.9	71.9 - 137	
1,2,4-Trimethylbenzene	1	0.025	0.0246	98.3	75.5 - 122	
1,2-Dibromo-3-Chloropropane	1	0.025	0.0234	93.6	62.8 - 133	
1,2-Dibromoethane	1	0.025	0.0247	98.7	78.6 - 120	
1,2-Dichlorobenzene	1	0.025	0.0243	97.2	78.3 - 118	
1,2-Dichloroethane	1	0.025	0.0207	82.8	70.1 - 124	
1,2-Dichloropropane	1	0.025	0.0251	100	77.9 - 119	
1,3,5-Trimethylbenzene	1	0.025	0.0248	99	75.9 - 124	
1,3-Dichlorobenzene	1	0.025	0.0239	95.5	72 - 126	
1,3-Dichloropropane	1	0.025	0.0235	94	79.1 - 117	
1,4-Dichlorobenzene	1	0.025	0.0241	96.4	78.3 - 117	
2,2-Dichloropropane	1	0.025	0.0246	98.5	61.3 - 136	
2-Butanone (MEK)	1	0.125	0.1127	90.2	53.7 - 153	
2-Chloroethyl vinyl ether	1	0.125	0.1327	106	37.7 - 157	
2-Chlorotoluene	1	0.025	0.0236	94.5	75.6 - 121	
4-Chlorotoluene	1	0.025	0.0244	97.5	77.3 - 120	
4-Methyl-2-pentanone (MIBK)	1	0.125	0.1180	94.4	70.4 - 137	
Acetone	1	0.125	0.1211	96.8	35.1 - 175	
Acrylonitrile	1	0.125	0.1125	90	56.4 - 128	
Benzene	1	0.025	0.0239	95.7	77.1 - 121	
Bromobenzene	1	0.025	0.0237	94.8	78.2 - 115	
Bromodichloromethane	1	0.025	0.0228	91.2	74.9 - 115	
Bromoform	1	0.025	0.0238	95.3	65.9 - 132	
Bromomethane	1	0.025	0.0190	75.8	48.7 - 165	
Carbon tetrachloride	1	0.025	0.0233	93.4	70 - 124	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748152**
Analysis Date:	10/16/2014 12:22:00 AM	Analyst:	644
Instrument ID:	VOCMS24		
Sample Numbers:	L727111-05, -06		

Laboratory Control Sample Duplicate (LCSD)

Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
Chlorobenzene	1	0.025	0.0244	97.5	79.1 - 119	
Chlorodibromomethane	1	0.025	0.0244	97.6	73.5 - 121	
Chloroethane	1	0.025	0.0187	74.6	66.2 - 132	
Chloroform	1	0.025	0.0225	90	76.7 - 122	
Chloromethane	1	0.025	0.0247	98.8	63.4 - 131	
cis-1,2-Dichloroethene	1	0.025	0.0238	95.3	78.2 - 119	
cis-1,3-Dichloropropene	1	0.025	0.0248	99.4	79.6 - 120	
Dibromomethane	1	0.025	0.0222	88.9	79.4 - 120	
Dichlorodifluoromethane	1	0.025	0.0231	92.6	57.1 - 137	
Di-isopropyl ether	1	0.025	0.0240	96.1	70.4 - 133	
Ethylbenzene	1	0.025	0.0255	102	79.7 - 122	
Hexachloro-1,3-butadiene	1	0.025	0.0275	110	68.2 - 123	
Isopropylbenzene	1	0.025	0.0259	104	80 - 135	
Methyl tert-butyl ether	1	0.025	0.0213	85.2	73 - 129	
Methylene Chloride	1	0.025	0.0218	87.3	72.6 - 120	
Naphthalene	1	0.025	0.0235	94	69.8 - 128	
n-Butylbenzene	1	0.025	0.0263	105	77.5 - 126	
n-Propylbenzene	1	0.025	0.0253	101	77.9 - 123	
p-Isopropyltoluene	1	0.025	0.0251	100	75.8 - 129	
sec-Butylbenzene	1	0.025	0.0261	104	75.8 - 126	
Styrene	1	0.025	0.0256	102	82.4 - 126	
tert-Butylbenzene	1	0.025	0.0260	104	76.4 - 126	
Tetrachloroethene	1	0.025	0.0254	102	73.9 - 125	
Toluene	1	0.025	0.0239	95.6	79.7 - 118	
trans-1,2-Dichloroethene	1	0.025	0.0238	95.4	73.8 - 122	
trans-1,3-Dichloropropene	1	0.025	0.0241	96.5	75.9 - 124	
Trichloroethene	1	0.025	0.0258	103	77.9 - 118	
Trichlorofluoromethane	1	0.025	0.0232	92.6	67.7 - 131	
Vinyl chloride	1	0.025	0.0220	87.9	66.7 - 130	
Xylenes, Total	1	0.075	0.0762	102	78.8 - 121	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748152**
Analysis Date:	10/16/2014 12:22:00 AM	Analyst:	644
Instrument ID:	VOCMS24		
Sample Numbers:	L727111-05, -06		

Laboratory Control Sample / Laboratory Control Sample Duplicate

Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Control Limits	% Rec Qual	% RPD	Control RPD Limits	RPD Qual
1,1,1,2-Tetrachloroethane	1	0.025	0.0236	94.3	0.0240	96.1	72.9 - 124		1.91	20	
1,1,1-Trichloroethane	1	0.025	0.0223	89.3	0.0233	93.2	73.7 - 124		4.3	20	
1,1,2,2-Tetrachloroethane	1	0.025	0.0254	102	0.0234	93.5	69.4 - 122		8.45	20	
1,1,2-Trichloroethane	1	0.025	0.0248	99.1	0.0243	97.4	79.1 - 118		1.8	20	
1,1,2-Trichlorotrifluoroethane	1	0.025	0.0221	88.6	0.0243	97.3	70 - 146		9.44	20	
1,1-Dichloroethane	1	0.025	0.0239	95.7	0.0239	95.8	75 - 124		0.03	20	
1,1-Dichloroethene	1	0.025	0.0224	89.6	0.0233	93.3	70.4 - 129		4.01	20	
1,1-Dichloropropene	1	0.025	0.0233	93.2	0.0243	97.3	74.9 - 124		4.27	20	
1,2,3-Trichlorobenzene	1	0.025	0.0265	106	0.0244	97.5	69.3 - 131		8.25	20	
1,2,3-Trichloropropane	1	0.025	0.0243	97.2	0.0220	88.1	71.4 - 123		9.82	20	
1,2,3-Trimethylbenzene	1	0.025	0.0238	95.1	0.0249	99.6	73.6 - 113		4.59	20	
1,2,4-Trichlorobenzene	1	0.025	0.0258	103	0.0245	97.9	71.9 - 137		5.25	20	
1,2,4-Trimethylbenzene	1	0.025	0.0229	91.5	0.0246	98.3	75.5 - 122		7.22	20	
1,2-Dibromo-3-Chloropropane	1	0.025	0.0267	107	0.0234	93.6	62.8 - 133		13.3	20	
1,2-Dibromoethane	1	0.025	0.0250	99.8	0.0247	98.7	78.6 - 120		1.09	20	
1,2-Dichlorobenzene	1	0.025	0.0244	97.6	0.0243	97.2	78.3 - 118		0.36	20	
1,2-Dichloroethane	1	0.025	0.0224	89.7	0.0207	82.8	70.1 - 124		7.99	20	
1,2-Dichloropropane	1	0.025	0.0251	100	0.0251	100	77.9 - 119		0.03	20	
1,3,5-Trimethylbenzene	1	0.025	0.0227	90.8	0.0248	99	75.9 - 124		8.68	20	
1,3-Dichlorobenzene	1	0.025	0.0226	90.3	0.0239	95.5	72 - 126		5.63	20	
1,3-Dichloropropane	1	0.025	0.0235	94.2	0.0235	94	79.1 - 117		0.19	20	
1,4-Dichlorobenzene	1	0.025	0.0235	94.2	0.0241	96.4	78.3 - 117		2.36	20	
2,2-Dichloropropane	1	0.025	0.0207	82.9	0.0246	98.5	61.3 - 136		17.2	20	
2-Butanone (MEK)	1	0.125	0.1680	134	0.1127	90.2	53.7 - 153		39.4	21.2	J3
2-Chloroethyl vinyl ether	1	0.125	0.1523	122	0.1327	106	37.7 - 157		13.7	20	
2-Chlorotoluene	1	0.025	0.0219	87.8	0.0236	94.5	75.6 - 121		7.31	20	
4-Chlorotoluene	1	0.025	0.0224	89.7	0.0244	97.5	77.3 - 120		8.3	20	
4-Methyl-2-pentanone (MIBK)	1	0.125	0.1379	110	0.1180	94.4	70.4 - 137		15.6	20	
Acetone	1	0.125	0.1519	122	0.1211	96.8	35.1 - 175		22.6	26.1	
Acrylonitrile	1	0.125	0.1469	118	0.1125	90	56.4 - 128		26.6	20	J3
Benzene	1	0.025	0.0236	94.4	0.0239	95.7	77.1 - 121		1.41	20	
Bromobenzene	1	0.025	0.0225	90	0.0237	94.8	78.2 - 115		5.28	20	
Bromodichloromethane	1	0.025	0.0234	93.7	0.0228	91.2	74.9 - 115		2.72	20	
Bromoform	1	0.025	0.0252	101	0.0238	95.3	65.9 - 132		5.45	20	
Bromomethane	1	0.025	0.0191	76.6	0.0190	75.8	48.7 - 165		0.97	20	
Carbon tetrachloride	1	0.025	0.0220	88.1	0.0233	93.4	70 - 124		5.76	20	

Parameters in bold text are reported in this SDG .

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748152**
Analysis Date:	10/16/2014 12:22:00 AM	Analyst:	644
Instrument ID:	VOCMS24		
Sample Numbers:	L727111-05, -06		

Laboratory Control Sample / Laboratory Control Sample Duplicate

Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Control Limits	% Rec Qual	% RPD	Control RPD Limits	Qual
Chlorobenzene	1	0.025	0.0222	88.9	0.0244	97.5	79.1 - 119		9.13	20	
Chlorodibromomethane	1	0.025	0.0246	98.4	0.0244	97.6	73.5 - 121		0.8	20	
Chloroethane	1	0.025	0.0180	72.1	0.0187	74.6	66.2 - 132		3.39	20	
Chloroform	1	0.025	0.0230	92.2	0.0225	90	76.7 - 122		2.39	20	
Chloromethane	1	0.025	0.0244	97.4	0.0247	98.8	63.4 - 131		1.39	20	
cis-1,2-Dichloroethene	1	0.025	0.0242	96.7	0.0238	95.3	78.2 - 119		1.41	20	
cis-1,3-Dichloropropene	1	0.025	0.0252	101	0.0248	99.4	79.6 - 120		1.32	20	
Dibromomethane	1	0.025	0.0248	99.3	0.0222	88.9	79.4 - 120		11	20	
Dichlorodifluoromethane	1	0.025	0.0214	85.4	0.0231	92.6	57.1 - 137		7.99	20	
Di-isopropyl ether	1	0.025	0.0254	102	0.0240	96.1	70.4 - 133		5.63	20	
Ethylbenzene	1	0.025	0.0227	90.6	0.0255	102	79.7 - 122		11.8	20	
Hexachloro-1,3-butadiene	1	0.025	0.0254	101	0.0275	110	68.2 - 123		7.92	20	
Isopropylbenzene	1	0.025	0.0232	92.7	0.0259	104	80 - 135		11.1	20	
Methyl tert-butyl ether	1	0.025	0.0245	98.1	0.0213	85.2	73 - 129		14	20	
Methylene Chloride	1	0.025	0.0230	92.1	0.0218	87.3	72.6 - 120		5.39	20	
Naphthalene	1	0.025	0.0270	108	0.0235	94	69.8 - 128		13.8	20	
n-Butylbenzene	1	0.025	0.0239	95.8	0.0263	105	77.5 - 126		9.2	20	
n-Propylbenzene	1	0.025	0.0227	90.9	0.0253	101	77.9 - 123		10.9	20	
p-Isopropyltoluene	1	0.025	0.0228	91.3	0.0251	100	75.8 - 129		9.42	20	
sec-Butylbenzene	1	0.025	0.0232	92.8	0.0261	104	75.8 - 126		11.6	20	
Styrene	1	0.025	0.0238	95.1	0.0256	102	82.4 - 126		7.44	20	
tert-Butylbenzene	1	0.025	0.0233	93.4	0.0260	104	76.4 - 126		10.6	20	
Tetrachloroethene	1	0.025	0.0226	90.4	0.0254	102	73.9 - 125		11.7	20	
Toluene	1	0.025	0.0226	90.5	0.0239	95.6	79.7 - 118		5.48	20	
trans-1,2-Dichloroethene	1	0.025	0.0235	94.1	0.0238	95.4	73.8 - 122		1.31	20	
trans-1,3-Dichloropropene	1	0.025	0.0253	101	0.0241	96.5	75.9 - 124		4.81	20	
Trichloroethene	1	0.025	0.0246	98.3	0.0258	103	77.9 - 118		4.64	20	
Trichlorofluoromethane	1	0.025	0.0215	85.9	0.0232	92.6	67.7 - 131		7.56	20	
Vinyl chloride	1	0.025	0.0208	83	0.0220	87.9	66.7 - 130		5.66	20	
Xylenes, Total	1	0.075	0.0691	92.1	0.0762	102	78.8 - 121		9.87	20	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test: Volatile Organic Compounds by Method 8260B
Project No: 9529H-P2
Project: Rampart Area
Collection Date: 10/7/2014
Analysis Date: 10/14/2014 7:47:00 PM
Instrument ID: VOCMS7
Sample Numbers: L727111-01, -02, -03, -04, -07

Matrix: Soil - mg/kg
EPA ID: TN00003
Analytic Batch: WG748161
Analyst: 644

Laboratory Control Sample (LCS)

Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
Benzene	1	0.025	0.0275	110	77.1 - 121	
Ethylbenzene	1	0.025	0.0226	90.6	79.7 - 122	
Methyl tert-butyl ether	1	0.025	0.0289	116	73 - 129	
Naphthalene	1	0.025	0.0266	106	69.8 - 128	
Toluene	1	0.025	0.0252	101	79.7 - 118	
Xylenes, Total	1	0.075	0.0678	90.4	78.8 - 121	

Laboratory Control Sample Duplicate (LCSD)

Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
Benzene	1	0.025	0.0261	104	77.1 - 121	
Ethylbenzene	1	0.025	0.0204	81.7	79.7 - 122	
Methyl tert-butyl ether	1	0.025	0.0280	112	73 - 129	
Naphthalene	1	0.025	0.0235	93.8	69.8 - 128	
Toluene	1	0.025	0.0231	92.3	79.7 - 118	
Xylenes, Total	1	0.075	0.0612	81.6	78.8 - 121	

Laboratory Control Sample / Laboratory Control Sample Duplicate

Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Control Limits	% Rec Qual	% RPD	Control RPD Limits	RPD Qual
Benzene	1	0.025	0.0275	110	0.0261	104	77.1 - 121		5.31	20	
Ethylbenzene	1	0.025	0.0226	90.6	0.0204	81.7	79.7 - 122		10.3	20	
Methyl tert-butyl ether	1	0.025	0.0289	116	0.0280	112	73 - 129		3.27	20	
Naphthalene	1	0.025	0.0266	106	0.0235	93.8	69.8 - 128		12.4	20	
Toluene	1	0.025	0.0252	101	0.0231	92.3	79.7 - 118		8.84	20	
Xylenes, Total	1	0.075	0.0678	90.4	0.0612	81.6	78.8 - 121		10.2	20	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748862**
Analysis Date:	10/16/2014 2:13:00 AM	Analyst:	644
Instrument ID:	VOCMS30		
Sample Numbers:	L727111-08, -09		

Laboratory Control Sample (LCS)

Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
1,1,1,2-Tetrachloroethane	1	0.025	0.0239	95.6	72.9 - 124	
1,1,1-Trichloroethane	1	0.025	0.0188	75.3	73.7 - 124	
1,1,2,2-Tetrachloroethane	1	0.025	0.0238	95.3	69.4 - 122	
1,1,2-Trichloroethane	1	0.025	0.0257	103	79.1 - 118	
1,1,2-Trichlorotrifluoroethane	1	0.025	0.0209	83.6	70 - 146	
1,1-Dichloroethane	1	0.025	0.0213	85.4	75 - 124	
1,1-Dichloroethene	1	0.025	0.0197	79	70.4 - 129	
1,1-Dichloropropene	1	0.025	0.0194	77.7	74.9 - 124	
1,2,3-Trichlorobenzene	1	0.025	0.0272	109	69.3 - 131	
1,2,3-Trichloropropane	1	0.025	0.0219	87.7	71.4 - 123	
1,2,3-Trimethylbenzene	1	0.025	0.0241	96.6	73.6 - 113	
1,2,4-Trichlorobenzene	1	0.025	0.0271	108	71.9 - 137	
1,2,4-Trimethylbenzene	1	0.025	0.0223	89.2	75.5 - 122	
1,2-Dibromo-3-Chloropropane	1	0.025	0.0234	93.6	62.8 - 133	
1,2-Dibromoethane	1	0.025	0.0247	98.7	78.6 - 120	
1,2-Dichlorobenzene	1	0.025	0.0255	102	78.3 - 118	
1,2-Dichloroethane	1	0.025	0.0197	78.9	70.1 - 124	
1,2-Dichloropropane	1	0.025	0.0241	96.5	77.9 - 119	
1,3,5-Trimethylbenzene	1	0.025	0.0224	89.6	75.9 - 124	
1,3-Dichlorobenzene	1	0.025	0.0229	91.6	72 - 126	
1,3-Dichloropropane	1	0.025	0.0236	94.2	79.1 - 117	
1,4-Dichlorobenzene	1	0.025	0.0234	93.5	78.3 - 117	
2,2-Dichloropropane	1	0.025	0.0184	73.7	61.3 - 136	
2-Butanone (MEK)	1	0.125	0.0870	69.6	53.7 - 153	
2-Chloroethyl vinyl ether	1	0.125	0.1123	89.8	37.7 - 157	
2-Chlorotoluene	1	0.025	0.0220	88	75.6 - 121	
4-Chlorotoluene	1	0.025	0.0223	89.3	77.3 - 120	
4-Methyl-2-pentanone (MIBK)	1	0.125	0.0996	79.6	70.4 - 137	
Acetone	1	0.125	0.0736	58.8	35.1 - 175	
Acrylonitrile	1	0.125	0.1036	82.9	56.4 - 128	
Benzene	1	0.025	0.0202	80.7	77.1 - 121	
Bromobenzene	1	0.025	0.0223	89.3	78.2 - 115	
Bromodichloromethane	1	0.025	0.0217	86.7	74.9 - 115	
Bromoform	1	0.025	0.0222	88.7	65.9 - 132	
Bromomethane	1	0.025	0.0205	81.9	48.7 - 165	
Carbon tetrachloride	1	0.025	0.0183	73.2	70 - 124	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748862**
Analysis Date:	10/16/2014 2:13:00 AM	Analyst:	644
Instrument ID:	VOCMS30		
Sample Numbers:	L727111-08, -09		

Laboratory Control Sample (LCS)

Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
Chlorobenzene	1	0.025	0.0220	88.2	79.1 - 119	
Chlorodibromomethane	1	0.025	0.0239	95.5	73.5 - 121	
Chloroethane	1	0.025	0.0193	77.2	66.2 - 132	
Chloroform	1	0.025	0.0206	82.2	76.7 - 122	
Chloromethane	1	0.025	0.0198	79.3	63.4 - 131	
cis-1,2-Dichloroethene	1	0.025	0.0222	88.8	78.2 - 119	
cis-1,3-Dichloropropene	1	0.025	0.0231	92.6	79.6 - 120	
Dibromomethane	1	0.025	0.0225	89.9	79.4 - 120	
Dichlorodifluoromethane	1	0.025	0.0177	70.6	57.1 - 137	
Di-isopropyl ether	1	0.025	0.0217	86.6	70.4 - 133	
Ethylbenzene	1	0.025	0.0225	90.1	79.7 - 122	
Hexachloro-1,3-butadiene	1	0.025	0.0249	99.5	68.2 - 123	
Isopropylbenzene	1	0.025	0.0228	91.1	80 - 135	
Methyl tert-butyl ether	1	0.025	0.0221	88.5	73 - 129	
Methylene Chloride	1	0.025	0.0211	84.5	72.6 - 120	
Naphthalene	1	0.025	0.0270	108	69.8 - 128	
n-Butylbenzene	1	0.025	0.0239	95.4	77.5 - 126	
n-Propylbenzene	1	0.025	0.0225	89.8	77.9 - 123	
p-Isopropyltoluene	1	0.025	0.0218	87.4	75.8 - 129	
sec-Butylbenzene	1	0.025	0.0223	89.4	75.8 - 126	
Styrene	1	0.025	0.0242	96.9	82.4 - 126	
tert-Butylbenzene	1	0.025	0.0224	89.5	76.4 - 126	
Tetrachloroethene	1	0.025	0.0225	89.8	73.9 - 125	
Toluene	1	0.025	0.0206	82.4	79.7 - 118	
trans-1,2-Dichloroethene	1	0.025	0.0222	88.6	73.8 - 122	
trans-1,3-Dichloropropene	1	0.025	0.0226	90.6	75.9 - 124	
Trichloroethene	1	0.025	0.0213	85	77.9 - 118	
Trichlorofluoromethane	1	0.025	0.0192	76.9	67.7 - 131	
Vinyl chloride	1	0.025	0.0209	83.4	66.7 - 130	
Xylenes, Total	1	0.075	0.0688	91.7	78.8 - 121	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748862**
Analysis Date:	10/16/2014 2:13:00 AM	Analyst:	644
Instrument ID:	VOCMS30		
Sample Numbers:	L727111-08, -09		

Laboratory Control Sample Duplicate (LCSD)

Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
1,1,1,2-Tetrachloroethane	1	0.025	0.0235	94	72.9 - 124	
1,1,1-Trichloroethane	1	0.025	0.0193	77.3	73.7 - 124	
1,1,2,2-Tetrachloroethane	1	0.025	0.0232	92.8	69.4 - 122	
1,1,2-Trichloroethane	1	0.025	0.0248	99.1	79.1 - 118	
1,1,2-Trichlorotrifluoroethane	1	0.025	0.0212	84.9	70 - 146	
1,1-Dichloroethane	1	0.025	0.0213	85.1	75 - 124	
1,1-Dichloroethene	1	0.025	0.0202	81	70.4 - 129	
1,1-Dichloropropene	1	0.025	0.0202	81	74.9 - 124	
1,2,3-Trichlorobenzene	1	0.025	0.0271	109	69.3 - 131	
1,2,3-Trichloropropane	1	0.025	0.0210	83.9	71.4 - 123	
1,2,3-Trimethylbenzene	1	0.025	0.0242	97	73.6 - 113	
1,2,4-Trichlorobenzene	1	0.025	0.0267	107	71.9 - 137	
1,2,4-Trimethylbenzene	1	0.025	0.0222	88.6	75.5 - 122	
1,2-Dibromo-3-Chloropropane	1	0.025	0.0234	93.6	62.8 - 133	
1,2-Dibromoethane	1	0.025	0.0236	94.3	78.6 - 120	
1,2-Dichlorobenzene	1	0.025	0.0252	101	78.3 - 118	
1,2-Dichloroethane	1	0.025	0.0193	77.4	70.1 - 124	
1,2-Dichloropropane	1	0.025	0.0241	96.4	77.9 - 119	
1,3,5-Trimethylbenzene	1	0.025	0.0221	88.3	75.9 - 124	
1,3-Dichlorobenzene	1	0.025	0.0225	90	72 - 126	
1,3-Dichloropropane	1	0.025	0.0226	90.5	79.1 - 117	
1,4-Dichlorobenzene	1	0.025	0.0234	93.6	78.3 - 117	
2,2-Dichloropropane	1	0.025	0.0189	75.7	61.3 - 136	
2-Butanone (MEK)	1	0.125	0.0866	69.2	53.7 - 153	
2-Chloroethyl vinyl ether	1	0.125	0.1104	88.3	37.7 - 157	
2-Chlorotoluene	1	0.025	0.0220	87.8	75.6 - 121	
4-Chlorotoluene	1	0.025	0.0224	89.7	77.3 - 120	
4-Methyl-2-pentanone (MIBK)	1	0.125	0.0997	79.8	70.4 - 137	
Acetone	1	0.125	0.0727	58.2	35.1 - 175	
Acrylonitrile	1	0.125	0.1022	81.8	56.4 - 128	
Benzene	1	0.025	0.0202	80.8	77.1 - 121	
Bromobenzene	1	0.025	0.0221	88.5	78.2 - 115	
Bromodichloromethane	1	0.025	0.0216	86.5	74.9 - 115	
Bromoform	1	0.025	0.0217	86.7	65.9 - 132	
Bromomethane	1	0.025	0.0216	86.3	48.7 - 165	
Carbon tetrachloride	1	0.025	0.0186	74.5	70 - 124	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748862**
Analysis Date:	10/16/2014 2:13:00 AM	Analyst:	644
Instrument ID:	VOCMS30		
Sample Numbers:	L727111-08, -09		

Laboratory Control Sample Duplicate (LCSD)

Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
Chlorobenzene	1	0.025	0.0218	87.2	79.1 - 119	
Chlorodibromomethane	1	0.025	0.0232	92.8	73.5 - 121	
Chloroethane	1	0.025	0.0195	78.1	66.2 - 132	
Chloroform	1	0.025	0.0209	83.7	76.7 - 122	
Chloromethane	1	0.025	0.0206	82.3	63.4 - 131	
cis-1,2-Dichloroethene	1	0.025	0.0222	88.8	78.2 - 119	
cis-1,3-Dichloropropene	1	0.025	0.0229	91.4	79.6 - 120	
Dibromomethane	1	0.025	0.0222	88.9	79.4 - 120	
Dichlorodifluoromethane	1	0.025	0.0175	70.1	57.1 - 137	
Di-isopropyl ether	1	0.025	0.0218	87	70.4 - 133	
Ethylbenzene	1	0.025	0.0219	87.5	79.7 - 122	
Hexachloro-1,3-butadiene	1	0.025	0.0245	98.1	68.2 - 123	
Isopropylbenzene	1	0.025	0.0227	90.9	80 - 135	
Methyl tert-butyl ether	1	0.025	0.0222	88.9	73 - 129	
Methylene Chloride	1	0.025	0.0214	85.5	72.6 - 120	
Naphthalene	1	0.025	0.0269	108	69.8 - 128	
n-Butylbenzene	1	0.025	0.0234	93.7	77.5 - 126	
n-Propylbenzene	1	0.025	0.0222	88.8	77.9 - 123	
p-Isopropyltoluene	1	0.025	0.0221	88.2	75.8 - 129	
sec-Butylbenzene	1	0.025	0.0220	87.9	75.8 - 126	
Styrene	1	0.025	0.0241	96.3	82.4 - 126	
tert-Butylbenzene	1	0.025	0.0226	90.5	76.4 - 126	
Tetrachloroethene	1	0.025	0.0217	86.8	73.9 - 125	
Toluene	1	0.025	0.0209	83.6	79.7 - 118	
trans-1,2-Dichloroethene	1	0.025	0.0225	90	73.8 - 122	
trans-1,3-Dichloropropene	1	0.025	0.0237	94.9	75.9 - 124	
Trichloroethene	1	0.025	0.0214	85.8	77.9 - 118	
Trichlorofluoromethane	1	0.025	0.0192	76.6	67.7 - 131	
Vinyl chloride	1	0.025	0.0212	84.9	66.7 - 130	
Xylenes, Total	1	0.075	0.0682	90.9	78.8 - 121	

Parameters in bold text are reported in this SDG

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748862**
Analysis Date:	10/16/2014 2:13:00 AM	Analyst:	644
Instrument ID:	VOCMS30		
Sample Numbers:	L727111-08, -09		

Laboratory Control Sample / Laboratory Control Sample Duplicate

Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Control Limits	% Rec Qual	% RPD	Control RPD Limits	RPD Qual
1,1,1,2-Tetrachloroethane	1	0.025	0.0239	95.6	0.0235	94	72.9 - 124		1.74	20	
1,1,1-Trichloroethane	1	0.025	0.0188	75.3	0.0193	77.3	73.7 - 124		2.62	20	
1,1,2,2-Tetrachloroethane	1	0.025	0.0238	95.3	0.0232	92.8	69.4 - 122		2.6	20	
1,1,2-Trichloroethane	1	0.025	0.0257	103	0.0248	99.1	79.1 - 118		3.77	20	
1,1,2-Trichlorotrifluoroethane	1	0.025	0.0209	83.6	0.0212	84.9	70 - 146		1.52	20	
1,1-Dichloroethane	1	0.025	0.0213	85.4	0.0213	85.1	75 - 124		0.31	20	
1,1-Dichloroethene	1	0.025	0.0197	79	0.0202	81	70.4 - 129		2.53	20	
1,1-Dichloropropene	1	0.025	0.0194	77.7	0.0202	81	74.9 - 124		4.07	20	
1,2,3-Trichlorobenzene	1	0.025	0.0272	109	0.0271	109	69.3 - 131		0.12	20	
1,2,3-Trichloropropane	1	0.025	0.0219	87.7	0.0210	83.9	71.4 - 123		4.38	20	
1,2,3-Trimethylbenzene	1	0.025	0.0241	96.6	0.0242	97	73.6 - 113		0.41	20	
1,2,4-Trichlorobenzene	1	0.025	0.0271	108	0.0267	107	71.9 - 137		1.68	20	
1,2,4-Trimethylbenzene	1	0.025	0.0223	89.2	0.0222	88.6	75.5 - 122		0.72	20	
1,2-Dibromo-3-Chloropropane	1	0.025	0.0234	93.6	0.0234	93.6	62.8 - 133		0.06	20	
1,2-Dibromoethane	1	0.025	0.0247	98.7	0.0236	94.3	78.6 - 120		4.57	20	
1,2-Dichlorobenzene	1	0.025	0.0255	102	0.0252	101	78.3 - 118		1.22	20	
1,2-Dichloroethane	1	0.025	0.0197	78.9	0.0193	77.4	70.1 - 124		2.03	20	
1,2-Dichloropropane	1	0.025	0.0241	96.5	0.0241	96.4	77.9 - 119		0.15	20	
1,3,5-Trimethylbenzene	1	0.025	0.0224	89.6	0.0221	88.3	75.9 - 124		1.48	20	
1,3-Dichlorobenzene	1	0.025	0.0229	91.6	0.0225	90	72 - 126		1.7	20	
1,3-Dichloropropane	1	0.025	0.0236	94.2	0.0226	90.5	79.1 - 117		4.03	20	
1,4-Dichlorobenzene	1	0.025	0.0234	93.5	0.0234	93.6	78.3 - 117		0.1	20	
2,2-Dichloropropane	1	0.025	0.0184	73.7	0.0189	75.7	61.3 - 136		2.69	20	
2-Butanone (MEK)	1	0.125	0.0870	69.6	0.0866	69.2	53.7 - 153		0.46	21.2	
2-Chloroethyl vinyl ether	1	0.125	0.1123	89.8	0.1104	88.3	37.7 - 157		1.67	20	
2-Chlorotoluene	1	0.025	0.0220	88	0.0220	87.8	75.6 - 121		0.22	20	
4-Chlorotoluene	1	0.025	0.0223	89.3	0.0224	89.7	77.3 - 120		0.42	20	
4-Methyl-2-pentanone (MIBK)	1	0.125	0.0996	79.6	0.0997	79.8	70.4 - 137		0.19	20	
Acetone	1	0.125	0.0736	58.8	0.0727	58.2	35.1 - 175		1.13	26.1	
Acrylonitrile	1	0.125	0.1036	82.9	0.1022	81.8	56.4 - 128		1.34	20	
Benzene	1	0.025	0.0202	80.7	0.0202	80.8	77.1 - 121		0.13	20	
Bromobenzene	1	0.025	0.0223	89.3	0.0221	88.5	78.2 - 115		0.82	20	
Bromodichloromethane	1	0.025	0.0217	86.7	0.0216	86.5	74.9 - 115		0.28	20	
Bromoform	1	0.025	0.0222	88.7	0.0217	86.7	65.9 - 132		2.28	20	
Bromomethane	1	0.025	0.0205	81.9	0.0216	86.3	48.7 - 165		5.28	20	
Carbon tetrachloride	1	0.025	0.0183	73.2	0.0186	74.5	70 - 124		1.77	20	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748862**
Analysis Date:	10/16/2014 2:13:00 AM	Analyst:	644
Instrument ID:	VOCMS30		
Sample Numbers:	L727111-08, -09		

Laboratory Control Sample / Laboratory Control Sample Duplicate

Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Control Limits	% Rec Qual	% RPD	Control RPD Limits	RPD Qual
Chlorobenzene	1	0.025	0.0220	88.2	0.0218	87.2	79.1 - 119		1.19	20	
Chlorodibromomethane	1	0.025	0.0239	95.5	0.0232	92.8	73.5 - 121		2.95	20	
Chloroethane	1	0.025	0.0193	77.2	0.0195	78.1	66.2 - 132		1.21	20	
Chloroform	1	0.025	0.0206	82.2	0.0209	83.7	76.7 - 122		1.83	20	
Chloromethane	1	0.025	0.0198	79.3	0.0206	82.3	63.4 - 131		3.78	20	
cis-1,2-Dichloroethene	1	0.025	0.0222	88.8	0.0222	88.8	78.2 - 119		0.1	20	
cis-1,3-Dichloropropene	1	0.025	0.0231	92.6	0.0229	91.4	79.6 - 120		1.28	20	
Dibromomethane	1	0.025	0.0225	89.9	0.0222	88.9	79.4 - 120		1.17	20	
Dichlorodifluoromethane	1	0.025	0.0177	70.6	0.0175	70.1	57.1 - 137		0.74	20	
Di-isopropyl ether	1	0.025	0.0217	86.6	0.0218	87	70.4 - 133		0.46	20	
Ethylbenzene	1	0.025	0.0225	90.1	0.0219	87.5	79.7 - 122		2.91	20	
Hexachloro-1,3-butadiene	1	0.025	0.0249	99.5	0.0245	98.1	68.2 - 123		1.48	20	
Isopropylbenzene	1	0.025	0.0228	91.1	0.0227	90.9	80 - 135		0.22	20	
Methyl tert-butyl ether	1	0.025	0.0221	88.5	0.0222	88.9	73 - 129		0.48	20	
Methylene Chloride	1	0.025	0.0211	84.5	0.0214	85.5	72.6 - 120		1.12	20	
Naphthalene	1	0.025	0.0270	108	0.0269	108	69.8 - 128		0.35	20	
n-Butylbenzene	1	0.025	0.0239	95.4	0.0234	93.7	77.5 - 126		1.85	20	
n-Propylbenzene	1	0.025	0.0225	89.8	0.0222	88.8	77.9 - 123		1.12	20	
p-Isopropyltoluene	1	0.025	0.0218	87.4	0.0221	88.2	75.8 - 129		0.94	20	
sec-Butylbenzene	1	0.025	0.0223	89.4	0.0220	87.9	75.8 - 126		1.68	20	
Styrene	1	0.025	0.0242	96.9	0.0241	96.3	82.4 - 126		0.64	20	
tert-Butylbenzene	1	0.025	0.0224	89.5	0.0226	90.5	76.4 - 126		1.2	20	
Tetrachloroethene	1	0.025	0.0225	89.8	0.0217	86.8	73.9 - 125		3.43	20	
Toluene	1	0.025	0.0206	82.4	0.0209	83.6	79.7 - 118		1.52	20	
trans-1,2-Dichloroethene	1	0.025	0.0222	88.6	0.0225	90	73.8 - 122		1.52	20	
trans-1,3-Dichloropropene	1	0.025	0.0226	90.6	0.0237	94.9	75.9 - 124		4.68	20	
Trichloroethene	1	0.025	0.0213	85	0.0214	85.8	77.9 - 118		0.83	20	
Trichlorofluoromethane	1	0.025	0.0192	76.9	0.0192	76.6	67.7 - 131		0.31	20	
Vinyl chloride	1	0.025	0.0209	83.4	0.0212	84.9	66.7 - 130		1.71	20	
Xylenes, Total	1	0.075	0.0688	91.7	0.0682	90.9	78.8 - 121		0.87	20	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Water - mg/L
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748057**
Analysis Date:	10/14/2014 7:59:00 PM	Analyst:	644
Instrument ID:	VOCMS13		
Sample Numbers:	L727111-11		

Matrix Spike / Matrix Spike Duplicate

L726933-01

Analyte	Dil	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qual	RPD	Control Limits	RPD Qual
Benzene	1	0.025	0.0009	0.0201	76.5	0.0213	81.4	54.3 - 133		5.91	20	
Di-isopropyl ether	1	0.025	0.0	0.0197	78.8	0.0208	83.1	56.9 - 136		5.38	20	
Ethylbenzene	1	0.025	0.0048	0.0259	84.4	0.0262	85.8	61.4 - 133		1.34	20	
Methyl tert-butyl ether	1	0.025	0.0067	0.0250	73.3	0.0257	76.1	57.7 - 134		2.85	20	
Naphthalene	1	0.025	0.0040	0.0270	91.8	0.0261	88.4	58 - 135		3.2	25.5	
Toluene	1	0.025	0.0	0.0212	84.9	0.0215	85.9	61.4 - 130		1.09	20	
Xylenes, Total	1	0.075	0.0	0.0625	83.3	0.0636	84.8	63.3 - 131		1.77	20	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test: Volatile Organic Compounds by Method 8260B
Project No: 9529H-P2
Project: Rampart Area
Collection Date: 10/7/2014
Analysis Date: 10/13/2014 4:59:00 PM
Instrument ID: VOCMS21
Sample Numbers: L727111-10

Matrix: Water - mg/L
EPA ID: TN00003
Analytic Batch: WG748133
Analyst: 644

Matrix Spike / Matrix Spike Duplicate

L726951-01

Analyte	Dil	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qual	RPD	Control Limits	RPD Qual
1,1,1,2-Tetrachloroethane	1	0.025	0.0	0.0318	127	0.0290	116	64 - 128		9.32	20	
1,1,1-Trichloroethane	1	0.025	0.0	0.0267	107	0.0228	91.1	58.7 - 134		15.9	20	
1,1,2,2-Tetrachloroethane	1	0.025	0.0	0.0315	126	0.0290	116	56 - 132		8.44	22.2	
1,1,2-Trichloroethane	1	0.025	0.0	0.0294	118	0.0267	107	66.3 - 125		9.53	20	
1,1,2-Trichlorotrifluoroethane	1	0.025	0.0	0.0289	116	0.0231	92.4	54.8 - 154		22.4	22.5	
1,1-Dichloroethane	1	0.025	0.0	0.0263	105	0.0211	84.3	58.5 - 132		22	20	J3
1,1-Dichloroethene	1	0.025	0.0	0.0272	109	0.0218	87.4	51.1 - 140		21.7	20.2	J3
1,1-Dichloropropene	1	0.025	0.0	0.0267	107	0.0231	92.5	57.3 - 136		14.5	20	
1,2,3-Trichlorobenzene	1	0.025	0.0	0.0303	121	0.0293	117	59.1 - 138		3.55	23.7	
1,2,3-Trichloropropane	1	0.025	0.0	0.0321	128	0.0277	111	61.4 - 128		14.6	22.4	
1,2,3-Trimethylbenzene	1	0.025	0.0	0.0269	108	0.0249	99.7	61.3 - 122		7.57	20	
1,2,4-Trichlorobenzene	1	0.025	0.0	0.0317	127	0.0304	121	63.6 - 143		4.14	21.9	
1,2,4-Trimethylbenzene	1	0.025	0.0	0.0311	124	0.0276	110	57.4 - 137		11.9	20	
1,2-Dibromo-3-Chloropropane	1	0.025	0.0	0.0300	120	0.0300	120	57.3 - 136		0.03	27	
1,2-Dibromoethane	1	0.025	0.0	0.0318	127	0.0285	114	67.1 - 125	J5	10.7	20	
1,2-Dichlorobenzene	1	0.025	0.0	0.0290	116	0.0263	105	68.2 - 123		9.47	20	
1,2-Dichloroethane	1	0.025	0.0	0.0255	102	0.0231	92.6	60 - 126		9.55	20	
1,2-Dichloropropane	1	0.025	0.0	0.0276	111	0.0256	102	64.2 - 123		7.57	20	
1,3,5-Trimethylbenzene	1	0.025	0.0	0.0301	120	0.0269	108	63.6 - 132		11.2	20.5	
1,3-Dichlorobenzene	1	0.025	0.0	0.0328	131	0.0291	117	63.1 - 131		11.8	20	
1,3-Dichloropropane	1	0.025	0.0	0.0283	113	0.0255	102	67.9 - 121		10.6	20	
1,4-Dichlorobenzene	1	0.025	0.0	0.0281	112	0.0261	105	68.6 - 123		7.15	20	
2,2-Dichloropropane	1	0.025	0.0	0.0276	111	0.0228	91.2	50.5 - 144		19.2	21.9	
2-Butanone (MEK)	1	0.125	0.0	0.1320	106	0.1138	91	22.4 - 138		14.8	27	
2-Chloroethyl vinyl ether	1	0.125	0.0	0.0011	0.91	0.0004	0.29	10 - 155	J6	102.5	20	J3
2-Chlorotoluene	1	0.025	0.0	0.0310	124	0.0279	111	63.6 - 128		10.5	20	
4-Chlorotoluene	1	0.025	0.0	0.0304	122	0.0270	108	65.7 - 127		11.8	20	
4-Methyl-2-pentanone (MIBK)	1	0.125	0.0	0.1463	117	0.1362	109	60.8 - 140		7.15	25.1	
Acetone	1	0.125	0.0032	0.1133	88	0.0921	71.1	10 - 130		20.7	27.9	
Acrolein	1	0.125	0.0	0.1608	129	0.1302	104	10 - 200		21.1	27.7	
Acrylonitrile	1	0.125	0.0	0.1531	123	0.1260	101	49.4 - 133		19.5	25.3	
Benzene	1	0.025	0.0	0.0266	106	0.0239	95.4	54.3 - 133		10.8	20	
Bromobenzene	1	0.025	0.0	0.0286	114	0.0255	102	63.9 - 124		11.4	20	
Bromodichloromethane	1	0.025	0.0	0.0282	113	0.0260	104	63.9 - 121		8.34	20	
Bromoform	1	0.025	0.0	0.0350	140	0.0314	126	59.5 - 134	J5	10.8	20.5	
Bromomethane	1	0.025	0.0	0.0318	127	0.0257	103	41.7 - 155		20.9	21.9	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test: Volatile Organic Compounds by Method 8260B
Project No: 9529H-P2
Project: Rampart Area
Collection Date: 10/7/2014
Analysis Date: 10/13/2014 4:59:00 PM
Instrument ID: VOCMS21
Sample Numbers: L727111-10

Matrix: Water - mg/L
EPA ID: TN00003
Analytic Batch: WG748133
Analyst: 644

Matrix Spike / Matrix Spike Duplicate

L726951-01

Analyte	Dil	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qual	RPD	Control Limits	RPD Qual
Carbon tetrachloride	1	0.025	0.0	0.0285	114	0.0236	94.3	55.7 - 134		18.8	20	
Chlorobenzene	1	0.025	0.0	0.0291	116	0.0260	104	67 - 125		11.5	20	
Chlorodibromomethane	1	0.025	0.0	0.0316	126	0.0281	112	64.3 - 125	J5	11.8	20.8	
Chloroethane	1	0.025	0.0	0.0299	120	0.0252	101	51.5 - 136		16.9	40	
Chloroform	1	0.025	0.0	0.0266	107	0.0224	89.7	63 - 129		17.2	20	
Chloromethane	1	0.025	0.0	0.0253	101	0.0216	86.6	42.4 - 135		15.4	20	
cis-1,2-Dichloroethene	1	0.025	0.0	0.0275	110	0.0229	91.7	59.2 - 129		18.2	20	
cis-1,3-Dichloropropene	1	0.025	0.0	0.0293	117	0.0262	105	66.4 - 125		11	20	
Dibromomethane	1	0.025	0.0	0.0282	113	0.0259	104	68.2 - 124		8.48	20	
Dichlorodifluoromethane	1	0.025	0.0	0.0245	98.2	0.0206	82.3	40.6 - 144		17.6	20.2	
Di-isopropyl ether	1	0.025	0.0	0.0264	105	0.0213	85.4	56.9 - 136		21	20	J3
Ethylbenzene	1	0.025	0.0	0.0307	123	0.0271	108	61.4 - 133		12.5	20	
Hexachloro-1,3-butadiene	1	0.025	0.0	0.0287	115	0.0275	110	55.1 - 136		4.26	23.6	
Isopropylbenzene	1	0.025	0.0	0.0303	121	0.0271	108	66.8 - 141		11.2	20	
Methyl tert-butyl ether	1	0.025	0.0	0.0269	108	0.0215	86.1	57.7 - 134		22.3	20	J3
Methylene Chloride	1	0.025	0.0	0.0251	100	0.0199	79.7	58.1 - 122		23	20	J3
Naphthalene	1	0.025	0.0	0.0263	105	0.0266	106	58 - 135		0.87	25.5	
n-Butylbenzene	1	0.025	0.0	0.0292	117	0.0270	108	62.7 - 140		7.84	20.3	
n-Propylbenzene	1	0.025	0.0	0.0302	121	0.0271	108	65.9 - 131		10.9	20	
p-Isopropyltoluene	1	0.025	0.0	0.0321	129	0.0285	114	63.2 - 139		12	20.4	
sec-Butylbenzene	1	0.025	0.0	0.0307	123	0.0274	110	62.2 - 136		11.4	20.3	
Styrene	1	0.025	0.0	0.0315	126	0.0275	110	66.8 - 133		13.5	20	
tert-Butylbenzene	1	0.025	0.0	0.0311	124	0.0275	110	63.3 - 134		12.4	21	
Tetrachloroethene	1	0.025	0.0	0.0308	123	0.0280	112	53 - 139		9.26	20	
Toluene	1	0.025	0.0	0.0268	107	0.0247	98.9	61.4 - 130		8.16	20	
trans-1,2-Dichloroethene	1	0.025	0.0	0.0277	111	0.0217	86.9	56.5 - 129		24.1	20	J3
trans-1,3-Dichloropropene	1	0.025	0.0	0.0315	126	0.0286	114	64.1 - 128		9.58	20	
Trichloroethene	1	0.025	0.0	0.0279	112	0.0258	103	44.1 - 149		7.62	20	
Trichlorofluoromethane	1	0.025	0.0	0.0273	109	0.0221	88.6	49.6 - 145		20.9	21.2	
Vinyl chloride	1	0.025	0.0	0.0244	97.8	0.0205	82.1	47.8 - 137		17.4	20	
Xylenes, Total	1	0.075	0.0	0.0914	122	0.0807	108	63.3 - 131		12.4	20	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test: Volatile Organic Compounds by Method 8260B
Project No: 9529H-P2
Project: Rampart Area
Collection Date: 10/7/2014
Analysis Date: 10/16/2014 12:22:00 AM
Instrument ID: VOCMS24
Sample Numbers: L727111-05, -06

Matrix: Soil - mg/kg
EPA ID: TN00003
Analytic Batch: WG748152
Analyst: 644

Matrix Spike / Matrix Spike Duplicate

L726912-08

Analyte	Dil	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qual	RPD	Control Limits	RPD Qual
1,1,1,2-Tetrachloroethane	5	0.025	0.0	0.0956	76.5	0.1030	82.4	64 - 128		7.51	20	
1,1,1-Trichloroethane	5	0.025	0.0	0.0926	74.1	0.1001	80.1	58.7 - 134		7.85	20	
1,1,2,2-Tetrachloroethane	5	0.025	0.0	0.1030	82.4	0.1003	80.2	56 - 132		2.72	22.2	
1,1,2-Trichloroethane	5	0.025	0.0	0.1069	85.5	0.1055	84.4	66.3 - 125		1.31	20	
1,1,2-Trichlorotrifluoroethane	5	0.025	0.0	0.0926	74.1	0.0991	79.3	54.8 - 154		6.82	22.5	
1,1-Dichloroethane	5	0.025	0.0	0.1000	80	0.1016	81.3	58.5 - 132		1.66	20	
1,1-Dichloroethene	5	0.025	0.0	0.0904	72.3	0.0916	73.3	51.1 - 140		1.3	20.2	
1,1-Dichloropropene	5	0.025	0.0	0.0949	75.9	0.0911	72.9	57.3 - 136		4	20	
1,2,3-Trichlorobenzene	5	0.025	0.0	0.0687	55	0.0667	53.4	59.1 - 138	J6	2.96	23.7	
1,2,3-Trichloropropane	5	0.025	0.0	0.0957	76.5	0.0893	71.4	61.4 - 128		6.88	22.4	
1,2,3-Trimethylbenzene	5	0.025	0.0	0.1015	81.2	0.0979	78.3	61.3 - 122		3.67	20	
1,2,4-Trichlorobenzene	5	0.025	0.0	0.0634	50.8	0.0614	49.1	63.6 - 143	J6	3.23	21.9	
1,2,4-Trimethylbenzene	5	0.025	0.0	0.0852	68.2	0.0936	74.9	57.4 - 137		9.37	20	
1,2-Dibromo-3-Chloropropane	5	0.025	0.0	0.1098	87.8	0.0876	70.1	57.3 - 136		22.5	27	
1,2-Dibromoethane	5	0.025	0.0	0.0988	79	0.0933	74.7	67.1 - 125		5.66	20	
1,2-Dichlorobenzene	5	0.025	0.0	0.0902	72.1	0.0836	66.9	68.2 - 123	J6	7.57	20	
1,2-Dichloroethane	5	0.025	0.0	0.0954	76.3	0.0853	68.2	60 - 126		11.2	20	
1,2-Dichloropropane	5	0.025	0.0	0.1091	87.3	0.1062	85	64.2 - 123		2.66	20	
1,3,5-Trimethylbenzene	5	0.025	0.0	0.0865	69.2	0.0960	76.8	63.6 - 132		10.4	20.5	
1,3-Dichlorobenzene	5	0.025	0.0	0.0734	58.7	0.0780	62.4	63.1 - 131	J6	6.06	20	
1,3-Dichloropropane	5	0.025	0.0004	0.1004	80	0.0971	77.4	67.9 - 121		3.35	20	
1,4-Dichlorobenzene	5	0.025	0.0	0.0841	67.3	0.0772	61.8	68.6 - 123	J6	8.47	20	
2,2-Dichloropropane	5	0.025	0.0	0.0846	67.7	0.1056	84.4	50.5 - 144		22.1	21.9	J3
2-Butanone (MEK)	5	0.125	0.0	0.5750	92	0.4813	77	22.4 - 138		17.7	27	
2-Chloroethyl vinyl ether	5	0.125	0.0	0.6591	105	0.5403	86.4	10 - 155		19.8	40	
2-Chlorotoluene	5	0.025	0.0	0.0843	67.4	0.0902	72.2	63.6 - 128		6.79	20	
4-Chlorotoluene	5	0.025	0.0	0.0806	64.5	0.0843	67.4	65.7 - 127	J6	4.47	20	
4-Methyl-2-pentanone (MIBK)	5	0.125	0.0	0.5631	90.1	0.5023	80.4	60.8 - 140		11.4	25.1	
Acetone	5	0.125	0.0049	0.5982	94.9	0.5179	82.1	10 - 130		14.4	27.9	
Acrylonitrile	5	0.125	0.0	0.5700	91.2	0.4840	77.4	49.4 - 133		16.3	25.3	
Benzene	5	0.025	0.0	0.0999	79.9	0.0989	79.1	54.3 - 133		1.03	20	
Bromobenzene	5	0.025	0.0	0.0816	65.3	0.0861	68.8	63.9 - 124		5.26	20	
Bromodichloromethane	5	0.025	0.0	0.0998	79.9	0.0959	76.7	63.9 - 121		4.05	20	
Bromoform	5	0.025	0.0	0.1022	81.8	0.0961	76.9	59.5 - 134		6.22	20.8	
Bromomethane	5	0.025	0.0	0.0763	61	0.0746	59.6	41.7 - 155		2.28	20.5	
Carbon tetrachloride	5	0.025	0.0	0.0908	72.6	0.0962	76.9	55.7 - 134		5.76	20.3	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748152**
Analysis Date:	10/16/2014 12:22:00 AM	Analyst:	644
Instrument ID:	VOCMS24		
Sample Numbers:	L727111-05, -06		

Matrix Spike / Matrix Spike Duplicate

L726912-08

Analyte	Dil	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qual	RPD	Control Limits	RPD Qual
Chlorobenzene	5	0.025	0.0	0.0896	71.6	0.0920	73.6	67 - 125		2.68	20	
Chlorodibromomethane	5	0.025	0.0	0.1030	82.4	0.1005	80.4	64.3 - 125		2.52	20	
Chloroethane	5	0.025	0.0	0.0759	60.7	0.0747	59.8	51.5 - 136		1.5	20.8	
Chloroform	5	0.025	0.0	0.0957	76.6	0.0951	76.1	63 - 129		0.65	20	
Chloromethane	5	0.025	0.0	0.0958	76.6	0.1028	82.2	42.4 - 135		7	20	
cis-1,2-Dichloroethene	5	0.025	0.0	0.0948	75.9	0.0929	74.4	59.2 - 129		2.01	20	
cis-1,3-Dichloropropene	5	0.025	0.0	0.1035	82.8	0.0954	76.3	66.4 - 125		8.1	20	
Dibromomethane	5	0.025	0.0	0.0975	78	0.0886	70.8	68.2 - 124		9.6	20	
Dichlorodifluoromethane	5	0.025	0.0	0.0843	67.4	0.0903	72.2	40.6 - 144		6.83	20.2	
Di-isopropyl ether	5	0.025	0.0	0.1071	85.7	0.1064	85.1	56.9 - 136		0.68	20	
Ethylbenzene	5	0.025	0.0	0.0938	75	0.0987	78.9	61.4 - 133		5.06	20	
Hexachloro-1,3-butadiene	5	0.025	0.0	0.0877	70.2	0.0809	64.7	55.1 - 136		8.06	23.6	
Isopropylbenzene	5	0.025	0.0	0.0909	72.7	0.1001	80.1	66.8 - 141		9.62	20	
Methyl tert-butyl ether	5	0.025	0.0	0.0973	77.8	0.0948	75.8	57.7 - 134		2.59	20	
Methylene Chloride	5	0.025	0.0005	0.0926	73.7	0.0898	71.5	58.1 - 122		3.09	20	
Naphthalene	5	0.025	0.0005	0.0843	67.1	0.0763	60.6	58 - 135		10	25.5	
n-Butylbenzene	5	0.025	0.0	0.0874	70	0.0802	64.1	62.7 - 140		8.66	20	
n-Propylbenzene	5	0.025	0.0	0.0855	68.4	0.0921	73.7	10 - 176		7.43	26.6	
p-Isopropyltoluene	5	0.025	0.0	0.0828	66.2	0.0916	73.3	63.2 - 139		10.1	20.4	
sec-Butylbenzene	5	0.025	0.0	0.0858	68.7	0.0949	76	62.2 - 136		10.1	20.3	
Styrene	5	0.025	0.0	0.0911	72.9	0.0945	75.6	66.8 - 133		3.62	20	
tert-Butylbenzene	5	0.025	0.0	0.0919	73.5	0.1022	81.8	63.3 - 134		10.6	20.3	
Tetrachloroethene	5	0.025	0.0	0.0921	73.7	0.0971	77.7	53 - 139		5.3	20	
Toluene	5	0.025	0.0	0.0969	77.5	0.0955	76.4	61.4 - 130		1.38	20	
trans-1,2-Dichloroethene	5	0.025	0.0	0.0903	72.3	0.0891	71.3	56.5 - 129		1.41	20	
trans-1,3-Dichloropropene	5	0.025	0.0	0.0978	78.3	0.0915	73.2	64.1 - 128		6.7	20	
Trichloroethene	5	0.025	0.0	0.0967	77.4	0.0951	76.1	44.1 - 149		1.7	20	
Trichlorofluoromethane	5	0.025	0.0	0.0866	69.3	0.0927	74.2	49.6 - 145		6.76	21.2	
Vinyl chloride	5	0.025	0.0	0.0826	66.1	0.0878	70.2	47.8 - 137		6.05	20	
Xylenes, Total	5	0.075	0.0	0.2799	74.6	0.2982	79.5	63.3 - 131		6.32	20	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748161**
Analysis Date:	10/14/2014 7:47:00 PM	Analyst:	644
Instrument ID:	VOCMS7		
Sample Numbers:	L727111-01, -02, -03, -04, -07		

Matrix Spike / Matrix Spike Duplicate

L727110-10

Analyte	Dil	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qual	RPD	Control Limits	RPD Qual
Benzene	5	0.025	0.0	0.1240	99.2	0.1366	109	54.3 - 133		9.68	20	
Ethylbenzene	5	0.025	0.0	0.1050	84	0.1139	91.1	61.4 - 133		8.06	20	
Methyl tert-butyl ether	5	0.025	0.0	0.1295	104	0.1468	117	57.7 - 134		12.6	20	
Naphthalene	5	0.025	0.0016	0.1166	92	0.1330	105	58 - 135		13.2	25.5	
Toluene	5	0.025	0.0007	0.1128	89.7	0.1241	98.7	61.4 - 130		9.55	20	
Xylenes, Total	5	0.075	0.0010	0.3100	82.4	0.3385	90	63.3 - 131		8.79	20	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test: Volatile Organic Compounds by Method 8260B
Project No: 9529H-P2
Project: Rampart Area
Collection Date: 10/7/2014
Analysis Date: 10/16/2014 2:13:00 AM
Instrument ID: VOCMS30
Sample Numbers: L727111-08, -09

Matrix: Soil - mg/kg
EPA ID: TN00003
Analytic Batch: WG748862
Analyst: 644

Matrix Spike / Matrix Spike Duplicate

L727503-03

Analyte	Dil	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qual	RPD	Control Limits	RPD Qual
1,1,1,2-Tetrachloroethane	5	0.025	0.0	0.1209	96.7	0.1182	94.5	64 - 128		2.3	20	
1,1,1-Trichloroethane	5	0.025	0.0016	0.1020	80.3	0.0979	77	58.7 - 134		4.11	20	
1,1,2,2-Tetrachloroethane	5	0.025	0.0	0.1267	101	0.1220	97.6	56 - 132		3.78	22.2	
1,1,2-Trichloroethane	5	0.025	0.0	0.1300	104	0.1250	100	66.3 - 125		3.91	20	
1,1,2-Trichlorotrifluoroethane	5	0.025	0.0	0.1068	85.5	0.1001	80.1	54.8 - 154		6.5	22.5	
1,1-Dichloroethane	5	0.025	0.0	0.1103	88.2	0.1056	84.4	58.5 - 132		4.38	20	
1,1-Dichloroethene	5	0.025	0.0	0.1050	84	0.1005	80.4	51.1 - 140		4.41	20.2	
1,1-Dichloropropene	5	0.025	0.0	0.1038	83.1	0.0980	78.4	57.3 - 136		5.77	20	
1,2,3-Trichlorobenzene	5	0.025	0.0	0.1333	107	0.1282	103	59.1 - 138		3.92	23.7	
1,2,3-Trichloropropane	5	0.025	0.0	0.1148	91.8	0.1091	87.3	61.4 - 128		5.03	22.4	
1,2,3-Trimethylbenzene	5	0.025	0.0	0.1216	97.3	0.1152	92.2	61.3 - 122		5.39	20	
1,2,4-Trichlorobenzene	5	0.025	0.0	0.1316	105	0.1241	99.3	63.6 - 143		5.89	21.9	
1,2,4-Trimethylbenzene	5	0.025	0.0005	0.1118	89.1	0.1068	85	57.4 - 137		4.63	20	
1,2-Dibromo-3-Chloropropane	5	0.025	0.0	0.1239	99.1	0.1225	98	57.3 - 136		1.12	27	
1,2-Dibromoethane	5	0.025	0.0	0.1247	99.8	0.1214	97.1	67.1 - 125		2.74	20	
1,2-Dichlorobenzene	5	0.025	0.0	0.1280	102	0.1219	97.6	68.2 - 123		4.86	20	
1,2-Dichloroethane	5	0.025	0.0	0.1017	81.4	0.0973	77.8	60 - 126		4.47	20	
1,2-Dichloropropane	5	0.025	0.0	0.1238	99.1	0.1168	93.4	64.2 - 123		5.84	20	
1,3,5-Trimethylbenzene	5	0.025	0.0	0.1129	90.3	0.1075	86	63.6 - 132		4.86	20.5	
1,3-Dichlorobenzene	5	0.025	0.0	0.1132	90.5	0.1087	86.9	63.1 - 131		4.08	20	
1,3-Dichloropropane	5	0.025	0.0	0.1179	94.3	0.1126	90	67.9 - 121		4.66	20	
1,4-Dichlorobenzene	5	0.025	0.0	0.1195	95.6	0.1133	90.6	68.6 - 123		5.34	20	
2,2-Dichloropropane	5	0.025	0.0	0.0973	77.9	0.0933	74.6	50.5 - 144		4.21	21.9	
2-Butanone (MEK)	5	0.125	0.0	0.4652	74.4	0.4561	73	22.4 - 138		1.97	27	
2-Chloroethyl vinyl ether	5	0.125	0.0	0.5846	93.5	0.5621	89.9	10 - 155		3.91	40	
2-Chlorotoluene	5	0.025	0.0	0.1132	90.6	0.1079	86.3	63.6 - 128		4.81	20	
4-Chlorotoluene	5	0.025	0.0	0.1148	91.8	0.1095	87.6	65.7 - 127		4.74	20	
4-Methyl-2-pentanone (MIBK)	5	0.125	0.0	0.5436	87	0.5048	80.8	60.8 - 140		7.39	25.1	
Acetone	5	0.125	0.0132	0.4067	63	0.3978	61.5	10 - 130		2.22	27.9	
Acrylonitrile	5	0.125	0.0	0.5514	88.2	0.5325	85.2	49.4 - 133		3.49	25.3	
Benzene	5	0.025	0.0	0.1055	84.4	0.0996	79.7	54.3 - 133		5.74	20	
Bromobenzene	5	0.025	0.0	0.1134	90.7	0.1080	86.4	63.9 - 124		4.81	20	
Bromodichloromethane	5	0.025	0.0	0.1106	88.5	0.1043	83.5	63.9 - 121		5.81	20	
Bromoform	5	0.025	0.0	0.1150	92	0.1122	89.8	59.5 - 134		2.47	20.8	
Bromomethane	5	0.025	0.0	0.1084	86.7	0.1085	86.8	41.7 - 155		0.1	20.5	
Carbon tetrachloride	5	0.025	0.0	0.0970	77.6	0.0923	73.8	55.7 - 134		5.05	20.3	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748862**
Analysis Date:	10/16/2014 2:13:00 AM	Analyst:	644
Instrument ID:	VOCMS30		
Sample Numbers:	L727111-08, -09		

Matrix Spike / Matrix Spike Duplicate

L727503-03

Analyte	Dil	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qual	RPD	Control Limits	RPD Qual
Chlorobenzene	5	0.025	0.0	0.1128	90.2	0.1072	85.8	67 - 125		5.05	20	
Chlorodibromomethane	5	0.025	0.0	0.1236	98.9	0.1155	92.4	64.3 - 125		6.77	20	
Chloroethane	5	0.025	0.0	0.0985	78.8	0.0926	74.1	51.5 - 136		6.18	20.8	
Chloroform	5	0.025	0.0	0.1077	86.2	0.1036	82.8	63 - 129		3.96	20	
Chloromethane	5	0.025	0.0	0.1020	81.6	0.0972	77.8	42.4 - 135		4.78	20	
cis-1,2-Dichloroethene	5	0.025	0.0	0.1163	93	0.1109	88.7	59.2 - 129		4.69	20	
cis-1,3-Dichloropropene	5	0.025	0.0	0.1188	95	0.1113	89	66.4 - 125		6.54	20	
Dibromomethane	5	0.025	0.0	0.1140	91.2	0.1084	86.7	68.2 - 124		5.05	20	
Dichlorodifluoromethane	5	0.025	0.0	0.0875	70	0.0824	65.9	40.6 - 144		6.05	20.2	
Di-isopropyl ether	5	0.025	0.0	0.1125	90	0.1067	85.4	56.9 - 136		5.26	20	
Ethylbenzene	5	0.025	0.0	0.1160	92.8	0.1099	87.9	61.4 - 133		5.39	20	
Hexachloro-1,3-butadiene	5	0.025	0.0	0.1083	86.6	0.1033	82.6	55.1 - 136		4.71	23.6	
Isopropylbenzene	5	0.025	0.0	0.1159	92.8	0.1108	88.6	66.8 - 141		4.56	20	
Methyl tert-butyl ether	5	0.025	0.0	0.1153	92.2	0.1100	88	57.7 - 134		4.66	20	
Methylene Chloride	5	0.025	0.0	0.1086	86.9	0.1047	83.8	58.1 - 122		3.62	20	
Naphthalene	5	0.025	0.0006	0.1402	112	0.1328	106	58 - 135		5.47	25.5	
n-Butylbenzene	5	0.025	0.0	0.1147	91.8	0.1087	86.9	62.7 - 140		5.45	20	
n-Propylbenzene	5	0.025	0.0	0.1121	89.7	0.1081	86.5	10 - 176		3.65	26.6	
p-Isopropyltoluene	5	0.025	0.0	0.1095	87.6	0.1051	84.1	63.2 - 139		4.09	20.4	
sec-Butylbenzene	5	0.025	0.0	0.1106	88.5	0.1067	85.4	62.2 - 136		3.6	20.3	
Styrene	5	0.025	0.0	0.1228	98.2	0.1183	94.7	66.8 - 133		3.67	20	
tert-Butylbenzene	5	0.025	0.0	0.1139	91.1	0.1097	87.7	63.3 - 134		3.79	20.3	
Tetrachloroethene	5	0.025	0.0098	0.1143	83.6	0.1101	80.3	53 - 139		3.72	20	
Toluene	5	0.025	0.0012	0.1069	84.5	0.1009	79.8	61.4 - 130		5.71	20	
trans-1,2-Dichloroethene	5	0.025	0.0	0.1181	94.5	0.1099	87.9	56.5 - 129		7.24	20	
trans-1,3-Dichloropropene	5	0.025	0.0	0.1223	97.9	0.1151	92.1	64.1 - 128		6.08	20	
Trichloroethene	5	0.025	0.0	0.1083	86.6	0.1027	82.1	44.1 - 149		5.31	20	
Trichlorofluoromethane	5	0.025	0.0	0.0977	78.1	0.0927	74.1	49.6 - 145		5.25	21.2	
Vinyl chloride	5	0.025	0.0	0.1091	87.3	0.1014	81.1	47.8 - 137		7.31	20	
Xylenes, Total	5	0.075	0.0013	0.3491	92.8	0.3333	88.5	63.3 - 131		4.65	20	

Parameters in bold text are reported in this SDG

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	TPHTX by Method TX1005		
Project No:	9529H-P2	Matrix:	Water - mg/L
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748331**
Analysis Date:	10/15/2014 11:06:00 AM	Analyst:	543
Instrument ID:	SVGC25	Prep Date:	10/13/2014
Sample Numbers:	L727111-10, -11		

Method Blank

Analyte	CAS	PQL	MDL	Qualifier
TPH C12 - C28	TPH C12 - C28	< 0.900	< 0.600	
TPH C28 - C35	TPH C28 - C35	< 0.900	< 0.600	
TPH C6 - C12	TPH C6 - C12	< 0.900	< 0.600	
TPH C6 - C35		< 0.900	< 0.600	

Laboratory Control Sample (LCS)

Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
TPH C12 - C28	1	41.66	34.961	83.9	75 - 125	
TPH C6 - C12	1	41.66	33.548	80.5	75 - 125	
TPH C6 - C35	1	83.3	68.509	82.2	75 - 125	

Laboratory Control Sample Duplicate (LCSD)

Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
TPH C12 - C28	1	41.66	35.316	84.8	75 - 125	
TPH C6 - C12	1	41.66	33.349	80.1	75 - 125	
TPH C6 - C35	1	83.3	68.665	82.4	75 - 125	

Laboratory Control Sample / Laboratory Control Sample Duplicate

Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Control Limits	% Rec Qual	% RPD	Control RPD Limits	RPD Qual
TPH C12 - C28	1	41.66	34.961	83.9	35.316	84.8	75 - 125		1.01	20	
TPH C6 - C12	1	41.66	33.548	80.5	33.349	80.1	75 - 125		0.59	20	
TPH C6 - C35	1	83.3	68.509	82.2	68.665	82.4	75 - 125		0.23	20	

Parameters in bold text are reported in this SDG

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	TPHTX by Method TX1005		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748561**
Analysis Date:	10/17/2014 1:45:00 PM	Analyst:	543
Instrument ID:	SVGC26	Prep Date:	10/14/2014
Sample Numbers:	L727111-01, -02, -03, -04, -05, -06, -07, -08		

Method Blank

Analyte	CAS	PQL	MDL	Qualifier
TPH C12 - C28	TPH C12 - C28	< 50.0	< 15.0	
TPH C28 - C35	TPH C28 - C35	< 50.0	< 15.0	
TPH C6 - C12	TPH C6 - C12	< 50.0	< 15.0	
TPH C6 - C35		< 50.0	< 15.0	

Laboratory Control Sample (LCS)

Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
TPH C12 - C28	1	250	275.06	110	75 - 125	
TPH C6 - C12	1	250	241.46	96.6	75 - 125	
TPH C6 - C35	1	500	516.52	103	75 - 125	

Laboratory Control Sample Duplicate (LCSD)

Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
TPH C12 - C28	1	250	274.93	110	75 - 125	
TPH C6 - C12	1	250	240.09	96	75 - 125	
TPH C6 - C35	1	500	515.01	103	75 - 125	

Laboratory Control Sample / Laboratory Control Sample Duplicate

Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Control Limits	% Rec Qual	% RPD	Control RPD Limits	RPD Qual
TPH C12 - C28	1	250	275.06	110	274.93	110	75 - 125		0.05	20	
TPH C6 - C12	1	250	241.46	96.6	240.09	96	75 - 125		0.57	20	
TPH C6 - C35	1	500	516.52	103	515.01	103	75 - 125		0.29	20	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	TPHTX by Method TX1005		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748562**
Analysis Date:	10/17/2014 9:08:00 PM	Analyst:	543
Instrument ID:	SVGC25	Prep Date:	10/14/2014
Sample Numbers:	L727111-09		

Method Blank

Analyte	CAS	PQL	MDL	Qualifier
TPH C12 - C28	TPH C12 - C28	< 50.0	< 15.0	
TPH C28 - C35	TPH C28 - C35	< 50.0	< 15.0	
TPH C6 - C12	TPH C6 - C12	< 50.0	< 15.0	
TPH C6 - C35		< 50.0	< 15.0	

Laboratory Control Sample (LCS)

Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
TPH C12 - C28	1	250	199.61	79.8	75 - 125	
TPH C6 - C12	1	250	195.93	78.4	75 - 125	
TPH C6 - C35	1	500	395.54	79.1	75 - 125	

Laboratory Control Sample Duplicate (LCSD)

Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
TPH C12 - C28	1	250	205.15	82.1	75 - 125	
TPH C6 - C12	1	250	198.13	79.3	75 - 125	
TPH C6 - C35	1	500	403.28	80.7	75 - 125	

Laboratory Control Sample / Laboratory Control Sample Duplicate

Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Control Limits	% Rec Qual	% RPD	Control RPD Limits	RPD Qual
TPH C12 - C28	1	250	199.61	79.8	205.15	82.1	75 - 125		2.74	20	
TPH C6 - C12	1	250	195.93	78.4	198.13	79.3	75 - 125		1.12	20	
TPH C6 - C35	1	500	395.54	79.1	403.28	80.7	75 - 125		1.94	20	

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	TPHTX by Method TX1005		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748561**
Analysis Date:	10/17/2014 1:45:00 PM	Analyst:	543
Instrument ID:	SVGC26	Prep Date:	10/14/2014
Sample Numbers:	L727111-01, -02, -03, -04, -05, -06, -07, -08		

Matrix Spike / Matrix Spike Duplicate

L727110-02

Analyte	Dil	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qual	RPD	Control Limits	RPD Qual
TPH C12 - C28	1	250	0.5264	259.11	103	296.45	118	75 - 125		13.4	20	
TPH C6 - C12	1	250	0.0	233.18	93.3	264.86	106	75 - 125		12.7	20	
TPH C6 - C35	1	500	0.0	492.28	98.5	561.31	112	75 - 125		13.1	20	

Parameters in bold text are reported in this SDG

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Quality Control Summary
SDG: L727111
Berg Oliver

Test:	TPHTX by Method TX1005		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/7/2014	**Analytic Batch:**	**WG748562**
Analysis Date:	10/17/2014 9:08:00 PM	Analyst:	543
Instrument ID:	SVGC25	Prep Date:	10/14/2014
Sample Numbers:	L727111-09		

Matrix Spike / Matrix Spike Duplicate

L727132-01

Analyte	Dil	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qual	RPD	Control Limits	RPD Qual
TPH C12 - C28	1	250	0.0	209.76	83.9	210.51	84.2	75 - 125		0.36	20	
TPH C6 - C12	1	250	0.0	210.30	84.1	203.74	81.5	75 - 125		3.17	20	
TPH C6 - C35	1	500	0.0	420.06	84	414.24	82.8	75 - 125		1.39	20	

Company Name/Address:
Berg Oliver
14701 Saint Mary's Lane, Suite 400
Houston, TX 77079

Billing Information: Same

Report to: Tom Murphy
Email To: tmurphy@bergoliver.com

Project Description: Rampart Area
City/State Collected: Houston, Tx

Phone: 281-589-0497
Fax: 281-589-0007
Client Project # 952911-P2
Lab Project #

Collected by (print): Tom Murphy
Site/Facility ID #
P.O. #

Collected by (signature):
Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed
Email? ___No ✓Yes
FAX? ___No ___Yes

Analyses / Container / Preservative

Chain of Custody Page 1 of 2

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Phone: 800-767-5859
Fax: 615-758-5859

L#L727111
H122

Acctnum: BEROLIHTX
Template:
Prelogin:
TSR:
Cooler:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	MTBE/BTEX (8260)	TPH (TX1005)	VOCs (8260)	Rem./Contaminant	Sample # (lab only)
SB-1	G	SS	6-8	10/7/14	1145	1	X	X			01
SB-2			4-6		1045		X	X			02
SB-3			8-10		1247		X	X			03
SB-4			2-4		1313		X	X			04
SB-5			6-8	↓	1400			X	X		05
SB-6			18-20		1501			X	X		06
SB-7			6-8	10/9/14	940		X	X			07
SB-8			4-6	↓	1015		X	X			08
SB-9	↓	↓	18-20	↓	1109	↓	X	X		*6-65	09
SB-6/TWP-6		GW		10/7/14	1530	5		X	X		10

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks: SB-9 *Run simple list (gasoline - affected)

pH ___ Temp ___
Flow ___ Other ___

Hold #

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
	10/10/14	10:41	10/10/14 1115
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
	10/10/14	1930	
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ ___
Temp: 2.4 °C Bottles Received: 21
Date: 10-11-14 Time: 0900

Condition: (lab use only) OK TSI
COC Seal Intact: ___Y ___N ✓NA
pH Checked: NCF:

Company Name/Address:
Berg Oliver
14701 Saint Mary's Lane, Suite 400
Houston, TX 77079

Billing Information: Same

Report to: Tom Murphy

Email To: See pg 1

Project Description: Rampart Area

City/State Collected: Houston, Tx

Phone: 281-589-0497
Fax: 281-589-0007

Client Project # 952914-PZ

Lab Project #

Collected by (print): Tom Murphy

Site/Facility ID #

P.O. #

Collected by (signature): Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No ✓Yes
FAX? ___No ___Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	MTBE/BTEX (8260)	TPH (Tx1005)								Rem./Contaminant	Sample # (lab only)
SB-9/TWP-9	G	GW		10/9/14	1140	7	X	X									

Analysis / Container / Preservative

Chain of Custody Page 2 of 2

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Phone: 800-767-5859
Fax: 615-758-5859

L# L727111

Table #

Acctnum: BEROLIHTX

Template:

Prelogin:

TSR:

Cooler:

Shipped Via:

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

pH ___ Temp ___

Remarks:

Flow ___ Other ___

Hold #

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
	10/10/14	1041	10/10/14 1115
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
	10/10/14	1930	
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ ___

Temp: 24.8 °C Bottles Received: 21

Date: 10-11-14 Time: 0900

Condition: (lab use only) OK TOL

COC Seal Intact: ___Y ___N ✓NA

pH Checked: NCF:

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Quality Control Summary
SDG: L727062

For: Berg Oliver
Rampart Area

L727062

Lab SampleID.	Client ID
L727062-01	IDW

Appendix A Laboratory Data Package Cover Page

This data package consists of:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 Sample identification cross-reference;

R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c) The laboratory's LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits

R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;

R10 Other problems or anomalies.

The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release Statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: [ ] This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

William Mock
Operations Manager
Environmental Science Corp.

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: ESC Lab Sciences	LRC Date: 10/17/14
Project Name: Rampart Area	Laboratory Job Number: L727062-01
Reviewer Name: ESC Representative	Prep Batch Number(s): WG748159 V8260BTEXM

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-custody (C-O-C)					
R1	OI	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?			✓		
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample quantitation limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?	✓				
		Were % moisture (or solids) reported for all soil and sediment samples?	✓				
		If required for the project, TICs reported?			✓		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	✓				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	✓				
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?	✓				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
		Was the LCSD RPD within QC limits?	✓				
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	✓				
		Were MS/MSD analyzed at the appropriate frequency?	✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Were MS/MSD RPDs within laboratory QC limits?	✓				
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			✓		
		Were analytical duplicates analyzed at the appropriate frequency?			✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs included in the laboratory data package?	✓				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Were all necessary corrective actions performed for the reported data?	✓				
		Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: ESC Lab Sciences	LRC Date: 10/17/2014
Project Name: Rampart Area	Laboratory Job Number: L727062-01
Reviewer Name: ESC Representative	Prep Batch Number(s): WG748159 V8260BTEXM

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration**					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			✓		
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	✓				
		Were ion abundance data within the method-required QC limits?	✓				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	✓				
S5	OI	**Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?			✓		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	✓				

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Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: ESC Lab Sciences	LRC Date: 10/17/14
Project Name: Rampart Area	Laboratory Job Number: L727062-01
Reviewer Name: ESC Representative	Prep Batch Number(s): WG748450 TPHTX

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-custody (C-O-C)					
R1	OI	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?			✓		
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample quantitation limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?	✓				
		Were % moisture (or solids) reported for all soil and sediment samples?	✓				
		If required for the project, TICs reported?			✓		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	✓				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	✓				
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?	✓				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
		Was the LCSD RPD within QC limits?	✓				
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	✓				
		Were MS/MSD analyzed at the appropriate frequency?	✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Were MS/MSD RPDs within laboratory QC limits?	✓				
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			✓		
		Were analytical duplicates analyzed at the appropriate frequency?			✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs included in the laboratory data package?	✓				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Were all necessary corrective actions performed for the reported data?	✓				
		Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				

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Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: ESC Lab Sciences	LRC Date: 10/17/2014
Project Name: Rampart Area	Laboratory Job Number: L727062-01
Reviewer Name: ESC Representative	Prep Batch Number(s): WG748450 TPHTX

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration**					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			✓		
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?			✓		
		Were ion abundance data within the method-required QC limits?			✓		
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	✓				
S5	OI	**Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?			✓		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	✓				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
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Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: ESC Lab Sciences	LRC Date: 10/17/14
Project Name: Rampart Area	Laboratory Job Number: L727062-01
Reviewer Name: ESC Representative	Prep Batch Number(s): WG748525 TS

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-custody (C-O-C)					
R1	OI	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?			✓		
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample quantitation limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?	✓				
		Were % moisture (or solids) reported for all soil and sediment samples?	✓				
		If required for the project, TICs reported?			✓		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?			✓		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?	✓				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
		Was the LCSD RPD within QC limits?			✓		
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?			✓		
		Were MS/MSD analyzed at the appropriate frequency?			✓		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓		
		Were MS/MSD RPDs within laboratory QC limits?			✓		
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	✓				
		Were analytical duplicates analyzed at the appropriate frequency?	✓				
		Were RPDs or relative standard deviations within the laboratory QC limits?	✓				
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs included in the laboratory data package?	✓				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Were all necessary corrective actions performed for the reported data?	✓				
		Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				

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Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: ESC Lab Sciences	LRC Date: 10/17/2014
Project Name: Rampart Area	Laboratory Job Number: L727062-01
Reviewer Name: ESC Representative	Prep Batch Number(s): WG748525 TS

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?			✓		
		Were percent RSDs or correlation coefficient criteria met?			✓		
		Was the number of standards recommended in the method used for all analytes?			✓		
		Were all points generated between the lowest and highest standard used to calculate the curve?			✓		
		Are ICAL data available for all instruments used?			✓		
		Has the initial calibration curve been verified using an appropriate second source standard?			✓		
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration**					
		Was the CCV analyzed at the method-required frequency?			✓		
		Were percent differences for each analyte within the method-required QC limits?			✓		
		Was the ICAL curve verified for each analyte?			✓		
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			✓		
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?			✓		
		Were ion abundance data within the method-required QC limits?			✓		
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?			✓		
S5	OI	**Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?			✓		
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			✓		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?			✓		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	✓				

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YOUR LAB OF CHOICE

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

Tax I.D. 62-0814289

Est. 1970

Tom Murphy
Berg Oliver
14701 Saint Mary's Lane, Suite 400
Houston, TX 77079

Report Summary

Thursday October 16, 2014

Report Number: L727062
Samples Received: 10/11/14
Client Project: 9529H-P2

Description: Rampart Area

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

Entire Report Reviewed By:

Mark W. Beasley , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

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

Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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REPORT OF ANALYSIS

Tom Murphy
Berg Oliver
14701 Saint Mary's Lane, Suite 400
Houston, TX 77079

October 16,2014

ESC Sample # : L727062-01

Date Received : October 11, 2014
Description : Rampart Area

Site ID :

Sample ID : IDW

Project # : 9529H-P2

Collected By : Tom Murphy
Collection Date : 10/09/14 11:47

Parameter	Result	MDL	SDL	MQL	Units	Qual	Method	Date	Dil.
Total Solids	79.0	0.0333	0.033		%		2540 G-2	10/15/14	1
Benzene	U	0.00027	0.0018	0.0063	mg/kg		8260B	10/15/14	5
Toluene	U	0.00043	0.0028	0.032	mg/kg		8260B	10/15/14	5
Ethylbenzene	U	0.00030	0.0019	0.0063	mg/kg		8260B	10/15/14	5
Total Xylenes	U	0.00070	0.0044	0.019	mg/kg		8260B	10/15/14	5
Methyl tert-butyl ether	U	0.00021	0.0014	0.0063	mg/kg		8260B	10/15/14	5
Surrogate Recovery									
Toluene-d8	110.				% Rec.		8260B	10/15/14	5
Dibromofluoromethane	113.				% Rec.		8260B	10/15/14	5
4-Bromofluorobenzene	97.3				% Rec.		8260B	10/15/14	5
TCEQ Method 1005 - TPH									
TPH C6 - C12	U	15.	19.	63.	mg/kg		TX 1005	10/14/14	1
TPH C12 - C28	U	15.	19.	63.	mg/kg		TX 1005	10/14/14	1
TPH C28 - C35	U	15.	19.	63.	mg/kg		TX 1005	10/14/14	1
TPH C6 - C35	U	15.	19.	63.	mg/kg		TX 1005	10/14/14	1
Surrogate Recovery									
o-Terphenyl	102.				% Rec.		TX 1005	10/14/14	1

Results listed are dry weight basis.
U = ND (Not Detected) = Less than SDL
Note:

The reported analytical results relate only to the sample submitted
Reported: 10/16/14 18:10 Printed: 10/16/14 18:10

Summary of Remarks For Samples Printed
10/16/14 at 18:10:24

TSR Signing Reports: 134
R5 - Desired TAT

Sample: L727062-01 Account: BEROLIHTX Received: 10/11/14 09:00 Due Date: 10/17/14 00:00 RPT Date: 10/16/14 18:10

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Quality Control Summary
SDG: L727062
Berg Oliver

Test:	Total Solids by Method 2540 G-2011		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/9/2014	**Analytic Batch:**	**WG748525**
Analysis Date:	10/15/2014 7:38:00 AM	Analyst:	475
Instrument ID:	LOGBAL1		
Sample Numbers:	L727062-01		

Method Blank

Analyte	CAS	PQL	MDL	Qualifier
Total Solids	TSOLIDS	< 0.100	< 0.0333	

Laboratory Control Sample (LCS)

Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
Total Solids	1	50	49.985	100	85 - 115	

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Quality Control Summary
SDG: L727062
Berg Oliver

Test:	Total Solids by Method 2540 G-2011		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/9/2014	**Analytic Batch:**	**WG748525**
Analysis Date:	10/15/2014 7:38:00 AM	Analyst:	475
Instrument ID:	LOGBAL1		
Sample Numbers:	L727062-01		

Sample Duplicate

L727064-03

Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier
Total Solids	1	78.792	78.849	0.07	5	

Parameters in bold text are reported in this SDG

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Quality Control Summary
SDG: L727062
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/9/2014	**Analytic Batch:**	**WG748159**
Analysis Date:	10/15/2014 8:42:00 AM	Analyst:	644
Instrument ID:	VOCMS4		
Sample Numbers:	L727062-01		

Method Blank

Analyte	CAS	PQL	MDL	Qualifier
Benzene	71-43-2	< 0.00100	< 0.000270	
Ethylbenzene	100-41-4	< 0.00100	< 0.000297	
Methyl tert-butyl ether	1634-04-4	< 0.00100	< 0.000212	
Toluene	108-88-3	< 0.00500	< 0.000434	
Xylenes, Total	1330-20-7	< 0.00300	< 0.000698	

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Fax (615) 758-5859
Tax I.D 62-0814289
Est. 1970

Quality Control Summary
SDG: L727062
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/9/2014	**Analytic Batch:**	**WG748159**
Analysis Date:	10/15/2014 8:42:00 AM	Analyst:	644
Instrument ID:	VOCMS4		
Sample Numbers:	L727062-01		

Laboratory Control Sample (LCS)

Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
Benzene	1	0.025	0.0260	104	77.1 - 121	
Ethylbenzene	1	0.025	0.0231	92.6	79.7 - 122	
Methyl tert-butyl ether	1	0.025	0.0261	104	73 - 129	
Toluene	1	0.025	0.0232	92.8	79.7 - 118	
Xylenes, Total	1	0.075	0.0687	91.6	78.8 - 121	

Laboratory Control Sample Duplicate (LCSD)

Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
Benzene	1	0.025	0.0261	104	77.1 - 121	
Ethylbenzene	1	0.025	0.0253	101	79.7 - 122	
Methyl tert-butyl ether	1	0.025	0.0265	106	73 - 129	
Toluene	1	0.025	0.0251	100	79.7 - 118	
Xylenes, Total	1	0.075	0.0759	101	78.8 - 121	

Laboratory Control Sample / Laboratory Control Sample Duplicate

Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Control Limits	% Rec Qual	% RPD	Control RPD Limits	RPD Qual
Benzene	1	0.025	0.0260	104	0.0261	104	77.1 - 121		0.41	20	
Ethylbenzene	1	0.025	0.0231	92.6	0.0253	101	79.7 - 122		8.82	20	
Methyl tert-butyl ether	1	0.025	0.0261	104	0.0265	106	73 - 129		1.59	20	
Toluene	1	0.025	0.0232	92.8	0.0251	100	79.7 - 118		7.79	20	
Xylenes, Total	1	0.075	0.0687	91.6	0.0759	101	78.8 - 121		9.92	20	

Parameters in bold text are reported in this SDG

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Quality Control Summary
SDG: L727062
Berg Oliver

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/9/2014	**Analytic Batch:**	**WG748159**
Analysis Date:	10/15/2014 8:42:00 AM	Analyst:	644
Instrument ID:	VOCMS4		
Sample Numbers:	L727062-01		

Matrix Spike / Matrix Spike Duplicate

L727062-01

Analyte	Dil	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qual	RPD	Control Limits	RPD Qual
Benzene	5	0.025	0.0	0.1410	113	0.1454	116	54.3 - 133		3.1	20	
Ethylbenzene	5	0.025	0.0	0.1196	95.7	0.1250	100	61.4 - 133		4.41	20	
Methyl tert-butyl ether	5	0.025	0.0	0.1339	107	0.1371	110	57.7 - 134		2.39	20	
Toluene	5	0.025	0.0	0.1250	100	0.1289	103	61.4 - 130		3.05	20	
Xylenes, Total	5	0.075	0.0	0.3520	93.9	0.3663	97.7	63.3 - 131		3.99	20	

Parameters in bold text are reported in this SDG

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Est. 1970

Quality Control Summary
SDG: L727062
Berg Oliver

Test:	TPHTX by Method TX1005		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/9/2014	**Analytic Batch:**	**WG748450**
Analysis Date:	10/14/2014 6:13:00 PM	Analyst:	543
Instrument ID:	SVGC26	Prep Date:	10/14/2014
Sample Numbers:	L727062-01		

Method Blank

Analyte	CAS	PQL	MDL	Qualifier
TPH C12 - C28	TPH C12 - C28	< 50.0	< 15.0	
TPH C28 - C35	TPH C28 - C35	< 50.0	< 15.0	
TPH C6 - C12	TPH C6 - C12	< 50.0	< 15.0	
TPH C6 - C35		< 50.0	< 15.0	

Laboratory Control Sample (LCS)

Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
TPH C12 - C28	1	250	280.48	112	75 - 125	
TPH C6 - C12	1	250	259.99	104	75 - 125	
TPH C6 - C35	1	500	540.47	108	75 - 125	

Laboratory Control Sample Duplicate (LCSD)

Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
TPH C12 - C28	1	250	268.86	108	75 - 125	
TPH C6 - C12	1	250	249.08	99.6	75 - 125	
TPH C6 - C35	1	500	517.94	104	75 - 125	

Laboratory Control Sample / Laboratory Control Sample Duplicate

Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Control Limits	% Rec Qual	% RPD	Control RPD Limits	RPD Qual
TPH C12 - C28	1	250	280.48	112	268.86	108	75 - 125		4.23	20	
TPH C6 - C12	1	250	259.99	104	249.08	99.6	75 - 125		4.29	20	
TPH C6 - C35	1	500	540.47	108	517.94	104	75 - 125		4.26	20	

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Quality Control Summary
SDG: L727062
Berg Oliver

Test:	TPHTX by Method TX1005		
Project No:	9529H-P2	Matrix:	Soil - mg/kg
Project:	Rampart Area	EPA ID:	TN00003
Collection Date:	10/9/2014	**Analytic Batch:**	**WG748450**
Analysis Date:	10/14/2014 6:13:00 PM	Analyst:	543
Instrument ID:	SVGC26	Prep Date:	10/14/2014
Sample Numbers:	L727062-01		

Matrix Spike / Matrix Spike Duplicate

L726791-01

Analyte	Dil	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qual	RPD	Control Limits	RPD Qual
TPH C12 - C28	1	250	0.5375	273.40	109	266.73	106	75 - 125		2.47	20	
TPH C6 - C12	1	250	0.0	246.34	98.5	245.74	98.3	75 - 125		0.24	20	
TPH C6 - C35	1	500	0.0	519.74	104	512.47	102	75 - 125		1.41	20	

Parameters in bold text are reported in this SDG

Company Name/Address:
Berg Oliver
14701 Saint Mary's Lane, Suite 400
Houston, TX 77079

Billing Information: Same

Report to: Tom Murphy

Email To: tmurphy@bergoliver.com

Project Description: Depot Area

City/State Collected: Houston, Tx

Phone: 281-589-0497
Fax: 281-589-0007

Client Project #: 9529H-P2

Lab Project #

Collected by (print): Tom Murphy

Site/Facility ID #

P.O. #

Collected by (signature): [signature]
Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___ No ✓ Yes
FAX? ___ No ___ Yes

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	MTBE/BTEX (8260)	TPH (TX1005)										Rem./Contaminant	Sample # (lab only)
1 DW	Comp	SS		10/9/14	1147	1	X	X											-01

Chain of Custody Page 1 of 1

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Mount Juliet, TN 37122
Phone: 615 758 5858
Phone: 800 767 5859
Fax: 615 758 5859

L# 727062

H124

Acctnum: BEROLIHTX
Template:
Prelogin:
TSR:
Cooler:
Shipped Via:

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other ___

pH ___ Temp ___
Flow ___ Other ___

Remarks:

Hold #

Condition: (lab use only) NCF

Relinquished by : (Signature) [signature] Date: 10/10/14 Time: 10:41
Received by: (Signature) [signature] 10/10/14 1115
Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ ___

Relinquished by : (Signature) [signature] Date: 10/10/14 Time: 1130
Received by: (Signature) [signature]
Temp: 2 °C Bottles Received: 1

Relinquished by : (Signature) Date: Time:
Received for lab by: (Signature) [signature]
Date: 10-14-14 Time: 1115

COC Seal Intact: ___ Y ___ N ✓ NA
pH Checked:

APPENDIX C

Photographs

View of push drilling at soil boring SB-1.

View of the first location for SB-1 that had to be moved slightly west, due to a subsurface conflict.

Typical view of patched road surface.

View of push drilling at SB-2.

Typical view of some of the soil cores generated from SB-2.

View of push drilling at SB-3.

SITE PHOTOGRAPHS

Rampart Area Drainage and Paving Sub-Project No. 2
WBS No. M-000265-0002-3
Houston, Texas

View of push drilling activity at soil borings SB-4.

Another view of push drilling at SB-4.

View of push drilling at SB-5.

Another view of push drilling activity at SB-5.

View of drilling activity at SB-6.

Another view of push drilling at SB-6.

SITE PHOTOGRAPHS

Rampart Area Drainage and Paving Sub-Project No. 2

WBS No. M-000265-0002-3

Houston, Texas

View of asphalt/concrete coring at soil boring SB-8.

Another view of coring at SB-8.

Typical view of Rampart at Bissonnet Streets.

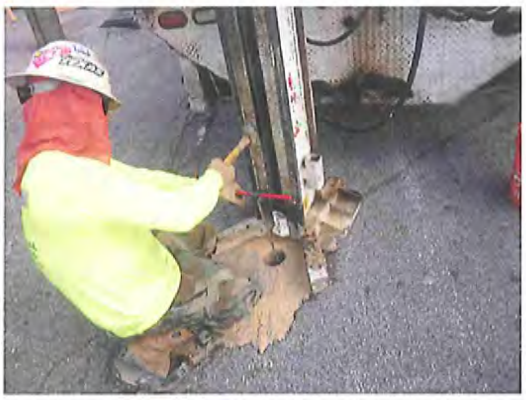
Typical view of an asphalt/concrete core generated during the Phase II ESA.

Another view of an asphalt/concrete core.

View of push drilling at SB-7.

SITE PHOTOGRAPHS

Rampart Area Drainage and Paving Sub-Project No. 2
WBS No. M-000265-0002-3
Houston, Texas



View of subsurface clearance activities.

Another view of push drilling at SB-8.

Another view of push drilling at SB-8.

View of setup at soil boring SB-9.

View of preclearance activities for subsurface conflicts at SB-9.

View of the temporary well point at SB-9.

SITE PHOTOGRAPHS

Rampart Area Drainage and Paving Sub-Project No. 2

WBS No. M-000265-0002-3

Houston, Texas

APPENDIX D

Qualifications of Environmental Professionals

TOM MURPHY
PROJECT MANAGER
ENVIRONMENTAL ENGINEERING SERVICES

EDUCATION

Southwest Texas State University: B. S., Geography-Resource and Environmental Studies/Biology, 1993

REGISTRATION/TRAINING

40/8-Hour CFR 1910.120, OSHA Training and Refreshers (HazWop)
40 CFR 265.16, Hazardous Waste Management Certification
49 CFR 172 & 173, DOT Hazardous Materials Training
29 CFR 1919.134, Respirator Fit Test/Training
RRC Rule 36 & API-RP 49, Hydrogen Sulfide Training
ExxonMobil LPS and OIMS Training
Facility, Client or Site-Specific Safety Training and Protocol

PROFESSIONAL EXPERIENCE

Project Manager
Project Geologist/Scientist/Manager
Field Geologist
Bioremedial Field Engineer
Specialization:
Spill response and assessment/remediation to closure
Environmental site assessments
Remediation systems installation and system design
General construction experience
Regulatory and data interpretation
Surveying/mapping/site plans

PROFESSIONAL HISTORY

Berg-Oliver Associates, Inc., Project Manager, December 2004 to present
BNC Environmental Services, Inc., Project Geologist/Scientist/Manager, October 2001 to December 2004.
Eco-Systems, Inc., Project Scientist, March 2001 to October 2001.
Self-Employed, Environmental Consultant/Scientist, November 2000 to March 2001.
Associated Environmental Consultants, Inc., Project Manager, August 1995 to November 2000.
Self-Employed, Environmental Consultant, April 1995 to August 1995.
Sybron Chemicals, Inc., Bioremedial Field Engineer, October 1993 to April 1995.

REPRESENTATIVE EXPERIENCE

Mr. Murphy is a mid to senior-level project manager with over 15 years of diverse environmental experience. His responsibilities have included: conducting surface and/or subsurface soil and groundwater investigations, Affected Property Assessment Reports (APARs), Phase II ESAs, Phase IIIs, spill response and environmental management, project management, conducting over two thousand Phase I ESAs/due diligence, and transaction screens. Experience and preparation of cost proposals, project coordination, health and safety plans and supervisory duties of sub-contractors, bioremedial equipment project design/set-up, various remediation technology projects, equipment and design for treating petroleum-contaminated soil and groundwater, equipment set-up/construction, QA/QC, monitor well advancement, supervision of sampling discharge effluents and storm water, groundwater monitoring, EPA/TCEQ & RRC protocol, expediting projects, treatability studies and contaminant plume mapping. He has project experience in field assessments and remediation projects for banks, developers, brokers, institutions, companies, corporations and the Texas Commission on Environmental Quality Leaking Petroleum Storage Tank (LPST) RPR Division. Mr. Murphy excels in the application of technical knowledge, site-specific factors, data analysis, report preparation to existing and potential clients. Knowledgeable in government environmental acts and regulations. Representative projects include:

- Performed numerous Subsurface Investigations and Phase II-Environmental Site Assessments for various clients to determine the presence of adverse environmental conditions.

- Conducting spill response activities and delineations predominantly for pipeline-related enterprises and bulk storage facilities inclusive of: air monitoring, subcontractor supervision, excavation and over-excavation, sampling, waste disposal (waste profiling/characterization, transportation and disposal) and closure under Railroad Commission of Texas or TCEQ. Representative clients:
  - ExxonMobil Pipeline Co. (EMPCo.)
  - BP Pipelines North America (NA), Inc.
  - Valero Logistics Operations, L.P.
  - Kinder Morgan
  - Shell Oil Products US, Motiva and Equilon
  - TEPPCO

- Prepared a pilot project leading to a contracted waste water line build-up treatment plan, technical documents, cost proposal for the City of Houston (waste water line bioremedation).

- LPST remediation equipment set-up and design, petroleum contaminant reduction, TCEQ approved closure of several LPST sites and supervision of LPST sites

- Experience in all phases of construction including bioremedial equipment installation, sampling protocol of water and/or soils, and closure of site. Field Engineer for numerous site assessments throughout the Gulf Coast region. Construction of bioremediation systems to convert pump and treat contaminated ground water including recovery/treatment/microbe and nutrient injection systems. Projects:
  - Houston Lighting & Power-Spring Branch, Houston, bioreactor system; and
  - Wilburforce Road, Houston-First Interstate (successor Wells Fargo Bank), bioreactor.

- Field experience with soil injection, bioreactors, air strippers, and vacuum heaps and air sparging to treat soil/groundwater contaminants. Field Engineer for various remediation projects of oil and petroleum-contaminated soils. Field experience in soil vapor extraction equipment (SVE) including a specially designed bio-treated fluid separator. Constructed a vapor extraction system with a biological scrubber to extend carbon polishing efficiency and/or the potential for breakthrough or fugitive releases, and reduction of overall total emissions. System also included method to remove groundwater from vapor extraction wells, which tended to accumulate due to excessive rainfall and shallow groundwater effects. Constructed, maintained and operated landfarms for various clients. Provided technical and consulting services during the operation of the landfarm, including biological health analyses sampling, data interpretation, report presentation and closure. Other Environmental Projects:
  - Numerous due diligence assessments and affected property assessments for various clients
  - Non-producing "old oilfield" asset assessments (Chevron Environmental Management Company and Chevron Business and Real Estate Services)
  - Several States, Monitoring and assessments of natural gas compressor stations (El Paso Energy Corporation-Tennessee Gas Pipeline and Southern Natural Gas)
  - Texas – Hydrostatic water treatment projects
  - Texas – Wastewater permitting and discharge analyses (Williams Energy-Williams Gas Pipeline and EMPCo.)
  - Numerous crude oil and refined product spill delineations
  - Texas City, Texas – BP-Amoco pipeline release assessment affecting sanitary sewer system
  - Texas – Assessments of Shell Oil Products US and related enterprises-Equiva, Motiva and Equilon
  - Pasadena, Texas – Kinder Morgan Texas Pipeline, Assessment to evaluate off-site source of corrosion to pipeline

- Remediation and landfarms (Chevron Environmental Management Co., First Interstate (successor Wells Fargo Bank), Kinder Morgan, Genesis Crude Oil, L.P., Valero Logistics Operations, L.P., TEPPCO, Specialty Lubricants and Commercial Metals)
- Angleton, Texas – First Interstate (successor Wells Fargo Bank), specialty soil vapor extraction system
- Rockport and Marshall, Texas-First Interstate (successor Wells Fargo Bank), vacuum heap/augmented with automated microbial/nutrient additive system

- Administrative duties, supervision, cost proposals, report preparation, regulatory document preparation, client project status reports. Supervision and field experience in soil boring/monitor well drilling advancement, logging, decommissioning and soil sampling criteria. Installation of numerous soil borings and groundwater monitoring wells at various sites.

- Field experience in groundwater monitoring, low flow sampling, flow interpretation, and contaminant plume mapping. Experience in a variety of mapping, site plan creation/surveying, geographic information systems, regulatory databases and land-use planning.

- Performed over sixteen hundred Phase I Site Assessments for various clients including oil companies (Chevron Environmental Management Co., ChevronTexaco Business and Real Estate Services, Shell Oil Products US, Weatherford International, Inc., EMPCo., etc.) banks, lending agencies, private individuals and/or businesses and corporations. Performed site assessments on all types of properties and facilities including vacant and developing properties, office buildings, office/warehouses, machine shops, and industrial properties. Performed PCS PrimeCo., Sprint, NEXTEL, and American Tower Company pad site assessments. Project Budgets $2,500-$5,500: Locations: Texas, Louisiana, North Carolina, Ohio, Virginia, West Virginia

- Performed and managed various site clean-ups (hazardous and non-hazardous materials/items). Sampling events of abandoned drums and containers with unidentified substances, laboratory supervision, obtaining waste codes, arranging pick-up by certified waste hauling enterprises and appropriate final disposal activities.

ASSOCIATIONS AND ORGANIZATIONS

The Society of Texas Environmental Professionals
National Association of Environmental Professionals (in-active)

BENJAMIN M. PRICE, GEOLOGIST
VICE PRESIDENT AND PROJECT MANAGER
ENVIRONMENTAL ENGINEERING SERVICES

EDUCATION
Master of Science, Geology, Texas A&M University (1991)
Bachelor of Science, Geology, Florida Atlantic University

CERTIFICATIONS/AFFILIATIONS
Certified Wetland Delineator 1997
Society of Wetland Scientists
Certified Environmental Auditor, 1997
Registered Environmental Manager (R.E.M. #10916)
Texas Association of Environmental Professionals
National Registry of Environmental Professional
Federal Energy Regulatory Commission (FERC) Training and Certification
National Environmental Policy Act (NEPA) Training and Certification
Texas Department of Transportation Certification No. 6550
TxDOT precertified in 2.3.1, 2.4.1, 2.6.1, and 2.13.1

EXPERIENCE
Mr. Price is an environmental scientist with diverse experience in both business and technical aspects of the environmental industry. Utilizing his extensive background in geological and biological disciplines, he has developed expertise in environmental regulations, property assessments, hazardous waste testing and evaluation, wetland evaluation, endangered species audits, health and safety issues, and silviculture activities. Mr. Price specializes in site investigations relating to hazardous material and petroleum product contamination. His experience with the petroleum industry and contaminated site remediation allows him to effectively consult on cost efficient solutions to environmental impairment concerns. Mr. Price is involved with problem solving related to environmental and ecological issues, especially those which may hinder property transfer, land development activities, or oil and gas activities. He has developed a unique working relationship with many federal and state resource agencies responsible for project permitting and approval.

REPRESENTATIVE PROJECTS

- *Alamo Lumber Company, City of Houston, Texas: Subsurface Investigation and Remediation.* Project Manager for the conduct of Phase I, Phase II, and Phase III investigations and level three remediation of soil and groundwater. Contaminates of concern included Pentachlorophenol (PCP) and various Dioxins. The project required agency supervision and approvals.

- *U. S. 59 and Grand Parkway, private development project, Fort Bend County, Texas: Limited Environmental Assessment.* Project Hazards Manager for the preparation of a Limited Environmental Assessment (EA) for a 500-acre land development between the Brazos River and Highway 59 (Southwest Freeway) bisected by the Grand Parkway. The project involved assessment and documentation of environmental issues, such as wetlands, hazardous waste, historic/archaeological investigation and preservation, threatened and endangered species, surface hydrology, and flood plains.

- *Houston Comprehensive Bikeway Program, City of Houston, all locations, Environmental Assessment.* Project Coordinator for the preparation of an Environmental Assessment (EA) for the comprehensive bikeways program covering 100 lineal miles and involving a TxDOT EA for ISTEA funding. The project involved the preparation of NEPA documentation and assessments of environmental issues, such as wetlands, hazardous waste, historic preservation, threatened and endangered species, air quality, noise, water quality, hydrology, and flood plains.

- *Stafford-Staffordshire Road Expansion of roadway, City of Stafford, east Fort Bend County, Environmental Assessment.* Project Coordinator for the preparation of a TxDOT Environmental Assessment (EA) for the expansion of Stafford-Staffordshire Road through three jurisdictions (Harris County, City of Stafford, and City of Missouri City). The project involved preparation of a NEPA environmental assessment, including wetlands, hazardous waste, historic preservation, threatened and endangered species, air quality, water quality, hydrology, and flood plains.

- *Sienna Plantation, private client, east Fort Bend County, Texas: Environmental Assessment and Planning.* Project Coordinator for an approximate 11,000-acre project involving current and long range environmental planning. The project involved assessment, permitting, and mitigation for many different tracts and sections of the development. Specific tasks included evaluation of existing wetlands, creation of constructed wetlands, overall project planning, hazardous waste assessments, historic/cultural/archaeological preservation, threatened and endangered species, coordination, land management, and contractor supervision.

- *Independence Boulevard, Murphy Road Detention and Drainage Facilities, City of Missouri City, east Fort Bend County, Texas: Environmental Assessments.* Project Coordinator for the preparation of an Environmental Assessment for the extension of Murphy Road, the Environmental Assessment for the Murphy Road Detention and Drainage Improvements, and other environmental evaluations for the City of Missouri City, Texas. Projects involved preparation of Section 404 permit documentation, and assessment of environmental issues, such as wetlands, hazardous waste, historic/archaeological investigation and preservation, and threatened and endangered species.

- *Sugarland Oil and Gas, private oil company, northeast Fort Bend County: Field Assessment and Compliance Review.* Project Coordinator for the environmental assessment and compliance review of a large oil field located around a salt dome structure. The property contained over 125 known oil and gas wells. Environmental evaluation included the evaluation of each currently producing and non-producing historic well site for hazardous material, toxic material, and petroleum products. Phase II site investigation and characterization is still ongoing.